# Schedule of Poster Presentations and List of Posters

*Indicates poster will also be presented during an Oral Session. Information listed below appears as author submitted.

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<th>Time</th>
<th>Location</th>
<th>Title</th>
<th>Authors</th>
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<td>11:30 – 12:30</td>
<td>You Yangs Hall (Level 3)</td>
<td><strong>COGNITION &amp; ATTENTION</strong></td>
<td><strong>Attention (auditory, tactile, motor)</strong></td>
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<td>Fractal based method for alertness measurement using EEG, Sridhar Poosapadi Arjuman¹,</td>
<td>Dinesh Kant Kamar¹, Tzyy-Ping Jung², SECE, RMFT University, Melbourne, Australia, SCCN,</td>
<td>University of California, San Diego, USA</td>
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<td>Cortically constrained current source density analysis of duration-deviant mismatch</td>
<td>Matthew Hughes², Patrick Johnston⁴, Paul Rassner⁵, Centre for Brain and Mental Health</td>
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<td>negativity in schizophrenia, Ross Fulham¹, Ulrich Schall², Patricia Michie², Phillip</td>
<td>Studies, Newcastle University, Newcastle, Australia, School of Psychology, Newcastle</td>
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<td>Ward², Matthew Hughes², Patrick Johnston⁴, Paul Rassner⁵, Centre for Brain and Mental</td>
<td>University, Newcastle, Australia, School of Psychology, Newcastle University, Melbourne,</td>
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<td>Health Studies, Newcastle University, Newcastle, Australia, School of Psychology, Newcastle</td>
<td>Australia, University of NSW, Sydney, Australia, Swinburn University of Technology,</td>
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<td>University, Newcastle, Australia, Schizophrenia Research Institute, NSW, Australia, Hunter</td>
<td>Medical Research Institute, Newcastle, Australia</td>
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<td>Attention-dependent modulation of neural activity in primary motor cortex, Annette</td>
<td>Isabella Nowak, Notger Müller, Cognitive Neurology Unit, Frankfurt, Germany</td>
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<td>Milnik, Isabella Nowak, Notger Müller, Cognitive Neurology Unit, Frankfurt, Germany</td>
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<td>Chronotype-dependent performance modulation according to time of day : a functional</td>
<td>Christina Schmidt¹, Fabienne Collet¹, Virginie Sterpenich¹, Gilles Vandevalle¹, Gilberte</td>
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<td>neuroimaging approach, Christina Schmidt¹, Fabienne Collet¹, Virginie Sterpenich¹,</td>
<td>Tinguely¹, Annabelle Darsaud¹, Steffen Gais¹, Manuel Schabus¹, Martin Desilles¹, Thanh</td>
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<td>Cyclotron Research Center, University of Liège, Liège, Belgium,</td>
<td>DangVu¹, Eric Salmon¹, André Luxen¹, Pierre Maquet¹, Christian Cajoche¹, Philippe</td>
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<td>Department of Cognitive Science, University of Liège, Liège, Belgium, Center</td>
<td>Peigneux¹, Cyclotron Research Center, University of Liège, Liège, Belgium, Center for</td>
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<td>and Functional Neuroimaging Research Unit, Brussels, Belgium</td>
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<td>The effects of the glutamate antagonist memantine on brain activation to an auditory</td>
<td>Heidi van Wageningen¹, Hugo A. Jørgensen², Tom Eichele³, Karsten Specht³, Kenneth</td>
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<td>discrimination task: A pharmacological fMRI study, Heidi van Wageningen¹, Hugo A.</td>
<td>Hugdahl², ¹Department of Biological and Medical Psychology, University of Bergen, Bergen,</td>
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<td>Jørgensen², Tom Eichele³, Karsten Specht³, Kenneth Hugdahl², Department of Biological and</td>
<td>Bergen, Norway, Division of Psychiatry, Haukeland University Hospital, Bergen, Norway</td>
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<td>Medical Psychology, University of Bergen, Bergen, Norway, Division of Psychiatry, Haukeland</td>
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<td><strong>COGNITION &amp; ATTENTION</strong></td>
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<td>Study of Distraction-related EEG Dynamics in Virtual Reality Driving Simulation, Chin-Teng</td>
<td>Chin-Teng Lin¹, Yu-Chieh Chen¹, Chau-Ling Lin¹, Chih-Feng Chao¹, Jeng-Ren Duann¹, Tzyy-</td>
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<td>Lin¹, Brain Research Center, University System of Taiwan, Hsinchu, Taiwan,</td>
<td>Ping Jung¹, Brain Research Center, University System of Taiwan, Hsinchu, Taiwan,</td>
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<td>¹Department of Electrical and Control Engineering, National Chiao-Tung University,</td>
<td>¹Department of Electrical and Control Engineering, National Chiao-Tung University,</td>
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<td>Hsinchu, Taiwan, Institute for Neural Computation, University of California, San Diego</td>
<td>Institute for Neural Computation, University of California, San Diego, USA</td>
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<td>Top-down modulation of FFA by semantics associated with ignored and attended faces,</td>
<td>Francesco Gentile, Bernadette M. Jansma, Dept. of Cognitive Neuroscience, Faculty of</td>
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<td>Francesco Gentile, Bernadette M. Jansma, Dept. of Cognitive Neuroscience, Faculty of</td>
<td>Psychology, University of Maastricht, Maastricht, Netherlands</td>
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<td>Psychology, University of Maastricht, Maastricht, Netherlands</td>
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Increased activity in human visual cortex during fixation in the absence of foveal visual stimulation, Xiaqi Huang1,2, Paul C. Knox1, Su Lv1, Hehan Tang1, Qiyong Gong1, 1Huaxi Magnetic Resonance Research Center, Department of Radiology, West China hospital of Sichuan University, Chengdu, China, 2Department of Psychiatry, West China hospital of Sichuan University, Chengdu, China. 3Division of Orthoptics, School of Health Sciences, University of Liverpool, Liverpool, United Kingdom

Neural multivariate decoding in early visual cortex is not modulated by high attentional demands in an unrelated task, Christian Kauf1,2, Nilli Lavie1, Geraint Rees1,2, 1Institute of Cognitive Neuroscience, University College London, London, United Kingdom, 2Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom. 3Department of Psychology, University College London, London, United Kingdom

Activation during Joint Attention is Context Dependent as Measured with Magnetoencephalography (MEG): Substrates of Social Cognition, Renee Lajiness-O’Neill1,2, Nicholas Velissaris1, Lesley Pavluk1, Susan Bowyer2,3,4, 1Eastern Michigan University, Ypsilanti, USA, 2Henry Ford Medical Group, Detroit, USA, 3Oakland University, Rochester, USA, 4Wayne State University, Detroit, USA

An fMRI study of item similarity effects in visual search, Steven Phillips, Yuji Takeda, AIST, Tsukuba, Japan

Brain Substrates Associated with Working Memory among Subjects with Alcohol Use Disorders, Mi-Sook Park1, In Kyu Yu2, Hyunsu Khang3, Sunju Sohn4, Jin-Hun Sohn1, 1Dept. of Psychology, Institute for Brain Research, Chungnam National University, Daejeon, Daejeon, South Korea, 2Dept. of Radiology, College of Medicine, Eulji University, Daejeon, South Korea, 3School of Social Work, University of Texas Austin, Austin, USA

Pathways for visual-spatial attention, Roza Umurova1, Dorothee Sauer1, Susanne Schnell2, Björn Kreher2, Magnus-Sebastian Vry1, Volkmar Glauche1, Cornelius Weiller1, 1Freiburg Brain Imaging, Department of Neurology, University Hospital, Freiburg, Germany, 2Medical Physics, Department of Diagnostic Radiology, University Hospital, Freiburg, Germany

COGNITION & ATTENTION
Cognitive Aging

Automated 3D mapping of caudate atrophy in Parkinson’s disease with and without dementia, Liana Apostolova1, Mona Beyer2, Amity Green3, Jonathan Morris4, Kristy Hwang5, Dag Aarsland6, Carmen Janvin2, Jan Larsen2, Jeffrey Cummings1, Paul Thompson1, 1UCLA, Los Angeles, USA, 2Stavanger University, Stavanger, Norway

Establishing Quantitative Linkages of Cognitive Impairments and Leukoaraiosis by CT Imaging, Wei-Shih Huang1, Shu-Wen Huang2, Chon-Haw Tsai1, Chung-Ta Lu1, Chih-Chien Yang3, 1Department of Neurology, China Medical University Hospital, Taichung, Taiwan, 2Graduate School of Educational Measurement & Statistics, National Taichung University, Taichung, Taiwan, 3Cognitive NeuroMertics Laboratory, National Taichung University, Taichung, Taiwan

Brain Localization of Cognitive Domains with Diffusion MRI, Efrat Sasson1, Glen Doniger2, Ofer Pasternak1, Yaniv Assaf1,2, 1Department of Neurobiochemistry, Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel, 2Department of Clinical Science, NeuroTrax Corporation, Newark, USA, 3School of Computer Science, Tel Aviv University, Tel Aviv, Israel, 4Functional brain imaging unit, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel

COGNITION & ATTENTION
Cognitive Development

Neural correlates of successful and partial inhibitions in children: An ERP study of go/no-go performance, Lucy Cragg1,2, Allison Fox2, Kate Nation2, Corinne Reid2, Mike Anderson2, 1Brain and Body Centre, University of Nottingham, Nottingham, United Kingdom, 2School of Psychology, University of Western Australia, Perth, Australia, 3Dept. of Experimental Psychology, University of Oxford, Oxford, United Kingdom, 4School of Psychology, Murdoch University, Perth, Australia
Abnormal Structural Integrity of the Ventral Frontostriatal pathway: A Diffusion Tensor Tractography Study of Young Male children with Fragile X Syndrome, Brian W. Haas1, Naama Barnea-Goraly1, Amy Lightbody1, Sweta Patnaik1, Funiko Hoef2, Joseph Piven2, Reiss Allan3, 1Center for Interdisciplinary Brain Sciences Research, Stanford University Medical Center, Stanford, USA, 2Neurodevelopmental disorder Research Center, University of North Carolina, Chapel Hill, USA

Effects of Donepezil on neural network reorganization in patients with post-stroke cognitive impairment: a preliminary study, Yun-Hee Kim1, Yun H. Park1, Suk Hoon Ohn1, Duk Ryul Na2, Sung Tae Kim1, Chang-hyun Park3,4, Woo-Kyoung Yoo1, Peter K.W. Lee1, 1Department of Physical Medicine and Rehabilitation, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 2Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 3Department of Radiology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 4Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, Korea

Response inhibition is associated with right inferior frontal gyrus and right preSMA white matter microstructure in children, Katharine Skak Madsen1,2, Martin Vestergaard Hansen1, William F. Baaré1,2, Lisser Rye Ejerbo1, Christian Gerlach1, Olaf B. Paulson1,2, Terry L. Jernigan1,2,3, 1Danish Research Centre for MR, Copenhagen University Hospital, Hvidovre, Denmark, 2Center for Integrated Molecular Brain Imaging, Copenhagen, Denmark, 3Laboratory of Cognitive Imaging, University of California, San Diego, USA, 4Learning Lab Denmark, Danish School of Education, University of Aarhus, Copenhagen, Denmark

Relation between the cerebral organization of arithmetic and language correlates: perspective from a large scale database of healthy subjects, philippe pinel1,2,3, alex lopez Rolot1, stansilus deaene1,2,3, *inserm, saclay, France, *université Paris-Sud, orsay, France, *medizinische Universität Innsbruck, Innsbruck, Austria, *college de France, paris, France

COGNITION & ATTENTION
Perception, Imagery, Awareness

Visual awareness during binocular rivalry: Structural connectivity and a truly nonrivalrous comparison condition, Juliane C. Wilcke1,2, Robert P. O’Shea1, Richard Watts1,2, 1Department of Physics and Astronomy, University of Canterbury, Christchurch, New Zealand, 2Department of Psychology, University of Canterbury, Christchurch, New Zealand, 4Department of Psychology, University of Otago, Dunedin, New Zealand, 4Van der Veer Institute for Parkinson’s and Brain Research, Christchurch, New Zealand

Implication of two distinct neuronal networks in the awareness of environment and of self, Audrey Vanhoudenhuyse1, Athena Demertz1, Manuel Schabus1, Christophe Phillips1, Serge Bredart1, Steven Laureys1,2, Melanie Boly1,2, 1Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, 2Department of Psychology, University of Salzburg, Salzburg, Belgium, 3Department of Cognitive Science, University of Liège, Liège, Austria, 4Neurology Department, CITU Sari Tilman, University of Liège, Liège, Belgium

Differential Neuroneugramatic Activity Associated with Time Perception of Short and Long Tones, Frederick Carver1, Brita Elvevaag1, Tom Holroyd1, Terry Goldberg2, Richard Coppola1, 1NIMH, Bethesda, USA, 2Albert Einstein CoM, Glenn Oaks, USA

When the brain takes BOLD steps: Controlling differential brain activation levels via real-time fMRI-based neurofeedback training, Brigitte Dahmen1,2, Bettina Sorgeron3, Charlotte Sink1,2, Rainer Goebel1,2, 1Department of Cognitive Neuroscience, Maastricht University, Maastricht, Netherlands, 2Maastricht Brain Imaging Center (M-BIC), Maastricht, Netherlands

Neural Correlates of Perception in Chess, Merim Bilalic, Michael Erb, Wolfgang Grodd, Section Exp. MR of the CNS, Department of Neuroradiology, University of Tübingen, Tübingen, Germany

Does Mental Rotation of Hands and Feet Involve Somatotopically Organized Brain Regions?, Takashi Hanakawa, Chihiro Hosoda, Manabu Honda, National Center of Neurology and Psychiatry, Kodaira, Japan

*
The Comparison of Buddhist Meditation with Different Phrases by Using fMRI, Chao-Hsien Hsieh¹, Chien-Hui Liu¹, Chang-Wei Hsieh¹, Chi-Hong Wang¹, Li-Kang Ho¹, Jyh-Horng Chen¹,
¹Interdisciplinary MRI/EMRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, ²Department of Neurology, Cardinal Tien Hospital Yung Ho Branch, Taipei, Taiwan, ³Department and Institute of Pharmacology, National Yang-Ming University, Taipei, Taiwan

An fMRI Investigations of Temporal Discrimination: The Relationship Between Right Prefrontal Cortex and Interval Duration, Kelly Jantzen¹, Steve Sedita¹, J.A. Scott Kelso¹,
¹Western Washington University, Bellingham, USA, ²Florida Atlantic University, Boca Raton, USA

COGNITION & ATTENTION
Reasoning & Problem Solving

Dynamics of conditional inference and top down effects: A MEG study, Mathilde Bonnefond¹, Jean-Baptiste Van Der Henst¹, Anne Cheylus¹, Olivier Bertrand¹, Ira Noveck¹,
¹CNRS-LABoratoire sur le langage, le cerveau et la cognition, France, France, ²INSERM-U821 Dynamique Cérébrale et Cognition, France, France

Sex differences in cortical activation patterns during mental rotation task in schizophrenia patients, Jose Jimenez², Adham Mancini-Marie¹,², Melissa Rinaldi², Emmanuel Stip¹,², Marc Lavoie¹, François Guilmot³, Adrianna Mendrek¹,², Department of Psychiatry, Fernand-Seguin Research Center, Louis-H Lafontaine Hospital, University of Montreal, Montreal, Canada, ²Department of Psychiatry, Biomedical Sciences Program, Faculty of Medicine, University of Montreal, Montreal, Canada

The Effect of Chicken Essence on Cognitive Processing in the Brain Revealed by fMRI Using the Tower of London Task, Jin-Hun Sohn¹, Ji-Eun Park¹, Jin-Sup Eom¹, Chia Chew Sern², Daniel Tsi², Hajime Nagari², Dept. of Psychology, Institute for Brain Research, Chungnam Nat'l University, Daejeon, South Korea, ²BRAND'S Health Science Center, Cerebos Pacific Limited, China square central, Singapore

COGNITION & ATTENTION
Space, Time, & Number Coding

Numerical Specialisation: Within and Between Dimensions, Roi Cohen Kadosh, Bahador Bahrami, Vincent Walsh, Brian Butterworth, Cathy Price, University College London, London, United Kingdom

Effective Connectivity of Frontal and Parietal Cortex in Quantifier Comprehension, Vanessa Troiani, Jonathan Peelle, Murray Grossman, University of Pennsylvania, Philadelphia, USA

DISORDERS OF THE NERVOUS SYSTEM
Alzheimer & Dementia

Diffusion tensor analysis of optic radiation changes after optic neuritis, Clare Bajraszewski¹, Scott Kolbe¹,², Caron Chapman¹, Peter Mitchell¹, Helmut Butzkueven¹,²,³, Trevor Kilpatrick¹,²,³, Gary Egan¹,², ¹Howard Florey Institute, Florey Neuroscience Institutes, Australia, ²Centre for Neuroscience, University of Melbourne, Australia, ³Royal Melbourne Hospital, Australia

Regional brain changes in Mild Alzheimer’s Disease: A Combination of Voxel-based Morphometry and Diffusion Tensor Imaging, Qin Chen²,³, Ling Zou¹, Zhong-Yan Li², Luo Ou-Yang², Wei-Wei Zhang², Li-Jun Jiang², Dong Zhou², Qi-Yong Gong²,³, Qing Yang¹,²,³, ¹Department of Neurology, West China hospital of Sichuan University, Chengdu, China, ²Huaxi MR Research Center (HMRR), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, ³Division of Medical Imaging, University of Liverpool, Liverpool, United Kingdom
Evidence for cortical reorganisation in cognitive domains in Multiple Sclerosis from functional MRI, Christian Enzinger1,2, Marisa Loitfelder2, Stefan Ropele1, Christa Neuper2, Katja Petrovic1, Faton Gorani1, Siegried Fuchs1, Franz Fazekas1, 1Dept. of Neurology, Medical University Graz, Graz, Austria, 2Institute of Psychology, Karl Franzens University Graz, Graz, Austria, 3Section of Neuroradiology, Dept. of Radiology, Medical University Graz, Graz, Austria

Physical Fitness is Associated with Preservation of Hippocampal Volume in Alzheimer’s Disease, Robyn Honea1, George Thomas1, Amith Harshad1, Benjamin Cronk1, Joseph Donnelly2, William Brooks1, Jeffrey M. Burns1, 1Departments of Neurology, University of Kansas Medical Center, Kansas City, USA, 2Energy Balance Laboratory and Center for Physical Activity, Nutrition, and Weight, Kansas City, USA

Diffusion tensor imaging in clinically isolated syndrome and relapsing-remitting multiple sclerosis, Yaou Liu1,2, Chunshui Yu1, Kuncheng Li1, Yunyun Duan1, Wen Qin1, Fuchan Lin1, Gary Egan3, 1Department of radiology, Xuanwu Hospital, Capital University of Medical Sciences, Beijing, China, 2Institute of Physics and Mathematics, Chinese Academy of Science, Wuhan, China, 3Howard Florey Institute, Melbourne, Australia

Stability of fMRI Hippocampal Activation in Normal Older Subjects Over Two Years, Jacqueline O’Brien1, Peter LaViolette1, Kelly O’Keefe1, Amy DeLuca1, Keith Johnson1, Reisa Sperling1, 1Brigham and Women's Hospital, Boston, USA, 2Massachusetts General Hospital, Boston, USA

Cortical neurodegeneration syndromes target human structural-functional covariance networks, William Seeley1, Richard Crawford2, Bruce Miller2, Michael Greicius2, 1Memory & Aging Center, University of California, San Francisco, San Francisco, USA, 2Stanford University, Palo Alto, USA

How Treatment of donepezil influence the brain structures in Alzheimer’s A Diffusion Tensor Imaging Study at 3T, Ling Zou1, Qin Chen1, Qiang Yuan1, Zhengyan Li1, Weimei Zhang1, Yi Wei1, Xiaoling Wen1, Qiyong Gong1, 1Huaxi MR Research Center(HMRC), Huaxi Hospital, Sichuan University, chengdu, China, 2Department of Neurology, Huaxi Hospital, Sichuan University, chengdu, China

**DISORDERS OF THE NERVOUS SYSTEM**

**Mood & Anxiety Disorders**

Decreased Amygdala Anisotropy by DTI in Early Onset MDD: An Epidemiologic Twin Study, Kelly Botteron1, Tomoyuki Nishino1, Melissa Mann1, Dimitrios Alekopoulos1, Babb Casey1, McKinstry Robert1, 1Washington University School of Medicine, St Louis, USA, 2University of Colorado, Boulder, USA

Thinner Prefrontal Cortex in Veterans with Posttraumatic Stress Disorder, Elbert Geuze1,2, Eric Vermetten1,2, Rainier Goebel1, Herman Westenberg1, 1Research Centre-Military Mental Healthcare, Utrecht, Netherlands, 2Utrecht University Medical Centre, Utrecht, Netherlands, 3Maastricht University, Maastricht, Netherlands

Increased Amygdala Activation in Subjects with Bulimia Nervosa, Timo Lukkarinen1,2, Ilkka Nissila1,2, Aila Rissanen1, Jaakko Kaprio1,2, Anna Keski-Rahkonen1,2, Eeva Sihvola1,2, Leila Karhumen1, Salla Kaurijoki1, Olli Salonen1, Miila Linna1,2, Simo Carlsson1,2, 1Neuroscience Unit, Institute of Biomedicine/physiology, University of Helsinki, Helsinki, Finland, 2Obesity Research Unit, Department of Psychiatry, University of Helsinki, Helsinki, Finland, 3Functional Brain Imaging Unit, HBRC, Medical Imaging Center, University of Helsinki, Helsinki, Finland, 4Department of Public Health, University of Helsinki, Helsinki, Finland, 5Department of Mental Health and Alcohol Research, National Public Health Institute, Helsinki, Finland, 6HUS Department of Psychiatry, Helsinki University Central Hospital, Helsinki, Finland, 7Department of Clinical Nutrition, University of Kuopio, Kuopio, Finland, 8Medical School, University of Tampere, Tampere, Finland

Hippocampo-amygdaloid structure predicts HPA axis dysregulation in the acute phase of major depression (MD), Philipp Sämann1, David Höhn1, Stefan Kloiber1, Natalya Chechko2, Susanne Lucae2, Michael Czisch1, Max Planck Institute of Psychiatry, Munich, Germany
Aberrant functional connectivity of dorsolateral prefrontal and cingulate networks in patients with major depression during working memory processing. Nenad Vasic¹, Henrik Walter², Fabio Sambataro³, Robert Christian Wolf⁴, ¹University Clinic of Ulm, Department of Psychiatry III, Ulm, Germany, ²Department of Psychiatry, Division of Medical Psychology, University of Bonn, Bonn, Germany, ³Clinical Brain Disorders Branch, Genes Cognition and Psychosis Program, National Institute of Mental Health, National Institutes of Health, Bethesda, Washington, USA

**DISORDERS OF THE NERVOUS SYSTEM**

**Parkinson's Disease & Other Basal Ganglia**

White matter degeneration in early Huntington's disease: a Diffusion Tensor Imaging and Tract-Based Spatial Statistics study. India Bohanna¹, Gary Egan¹, Anusha Sritharan¹, Leigh Johnston¹,², Hamed Asadi¹, Ross Cunnington³, Andrew Churchyard⁴, Nellie Georgiou-Karistianis², ¹Howard Florey Institute, Florey Neuroscience Institutes, Melbourne, Australia, ²School of Psychology, Psychiatry and Psychological Medicine, Monash University, Melbourne, Australia, ³Department of Electrical and Electronic Engineering, University of Melbourne & NICTA Victorian Research Laboratory, Melbourne, Australia, ⁴Queensland Brain Institute, University of Queensland, Brisbane, Australia, ²Department of Neurology, Monash Medical Centre, Melbourne, Australia

A Joint Conditional-Independence, FDR-Controlled Method for Functional Connectivity — Insights into L-Dopa Effectiveness in Parkinson's Disease. Martin McKeown¹,²,³, Janning Li², Samantha Palmer², Jane Wang², ¹Pacific Parkinson's Research Center, Vancouver, Canada, ²Brain Research Center, Vancouver, Canada, ³Dept. of Medicine (Neurology), Vancouver, Canada, ²Dept. of Electrical and Computer Engineering, Vancouver, Canada

Spatial mapping of coherence and phase shift between electromyographic activities and local field potentials in the subthalamic nucleus in patients with Parkinson's disease and resting tremor. Christiane Reck¹,², Esther Florin¹,³, Lars Wojtecki¹, Holger Kröuze¹, Stefan Groiss¹, Jürgen Voges¹, Mohammad Maarouf¹, Volker Sturm¹, Alfons Schnitzler¹, Lars Timmermann¹, ¹Department of Neurology, Cologne, Germany, ²Department of Neurology, Düsseldorf, Germany, ³Department of Stereotactic Neurosurgery, Cologne, Germany, ⁴Institute of Neuroscience and Biophysics-Medicine, Jülich, Germany

**DISORDERS OF THE NERVOUS SYSTEM**

**Schizophrenia**

Prefrontal cortical activation in people at ultra-high risk of psychosis: An fMRI study of voluntary eye movements. Elizabeth Bowman¹,², Larry Abel¹, Cali Bartholomew³,⁴, Barnaby Nelson¹, Alison Yung¹, Murat Yuce², Christos Pantelis¹, Beatriz Luna¹, Katerina Velanova¹, Patrick McGorry², Stephen Wood³, ¹Department of Optometry and Vision Sciences, The University of Melbourne, Melbourne, Australia, ²Melbourne Neuropsychiatry Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Australia, ³ORYGEN Youth Health, Melbourne, Australia, ²Department of Psychiatry, The University of Pittsburgh, Pittsburgh, USA

On the difference between auditory verbal hallucinations and inner speech: a group-wise analysis of fMRI scans in 24 psychotic patients. Iris Sommer², Kelly Dierden¹, Jan Dirk Blom¹, Leila Kushan¹, Karin Slotema², Marco Boks¹, Kirstin Daalman¹, Wijnbrand Hoek¹, Bas Neggers², Rene Kahn¹, ¹University Medical Centre, Utrecht, Netherlands, ²Parnassia Psycho-Medical centre, The Hague, Netherlands

Mapping grey matter reductions in schizophrenia: an ALE meta-analysis of voxel-based morphometry studies. Alex Fornito¹, Yücel Murat², Jessica Patti¹, Stephen Wood¹, Christos Pantelis¹, ¹Melbourne Neuropsychiatry Centre, The University of Melbourne, Melbourne, Australia, ²ORYGEN Research Centre, The University of Melbourne, Melbourne, Australia, ³Department of Psychology, The University of Melbourne, Melbourne, Australia

Functional and anatomical connectivity abnormalities of left inferior frontal gyrus in schizophrenia. Bum Seok Jeong¹,²,³, R.W. McCarley⁴, M.E. Shenton¹, C.G. Wible⁵, M. Kubicki³, R.H. Hashimoto², ¹Dept. of Psychiatry, Eulji University, Daegu, South Korea, ²Clinical Neuroscience Division, Laboratory of Neuroscience, Boston VA Healthcare System, Dept. of Psychiatry, Harvard Medical School, Boston, USA, ³Psychiatry Neuroimaging Laboratory, Department of Psychiatry, Brigham and Women's Hospital and Harvard Medical School, Boston, USA

185 M-AM

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EEG alpha activity reflects hypofrontality in schizophrenia, Maria G. Knyazeva1,2, Mahdi Jalili3, Reto Meuli1, Martin Hasler1, Oscar De Feo1, Kim Q. Do1, 1Dept of Neurology, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland, 3Dept of Radiology, Centre Hospitalier Universitaire Vaudois and University of Lausanne, Lausanne, Switzerland, 4Ecole Polytechnique Fédérale de Lausanne (EPFL), School of Computer and Communication Sciences, IC-LANOS, Lausanne, Switzerland, 4Department of Microelectronic Engineering, University College Cork, Cork City, Ireland, 3Center for Preclinical Neuroscience, Dept of Psychiatry, Centre Hospitalier Universitaire, Lausanne, Switzerland

Morphological abnormalities of the cerebral cortical thickness in schizophrenia, Tao Liu1, Feng Shi2, Yuan Zhou2, Wanlin Zhu2, Lei Liu2, Jesse Jin3, Tianzi Jiang2, Suhuai Luo1, Mira Park1, Paul Rasser4, Ulrich Schall1, 1School of Design, Communication & IT, The University of Newcastle, Callaghan NSW, Australia, 2National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 3Schizophrenia Research Institute, Sydney, Australia, Priority Centre for Brain & Mental Health Research, University of Newcastle, Newcastle, Australia, Hunter Medical Research Institute, Newcastle, Australia, 4Neuropsychiatric Institute, Prince of Wales Hospital, Randwick NSW, Australia

LINKING CEREBRAL GREY MATTER AND MISMATCH NEGATIVITY (MMN) IN SCHIZOPHRENIA, Paul E. Rasser1,2, Juanita Todd3, Paul M. Thompson4, Patricia T. Michie5,6, Philip B. Ward5, Patrick Johnston6, Katrin Helmhold6, Vanessa Case7, Paul A. Tooney5,6, Ulrich Schall1, 1Schizophrenia Research Institute, Sydney, Australia, 2Priority Centre for Brain & Mental Health Research, University of Newcastle, Newcastle, Australia, 3Laboratory of Neuro Imaging, University of California Los Angeles, Los Angeles, USA, 4Schizophrenia Research Unit, Liverpool Hospital, University of New South Wales, Sydney, Australia, 5Brain Sciences Institute, Swinburn University of Technology, Melbourne, Australia, 6Department of Psychology, University of Konstanz, Konstanz, Germany

3D Pattern of Brain Abnormalities in Chronic Schizophrenia Visualized Using Tensor-Based Morphometry: a Multi-Site Structural Imaging Study, Theo G.M. van Erp1,2, Ming-Chang Chiang3, Daqiang Sun3, Molly E.Hardt4, Jeremy H. Bockhorn5, Jessica A Turner6, Vince D. Calhoun5,6, Hans J. Johnson7, Doug N. Greve8, Greg G. Brown9, Judith M. Ford10, Steven G. Potkin1, Tyrone D. Cannon11, Paul M. Thompson1, Arthur W. Toga12, F. BIRN13, 1Department of Psychology, University of California Los Angeles, Los Angeles, USA, 2Lab of Neuroimaging and Department of Neurology, University of California Los Angeles, Los Angeles, USA, 3The Mind Research Network, Albuquerque, USA, 4Department of Psychiatry and Human Behavior, University of California Irvine, Irvine, USA, 5Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, USA, 6Department of Psychiatry, Yale University, New Haven, USA, 7Iowa Mental Health Clinical Research Center, The University of Iowa Hospitals and Clinics, Iowa City, USA, 8Department of Radiology, Massachusetts General Hospital, Boston, USA, 9Psychology Services, Veterans Administration San Diego Healthcare System, and Psychiatry Department, University of San Diego, San Diego, USA, 10Department of Psychiatry, Yale University School of Medicine, West Haven, USA, 11Departments of Psychology and Psychiatry and Biobehavioral Sciences, University of California Los Angeles, Los Angeles, USA

EMOTION & MOTIVATION

Reward
Anterior Cingulate and Vulnerability to Depression: Blunted Response to Incongruous Feedback in a Novel Reward-Related Task., Darragh Downey1, Shane McKe1, JFW Deakin2, Ian Anderson2, Rebecca Elliot1, 1Imaging Science and Biomedical Engineering, University of Manchester, Manchester, United Kingdom, 2Neuroscience and Psychiatry Unit, University of Manchester, Manchester, United Kingdom

The roles of expectation and dopamine release in the mechanism of the placebo effect in Parkinson’s disease: A high-resolution PET study with [11C] raclopride, Sarah Lidstone1, Katherine Dinelle2, Stephan Blinder3, Tom Ruth4, Vesna Sossi5, Jon Stoessl6, 1Pacific Parkinson’s Research Centre, Vancouver, Canada, 2Department of Physics & Astronomy, Vancouver, Canada, 3TRIUMF, Vancouver, Canada

Neural Activity in a Delay Discounting Task Correlates with Interindividual Differences in Impulsivity and Self-Control, Lioba Schmitz, Corinna Nuesser, Susanne Erk, Dina Schardt, Henrik Waller, Dept. of Psychiatry, Div. of Medical Psychology, University of Bonn, Bonn, Germany
Detachment effectuates suspension of reward magnitude and prediction error coding in ventral striatum, Markus Staudinger1, Susanne Erk2, Birgit Abler3, Henrik Walter4, 1University of Bonn, Bonn, Germany, 2University of Bonn, Bonn, Germany, 3University of Ulm, Ulm, Germany, 4University of Bonn, Bonn, Germany

Neural encoding of object valence using parametric modulation and multivariate pattern classification, Anita Tuschel1, John-Dylan Haynes2, 1Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Germany, 2Bernstein Center for Computational Neuroscience Berlin, Charité – Universitätsmedizin, Berlin, Germany

EMOTION & MOTIVATION
Sexual Behavior

The resting frontal alpha asymmetry across the menstrual cycle: a magnetoencephalographic study, Ren-Jen Hwang1, Li-Fen Chen2,3,4, Tzu-Chen Yeh2,3,4, Pei-Chi Tu1, Chung-Hao Tu1, Jen-Chuen Hsieh1,2,3,4, 1Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan, 2Institute of Brain of Brain Science, National Yang-Ming University, Taipei, Taiwan, 3Dept. Medical Research & Education, Taipei Veterans General Hospital, Taipei, Taiwan, 4Brain Research Center, National Yang-Ming University, Taipei, Taiwan

EMOTION & MOTIVATION
Social Behavior

Learning to like: social observation influences prefrontal activation for viewing others, Jeffrey C. Cooper, Tamar Kreps, Brian Knutson, Department of Psychology, Stanford University, Stanford, USA

Investigation of Brain Activity under Social Pressure using the Asch Paradigm: An fNIRS study, Takashi X. FUJISAWA, Toyoharu HOSOKAWA, Noriko NAGATA, Haruhiro KATAYOSE, Kwansei Gakuin University, Hyogo, Japan

Investigating Neural Correlates of Frustration with fMRI, Johan Lambregts1, Johan Orme2, André Alen2, 1University Medical Center Groningen, BCN-NIC, Groningen, Netherlands, 2University Medical Center Groningen, Dept. Psychiatry, Groningen, Netherlands

Functional Imaging of “Development of Parenting Brain” in Adolescents, Akio NAKAI1, Ayako SASAKI2, Hirotaka KOSAKA1, Ken-ichi MATSUI1, Michiko TANABE1, 1Department of Pediatrics, Faculty of Medical Sciences, University of Fukui, Fukui, Japan, 2Department of Maternity, Child Health Nursing, and Midwifery, Faculty of Medical Sciences, University of Fukui, Fukui, Japan

GENETICS

Catechol-o-methyltransferase val158met genotype influences neural incentive processing, Katharina Schmack1, Florian Schlagenhauf1, Philipp Sterzer1, Jana Wrase1, Anne Beck1, Theresa Dember1, Peter Kalus1, Imke Puls1, Thomas Sander1, Jürgen Gallinat1, Andreas Heinz1, 1Dept. of Psychiatry, Charité University Medical Center, Berlin, Germany, 2Max-Delbrück Center for Molecular Medicine, Berlin, Germany

The impact of gene-environment interactions on neural pathways in risk for syndromal depression and anxiety, Justine M. Gatt1,2, Charles B. Nemeroff1, Carol Dobson-Stone3, Stacey A. Kuat1,2, Robert H. Paul1, Richard A. Bryant1,4, Peter R. Schofield3, Evin Gordijn1,2, Leanne M. Williams1,2, 1The Brain Dynamics Centre, Westmead Millennium Institute, Westmead Hospital and Western Clinical School, University of Sydney, Sydney, Australia, 2Psychological Medicine, Western Clinical School, University of Sydney, Sydney, Australia, 3Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta, USA, 4Prince of Wales Medical Research Institute, University of New South Wales, and Garvan Institute of Medical Research, Sydney, Australia, 5Department of Psychiatry, Behavioral Neuroscience, University of Missouri, St. Louis, USA, 6School of Psychology, University of New South Wales, Sydney, Australia, 7The Brain Resource International Database and the Brain Resource Company, and Faculty of Medicine, University of Sydney, Sydney, Australia
Genetics of cerebral sulcation: Does genetics offer a new way of sulcal classification?, Peter Kochunov1, David Glahn1, Peter Fox1, Oliver Coulon1, Karl Zilles1, Wendy Shelly2, Jack Lancaster1, John Blangero3, Jeff Rogers4, 1Research Imaging Center, University of Texas Health Science Center at San Antonio, san antonio, USA, 2Laboratoire des Sciences de l'Information et des Systèmes, Marseille, France, 3Institut für Medizin (IME), Jülich, Germany, 4Southwest Research Foundation., San Antonio, USA

Brain-Derived Neurotrophic Factor and Volumes of Hippocampus and Amygdala in Adolescents, Tomas Paas1,2, Marie Chapin3, Line Garnero4, Gabriel Leonard5, Michel Perron1,4, Bruce Pike1, Alan Pitsil1, Louis Richer1, Roberto Toro1, Suzanne Veillette1,4, Zdenka Paasova1,3, 1University of Nottingham, Nottingham, United Kingdom, 2McGill University, Montreal, Canada, 3University of Montreal, Montreal, Canada, 4CEGEP Jonquiere, Jonquiere, Canada, 5University of Quebec, Chicoutimi, Canada, 6CNRS, Paris, France

Neuroimaging endophenotypes for emotion perception? Variation with COMT Val108/158Met genotypes, level of awareness and sex differences, Leanne (Lea) Williams1,2, Stacey Kuan1,2, Justine Gaut1,2, Dobson-Stone Carol3, Schofield Peter4, Gordon Egan1,2,4, 1Brain Dynamics Centre, Westmead Millennium Institute, Sydney, Australia, 2University of Sydney, Sydney, Australia, 3Prince of Wales Medical Research Institute, Sydney, Australia, 4Brain Resource, Sydney, Australia

IMAGING TECHNIQUES & CONTRAST MECHANISM
EEG

Modulation of Resting EEG Nonlinear Topography by NMDA Receptor Antagonist Nitrous Oxide, Brett Foster, Mathew Dafitis, Peter Cadusch, David Liley, Brain Dynamics Research Unit, Brain Sciences Institute, Swinburne University of Technology, Melbourne, Australia

Tracking inter-hemispheric transfer with high-density event-related brain potentials, Ryan D'Arcy1,2,3, Erin Mazerolle1,2, Nicole Pelot1, 1Institute for Biodiagnostics (Atlantic), National Research Council, Halifax, Canada, 2Department of Psychology/Neuroscience, Dalhousie University, Halifax, Canada, 3Department of Radiology, Dalhousie University, Halifax, Canada

IMAGING TECHNIQUES & CONTRAST MECHANISM
Functional MRI

Neuroimaging Analysis and Visualization Tools For Remote Collaboration, Michael Andric, Uri Hasson, Steven Small, The University of Chicago, Chicago, USA

Oxygen Calibrated Functional MRI, Daniel Bulte, Peter Jezard, University of Oxford, Oxford, United Kingdom

Functional Changes in Cerebral Blood Flow and Venous Blood Volume: what is the Steady-State Relationship?, J. Jean Chen, G. Bruce Pike, McConnell Brain Imaging Centre, Montreal Neurological Institute, Montreal, Canada

Test-Retest Reliability of Functional Activation in Schizophrenia and Unaffected Individuals During Working Memory Tasks: Differences, Implications, and the Effects of Denoising, Kristen Haut1, Maria Prom1, Angus MacDonald III1, 1University of Minnesota, Minneapolis, USA, 2Carleton College, Northfield, USA

Effects of current timing and local shimming in neuronal current imaging: experiment and simulation, Ivana Drbohnjak1, Gaby Pelt1, Mark Jenkins1, 1FMRIB Centre, University of Oxford, Oxford, United Kingdom, 2Brain Research Institute, Melbourne, Australia

Faster response of diffusion-weighted fMRI signal compared to BOLD and NIRS signals in the human brain, Satoru Kohno1,2, Nobukatsu Sawamoto3, Shin-ichi Urayama1, Toshihiko Aso1,4, Akitoshi Seiyama2, Denis Le Bihan1, Hidenao Fukuyama1, 1Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan, 2R&D Department, Medical Systems Division, Shimadzu Corporation, Kyoto, Japan, 3Human Health Science, Kyoto University Graduate School of Medicine, Kyoto, Japan, 4CEA, NeuroSpin, Saclay, France
Searching the reference image for selecting default network components in fMRI, S-J Lin1, T-C Yeh2, C-M Cheng, J-H Hsieh2, L-T Ho2, 1Institute of Brain science, National Yang-Ming University, Taipei, Taiwan, 2Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan

Resting State Sensorimotor Functional Connectivity in Multiple Sclerosis Correlates with Transcallosal Motor Pathway Transverse Diffusivity, Mark Lowe1, Erik Beall1, Ken Sakate1, Katherine Koenig2, Lael Stone2, RuthAnn Marrie2, Michael Phillips1, 1Cleveland Clinic, Cleveland, USA, 2University of Manitoba, Winnipeg, Canada

Exploring the Neuro-Cognitive Significance of the Negative BOLD Response: Attenuation of the BOLD Response Appears to Inhibit Hippocampal-Dependent Memory, Sinéad Mulally, Shane O’Mara, Trinity College Institute of Neuroscience, Dublin, Ireland

Impact of COMT val158met polymorphism on processing speed in healthy volunteers, Devon C. Nixon1, Bart Rypma2, Rachel G. Higier1, Steven Suro1, Morgan J. Prus1, Hao Yang Tan1, Brad Zoltick1, Jennifer K. Brooke1, Venkata S. Mattay1, Daniel R. Weinberger1, Joseph H. Callicott1, 1CBDB/GCAP/NIMH/NIH, Bethesda, USA, 2University of Texas at Dallas, University of Texas Southwestern, Dallas, USA

Measuring Brain Connectivity using Diffusion Tensor Imaging and Resting State Temporal Correlations, Pawel Skudlarski1, 2, Kanchana Jaggannathan3, Vince Calhoun1, Beata Skudlarska4, Godfrey Pearson1, 2, 3Olin Neuropsychiatry Research Center, Hartford, USA, 2Department of Psychiatry Yale University School of Medicine, New Haven, USA, 3The Mind Institute, Albuquerque, NM, University of New Mexico, Albuquerque, USA, 4Center on Geriatrics, bridgeport Hospital, bridgeport, USA

Is T2* always the optimum Echo Time in BOLD fMRI? Challenging a classic concept with a new functional Contrast to Noise Ratio model, Pierre-Francois Van de Moortele1, Eddie Auerbach1, Kamal Ugurbil1, Stephane Lehericy1, 2, 3CMRR-University of Minnesota, Minneapolis, USA, 2Université Pierre et Marie Curie,Hôpital Pitié-Salpêtrière, Paris, France

Direct measurement of neuronal magnetic field changes evoked by median nerve stimulation using MRI: TE dependence, Yiqun Xue1, 2, Thomas Grabowski1, Jinhu Xiong2, 2Biomedical Engineering, University of Iowa, Iowa city, USA, 2Radiology, University of Iowa, Iowa city, USA, 3Neurology, University of Iowa, Iowa city, USA

High-Resolution fMRI at 7T using Generalized Series Parallel Imaging Technique, Sungdae Yun1, Jun-Young Chung2, Sung Suk Oh1, Hyo Woon Yoon1, Zang-Hee Cho1, 2, HyunWook Park1, 1Department of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea, 2Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, Korea, 3Department of Radiological Sciences, University of California, Irvine, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM

MEG

Simultaneous MEG source imaging and depth recordings in Humans, Florence GOMBERT1, Claude ADAM2, 3, Guido NOLTE1, Line GARnero1, Sylvain BAILLET1, 1Cognitive Neuroscience & Brain Imaging Laboratory LENA, CNRS, MEG-EEG center, UPMC University-Paris 6, Paris, France, 2Epilepsy Unit, La Salpêtrière Hospital, Paris, France, 3Fraunhofer FIRST, Berlin, France

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LANGUAGE

Language Acquisition

Error-related Responses Supporting Grammatical Plasticity, Douglas Davidson1, 2, Peter Indefrey1, 2, 1F. C. Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, 2Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands

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Neural correlates of foreign language sound imitation, Hiroshi Hashizume1, Hyeonjeong Jeong1, 2, Naho Ikuta1, Motoaki Sugita2, 3, Ryuta Kawashima1, 1Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan, 2Japan Society for the Promotion of Science, Tokyo, Japan, 3National Institute for Physiological Sciences, Okazaki, Japan

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fMRI shows that language lateralisation is affected in BECTS, Leasha Lillywhite1,2, Simon Harvey1, Michael Saling4, David Abbott1,2, John Archer1,2, Danya Years2, Ingrid Scheffer2, Graeme Jackson1,2, Brain Research Institute, Melbourne, Australia, 2Department of Medicine, The University of Melbourne, Melbourne, Australia, 3Royal Children's Hospital, Melbourne, Australia, 4Department of Psychology, The University of Melbourne, Melbourne, Australia

Functional Neuroimaging of Novel Word Learning, Amy Clements-Stephens1,2, April Materek4,5, Poula Gaar1, Laurie Cutting1,2,3, Kennedy Krieger Institute, Baltimore, USA, 2Johns Hopkins University, Baltimore, USA, 3Johns Hopkins Medical Institute, Baltimore, USA, 4Loyola University, Baltimore, USA

LANGUAGE Production

Bold response changes with ageing evidenced during a semantic fluency task, Christophe Destrieux1,2,3,4, Florence Domengie5, Giovanni de Marco6, Jean-Philippe Cottier1,2,3,4, Caroline Homme1,2,3,4, 1CHRU, Tours, France, 2INSERM, U619, Tours, France, 3Université François Rabelais, Tours, France, 4IFR135, Tours, France, 5Université de Picardie Jules Verne, Amiens, France

Semantic context and visual feature effects on verbal self-monitoring measured with Arterial Spin Labelling, Julia Hocking, Katie McMahon, Matthew Meredith, Greig de Zubicaray, fMRI Laboratory, University of Queensland, Brisbane, Australia

Second Language Communication: Effects of Interview Types and Oral Proficiency Levels on Brain Activation, Hyeonjeong Jeong1,2, Hiroshi Hashizume2, Yuko Sassa2, Satoru Yokoyama2, Motoaki Sugiyama2,3, Kensaku Ishimaki2, Ryuta Kawashima2, Japan Society for the Promotion of Science, Tokyo, Japan, 2Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan, 3National Institute for Physiological Science, Okazaki, Japan, 4The Society for testing English Proficiency, Tokyo, Japan

Intraoperative cortical stimulation mapping and presurgical fMRI – complement or contradiction?; Japeter Nickel1, Michael C. Sabel2, Walter Stummer2, Hans-Jakob Steiger2, Rüdiger J. Seitz1, 1Department of Neurology, University Hospital Düsseldorf, Düsseldorf, Germany, 2Department of Neurosurgery, University Hospital Düsseldorf, Düsseldorf, Germany

Examining cortical representational overlap for singing with lyrics and propositional language, Sarah Wilson1,2, David Abbott2,3, Anthony Water2,3, Regula Briellmann2, Dean Lusher2, Gaby Pell2,3, Jenni Ogden2, David Saling1,2, Graeme Jackson1,2, School of Behavioural Science, The University of Melbourne, Victoria, Australia, 2Brain Research Institute, Austin Health, Melbourne, Victoria, Australia, 3Department of Medicine, The University of Melbourne, Victoria, Australia, 4Department of Psychology, The University of Auckland, Auckland, New Zealand

MEMORY & LEARNING

Plasticity (normal & following pathology)

Do Baseline Neurocognitive Deficits In Hypothyroid Patients Indicate A Difference In BOLD Activity?, Gillian Cooke1, Sinead Mulally1, Neuman Correia1, Maria Fitzgibbon1, James Gibney1, Shane O'Mara1, Trinity College Institute of Neuroscience & School of Psychology, Trinity College Dublin, Dublin, Ireland, 2Adelaide & Meath Hospital, incorporating National Children's Hospital, Dublin, Ireland, 3University College Galway, Harefield Road, Harefield, Ireland

Gender differences in navigation and neural plasticity: Does training matter?, Petra Neumann, Georg Grön, University Ulm, Ulm, Germany

The structural and functional basis of variability in normal motor skill learning, Valentina Tomassini, Saad Jhabdi, Tamas Kincses, Rose Bosnell, Paul M Matthews, Heidi Johansen-Berg, FMRIB Centre, University of Oxford, Oxford, United Kingdom
MEMORY & LEARNING

Working Memory

Tracking the cerebro-cerebellar verbal working memory circuitry using functional MRI and Diffusion Spectrum Imaging, Jing-Syun Yu, Wen-Yang Chiang, Yumie Ono, Wen-Yih Isaac Tseng, SH Annabel Chen, Department of Psychology, National Taiwan University, Taipei, Taiwan, Department of Radiology, National Taiwan University College of Medicine, Taipei, Taiwan, 4Physiology and Neuroscience, Kanagawa Dental College, Kanagawa, Japan

Regional variability in the BOLD HRF assessed using concurrent TMS-fMRI, Eva Feredoes, Tom Johnstone, Giulio Tononi, Bradley R Postle, Dept. of Psychology, University of Wisconsin-Madison, Madison, USA, School of Psychology and CLS, University of Reading, Reading, United Kingdom, Dept. of Psychiatry, University of Wisconsin-Madison, Madison, USA

Nonlinear and factorial brain responses during associative working memory with increasing implicit task load, Nicole Kochan, Perminder Sachdev, Melissa Slavin, Michael Valenzuela, Michael Breakspear, School of Psychiatry, University of New South Wales, Neuropsychiatric Institute, Prince of Wales Hospital, Sydney, Australia, School of Psychiatry, University of New South Wales, Black Dog Institute, Prince of Wales Hospital, Sydney, Australia

Fronto-parietal Dysfunction during Spatial Working Memory Task in Subjects at Ultra-High-Risk for Schizophrenia, Ji-Young Park, Do-Hyang Kang, Jung-Suk Choi, Myeong-Hoon Jung, Wi-Hoon Jung, Na-Young Shin, Chi-Hoon Choi, Jong-Min Lee, Jun Soo Kwon, Interdisciplinary Program in Cognitive Science, Seoul National University, Seoul, Korea, Department of Psychiatry, Seoul National University Hospital, Seoul, Korea, Interdisciplinary Program in Brain Science, Seoul National University, Seoul, Korea, Department of Radiology, National Medical Center, Seoul, Korea, Department of Biomedical Engineering, Hanyang University, Seoul, Korea

A cortico-hippocampal network emerging with subsequent memory dependent theta oscillation, Naoyuki Sato, Takashi Ozaki, Yoshiaki Someya, Kimitaka Anami, Seiji Ogawa, Hiroaki Mizuhara, Yoko Yamaguchi, RIKEN Brain Science Institute, Saitama, Japan, Hamano Life Sci Res Foundation, Tokyo, Japan, Kyoto Univ, Kyoto, Japan

MODELING & ANALYSIS

Bayesian Modeling

A predictive coding account of the mismatch negativity, Marta I Garrido, James M Kilner, Stefan J Kiebel, Karl J Friston, Wellcome Trust Centre for Neuroimaging, UCL, London, United Kingdom

Stratification and Complexity of Brain Connectivity, Gloria Hari, Christophe Lenglet, Guillermo Sapiro, Paul Thompson, Universitat Politecnica de Catalunya, Barcelona, Spain, Siemens Corporate Research, Princeton, USA, University of Minnesota, Minneapolis, USA, UCLA Medical School, Los Angeles, USA

Regularisation of High Angular Resolution Diffusion Imaging Data, Leigh Johnston, Scott Kolbe, Iven Marceles, Gary Egan, Department of Electrical and Electronic Engineering, University of Melbourne & NICTA Victorian Research Laboratory, Melbourne, Australia, Howard Florey Institute, Florey Neuroscience Institutes, Melbourne, Australia, Centre for Neuroscience, University of Melbourne, Melbourne, Australia

Evaluation of Probabilistic Tractography on Bayesian Tensor Estimation, Dae-Jin Kim, Hae-Jeong Park, Department of Diagnostic Radiology, Yonsei University, College of Medicine, 134 Shinchon-dong, Seodaemun-gu, Seoul, South Korea

Multimodal Fusion: A generative model for EEG and fMRI, Maria Joao Rosa, James Kilner, Felix Blankenburg, Oliver Josephs, Will Penny, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, Department of Neurology, Charité, Humboldt-University, Berlin, Germany

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MODELING & ANALYSIS

Classification & Predictive Modeling

Classification of Resting State fMRI Scans using Temporal Network Associations in Schizophrenic and Normal Patients, Ariana Anderson1, Mark Cohen2, Ivo Dinov1, Javier Quintana1, Jon Sherin1, Alan Yuille1, 1Department of Statistics, University of California, Los Angeles, Los Angeles, USA, 2Psychiatry & Behavioral Sciences, University of California, Los Angeles, Los Angeles, USA, 3Center for Computation Biology, Los Angeles, USA, 4West Los Angeles Veterans Administration, UCLA, Los Angeles, USA.

Gaussian smoothing and brain area activation relationship – determination of optimal filter size through ROC curves, Lilian Contin1, João Sato2, Griselda Garrido3, 1NIF/LIM44 Institute of Radiology - University of São Paulo, São Paulo, Brazil, 2Instituto Israelita de Ensino e Pesquisa, São Paulo, Brazil.

An investigation of the visual coding of faces using kernel canonical correlation analysis, Nicholas Fur1, David Hardson1, Janaina Maurão-Miranda2, Nikolaus Weiskopf3, John Shaw-Taylor1, Raymond Dolan1. 1University College London, London, United Kingdom, 2Kings College London, London, United Kingdom.

Feature Analysis of Event-related Brain Potentials by Statistical Classification: Application of Naïve Bayes Method and Principal Component Analysis to Predicting Auditory Stimuli, Yasuyuki Inoue1, Akitoshi Ogawa1, Kota Arai1, Hidehiko Matsumoto1, Atsuhito Toyomaki1, Hiroshige Takeuchi1, Takashi Omori1, Sachiko Koyama1, Takashi Morotomi1, Michiteru Kitazaki1, 1Toyohashi University of Technology, Toyohashi-shi, Japan, 2RIKEN, Wako-shi, Japan, 3Sakushin Gakuin University, Utsunomiya-shi, Japan, 4Hokkaido University, Sapporo-shi, Japan.

Profiling brain function for source imaging in EEG and MEG: A similarity ranking method for evaluating individual activation, Yannick Marchand2,3,4, Ryan D’Arcy1,2,5, Vanessa Versteeg2,3, Erin Mazero1,2,1 Institute for Biodiagnostics (Atlantic), National Research Council Canada, Halifax, Canada, 2Department of Psychology, Dalhousie University, Halifax, Canada, 3Faculty of Computer Science, Dalhousie University, Halifax, Canada, 4School of Human Communication Disorders, Dalhousie University, Halifax, Canada, 5Department of Radiology, Dalhousie University, Halifax, Canada.

Neuroimaging Platform for Neuroinformatics: NIMG-PF, Ryuji Suzuki1, Kazuhisa Niki2, Norio Fujimaki3, Shinobu Masaki3, Kazuhisa Ichikawa4, Shiro Usui1, 1Kanazawa Institute of Technology, Kanazawa, Japan, 2Neuroscience Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 3National Institute of Information and Communications Technology, Kobe, Japan, 4Brain Activity Imaging Center, ATR-Promotions, Kyoto, Japan, 5RIKEN Brain Science Institute, Wako, Japan.

Classifying Cortical Surface Folding: An Adaptive Filter based on Spatial and Frequency Curvature Properties, Rudolph Pienaar2,3, Bruce Fischl3,2, Nasser Al Dossary1, Nikos Makris1,2, P Ellen Grant1,2,1Harvard Medical School, Boston, USA, 2Massachusetts General Hospital, Boston, USA, 3King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia.

Quantitative Multiscale Brain Modeling: Toward a Large-Scale "Working Brain" Model, Peter Robinson, Andrew Phillips, Parry Chen, Anthony Krensel, Peter Drysdale, Christopher Rennie, University of Sydney, Sydney, Australia.

Sex Differences in Short Brain Waves: Where and When., Akaysha Tang1,2, Peng Sun3, Zhen Yang1, Amy Korzekwa1, Matthew Sutherland1, 1Department of Psychology, Albuquerque, USA, 2Department of Neurosciences, Albuquerque, USA, 3Department of Electrical and Computer Engineering, Albuquerque, USA.

Decoding unconscious determinants of human decisions in real-time, Martin Weygandt1, Chun Siong Soon2,3, John-Dylan Haynes2,3, 1Bernstein Center for Computational Neurosciences Berlin, Berlin, Germany, 2Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Germany.
MODELING & ANALYSIS
Motion Correction/Spatial Normalization, Atlas Construction

FreeSurfer-Initiated Fully-Automated Subcortical Brain Segmentation in MRI Using Large
Deformation Diffeomorphic Metric Mapping, Ali Khan¹, Lei Wang², Mirza Faisal Beg³
¹Medical Image Analysis Laboratory, Simon Fraser University, Burnaby, Canada, ²Washington University, St. Louis, USA

False Sense of EPI-to-Structural Alignment with Common Cross-Modality Registration
Methods, Robert Cox¹, Ziad Saad², Daniel Glen³, Michael Beauchamp⁴, Rutvik Desai⁵, ¹NIH, Bethesda, USA, ²UT Health Science Center, Houston, USA, ³Medical College of Wisconsin, Milwaukee, USA

Reducing Erroneous Influence from Neighboring Structures by Diffeomorphic Registration
of fMRI Data, Behrang Nosrat-Makouei¹, Lei Wang², Deanna M. Barch³, Mirza Faisal Beg³
¹Medical Image Analysis Lab, Simon Fraser University, Burnaby, Canada, ²Washington University, St. Louis, USA

Employing the general linear model for creating customized pediatric templates, Marko
Wilke¹,², Scott Holland¹,³, Mekibib Altaye¹, Christian Gaser⁴, ¹Department of Pediatric Neurology
and Developmental Medicine, University Children's Hospital, Tuebingen, Germany, ²Section for
Experimental MR of the CNS, Dept. of Neuroradiology, Tuebingen, Germany, ³Department of
Pediatrics, University of Cincinnati, Cincinnati, USA, ⁴Imaging Research Center, Cincinnati
Children's Hospital Medical Center, Cincinnati, USA, ⁵Department of Psychiatry, Jena, Germany

MODELING & ANALYSIS
Univariate Modeling, Linear, & Nonlinear

Detection of single-trial events in BOLD fMRI without prior stimulus information, Cesar
Caballero¹, Natalia Petridou¹, Susan Francis², Ian Dryden³, Li Bai⁴, Penny Gowland⁵, ¹School of
Computer Science, University of Nottingham, Nottingham, United Kingdom, ²Sir Peter Mansfield
Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom, ³School of
Mathematical Sciences, University of Nottingham, Nottingham, United Kingdom

Comparison of Spherical Deconvolution Methods Based on the Spherical Harmonic Basis,
Maxime Descoteaux¹, Alfred Amwander², Rachid Deriche², ¹INRIA Sophia Antipolis - Mediterranee,
Sophia Antipolis, France, ²Max Planck Institute, Leipzig, Germany

Transient neuroenergetics: Towards dynamic calibrated fMRI, Basavaraju G. Sangamahalil,²
Peter Herman¹, Fahmee Hyder¹,², ¹Diagnostic Radiology, Yale University, New Haven, USA,
²Biomedical Engineering, Yale University, New Haven, USA

Validation of resampling methods for fMRI data, Mingwu Jin, Dietmar Cordes, University of
Colorado Denver, Denver, USA

Bayesian Deconvolution of FMRI data using Bilinear Dynamical Systems, Salima Makni¹,
Mark Woolrich¹, Steve Smith¹, Christian Beckmann¹,², ¹FMRIB, Oxford, United Kingdom, ²ICL,
London, United Kingdom

Real-time EEG Mapping System, Jan Muzik, Karel Hana, Czech Technical University, Prague,
Czech Republic

MEG predicts stimulus-rate dependence of BOLD responses in human SI, Cathy Yangini¹,
Yevhen Hlushchuk¹², Riitta Hari¹,², ¹Brain Research Unit, Low Temperature Physics Laboratory,
Helsinki University of Technology, Espoo, Finland, ²Advanced Magnetic Imaging Centre, Helsinki
University of Technology, Espoo, Finland

Disconnection’s Renaissance takes shape: formal incorporation in group-level lesion studies,
David Rudrauf, Sonya Mehta, Thomas Grabowski, University of Iowa, Department of Neurology,
Iowa City, USA

CamBA (CAMbridge Brain Analysis): multi-level nonparametric analysis of neuroimaging
studies using permutation tests, Alle Meije Wink¹,², Cinly Ooi², Sanja Abbott³, Anna Barnes⁴,
¹Trinity College, Dublin, Ireland, ²University of Amsterdam, Amsterdam, The Netherlands, ³University of
Southampton, Southampton, United Kingdom, ⁴University of Ghent, Ghent, Belgium

509 M-AM
521 M-AM
525 M-AM
539 M-AM
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Manfred Kitzbichler, Levent Sendur, Ed Bullmore, John Suckling, Imaging Sciences Department, Imperial College, MRC Clinical Sciences Centre, Hammersmith Campus, London, United Kingdom, Brain Mapping Unit, Department of Psychiatry, Addenbrooke's Hospital, Hills Road, Cambridge, United Kingdom

Genetic analysis of cortical thickness in 8-year-old twins, Uicheal Yoon, Cherine Fahim, Daniel Perasse, Alan Evans, McConnell Brain Imaging Centre, Montreal Neurological Institute, Montreal, Canada, The Research Centre at the Sainte Justine Hospital, Montreal, Canada

MOTOR BEHAVIOR
Hand Movements

Time–frequency analysis of brain activity during polyrhythmic motor performance, Tjeerd Boonstra, Michael Breakspear, Andreas Daffertshofer, Peter Beek, University of New South Wales, Randwick, Australia, VU University, Amsterdam, Netherlands

The execution and the observation of grasping movements elicit overlapping activations, Luca Turella, Wolfgang Grodd, Umberto Castiello, Department of General Psychology, University of Padova, Italy, Padova, Italy, Section on Experimental MR of the CNS, Department of Neuroradiology, University of Tuebingen, Germany, Tubingen, Germany, Department of Psychology, Royal Holloway, University of London, United Kingdom, London, United Kingdom

How does my finger jointly act with yours?, Idil Kokal, Valeria Gazzola, Christian Keysers, BCN Neuroimaging Center, University Medical Center, Groningen, Netherlands

Neural substrates involved in the recognition and imitation of a point-light biological motion representation of the human hand, Aidan Roche, Zarina Agnew, Anil Bharath, Anthony Bull, Basant Puri, Department of Bioengineering, Imperial College London, London, United Kingdom, ISD, MRC CSC & Imperial College London, London, United Kingdom, Cognitive Neuroscience Group, MRC CSC & Imperial College London, London, United Kingdom

Laterality of the Neural Mechanisms for Gesture Imitation, Thomas Zefferi, Christos Vasios, Fa-Hsuan Lin, Gary Strangman, Christina Sapeland, John Belliveau, Neural Systems Group, Massachusetts General Hospital, Charlestown, USA, Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, USA

MOTOR BEHAVIOR
Motor-Premotor Cortex/Motor Cortical Functions

The organization of cognitive control within lateral prefrontal cortex in schizophrenia, Guillaume Barbalat, Valerian Chambon, Nicolas Franck, Etienne Koechlin, Chloe Farrer, Université des Sciences Cognitives, CNRS, Lyon, France, Centre Hospitalier le Vinatier, Lyon, France, Université Pierre et Marie Curie and INSERM, Paris, France

Modality differences in rhythmic sequence production, Anke Karabanov, Örjan Blom, Lea Forsman, Fredrik Ullen, Karolinska Institutet, Stockholm, Sweden

Changes of the hemodynamic response after administration of ethanol in different cerebral regions, Michael Luchtmann, Tobias Moench, Maurice Hollmann, Katja Jachar, Johannes Bernarding, Otto-von-Guericke University, Medical Faculty, Institute for Biometry and Medical Informatics, Magdeburg, Germany, Otto-von-Guericke University, Medical Faculty, Institute for Forensic Medicine, Magdeburg, Germany

Local and Remote Changes in Resting Cerebral Blood Flow Following a Single Session of 5Hz rTMS Applied to the Primary Motor Cortex, Shalini Narayana, Wei Zhang, Crystal Franklin, Joseph Panzarella, Peter Fox, Research Imaging Center, UT Health Science Center, San Antonio, USA, South Texas Veterans Health Care Center, San Antonio, USA

Mechanisms underlying functional changes in the primary motor cortex ipsilateral to an active hand, Monica A. Perez, Leonardo G. Cohen, Human Cortical Physiology Section NINDS, NIH, Bethesda, USA
fMRI of Violent Video Gaming and Fiber-Optic Joystick Evaluation, Joseph Santos1, Javier Gonzalez-Castillo1, Jeffrey Jackson2,3, Ohumide Olalude4, John Ulmer1, Thomas Talavage1,2
1Weldon School of Biomedical Engineering, West Lafayette, USA, 2School of Electrical and Computer Engineering, West Lafayette, USA, 3Red Leaf Designworks, LLC, Lafayette, USA, 4Department of Radiology, Medical College of Wisconsin, Milwaukee, USA

Motor Cortex Somatotopy in Congenital Paraplegic Patients, Christoph Stippich1, Michael Akbar2, Javier Leon Alonso1, Katharina Riffel1, Alfred Aschoff1, 1Division of Neuroradiology, University of Heidelberg, Medical Center, Heidelberg, Germany, 2Department of Orthopedic Surgery, University of Heidelberg, Heidelberg, Germany

Time course of corticospinal excitability and the direction of evoked movements during motor preparation, Gijs van Elswijk1,2, Willemmijn Schot1, Dick Stegeman2,3, Sebastiaan Overeem2, 1F.C. Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, 2Department of Clinical Neurophysiology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, 3Faculty of Human Movement Sciences, VU University, Amsterdam, Netherlands

NEUROANATOMY
Anatomical Studies

Relationships between age, neuropsychological scores and structural brain measures in 236 healthy aged adults of Chinese origin, Michael Chee1,2, Hui Zheng1, Maria Schuchinsky1, Samuel Sim1, Karren Chen1, Karen Chan1, Lisa Chua1, 1Duke NUS Graduate Medical School, Singapore, Singapore, 2Singapore Health Services, Singapore, Singapore

The postcentral sulcus: depth profiles in sulci grouped by cluster analysis, Matthew Cykowski1, Olivier Coulon2, Peter Kochunov1, Jack Lancaster1, Peter Fox1, 1Research Imaging Center, University of Texas Health Science Center at San Antonio, San Antonio, USA, 2Laboratoire des Sciences de l'Information et des Systèmes, Marseille, France

Effecents of Area 25 in the non-human primate brain, Stephen Frey, Veronika Zlatkina, Vladimir V. Rymar, Abbas F. Sadiot, Michael Petrides, Montreal Neurological Institute, Montreal, Canada

Fluid flow deformation analysis of postnatal rhesus macaque brain, Julia Hamstra, Evan Fletcher, Charles DeCarli, David Amaral, Univ. of California, Davis, Davis, USA

Probabilistic Anatomical Mapping of Cerebral Blood Flow Distribution of the Middle Cerebral Artery, Seong-Jang Kim1,2, In-Ju Kim1,2, Yong-Ki Kim1,2, Tae-Hong Lee2,3, Jung Sub Lee2,3, Sangmin Jun1, Hyun-Yeol Nam1, Jae Sung Lee1, Yu Kyeong Kim1, Dong Soo Lee1, 1Nuclear Medicine, Pusan National University Hospital, Busan, Korea, 2Nuclear Medicine, Pusan National University Hospital, Busan, Korea, 3Nuclear Medicine, Pusan National University Hospital, Busan, Korea, 4Radiology, Busan, Korea, 5Orthopaedic Surgery, Busan, Korea

Structure-Function Relationship of the Human Motor Thalamus, Susan Kouyoulian-Ilic1,2, Hamed Akhlaghi1, Gary Egan1, Peter Brotchie1, 1Howard Florey Institute, Melbourne, Australia, 2The Alfred, Melbourne, Australia, 3Barwon Health, Melbourne, Australia

Polymorphism in the Fibroblast Growth Factor-20 gene modulates grey matter volume in the medial temporal lobe, Herve Lemaire1, Vankata Mattay1, Fabio Sambataro1, Beth Verchiniski2, Richard Strang1, Joseph Callicott1, Ronald McKay2, Daniel Weinberger1, 1CBDB, NIMH, Bethesda, USA, 2LMB, NINDS, Bethesda, USA

Superior temporal gyrus subvolumes in healthy individuals and in treatment resistant schizophrenia with auditory hallucinations, Paul Fitzgerald1, Jerome Mullar1, Justin Yuen1, Zafiris Daskalakis1, 1Alfred Psychiatry Research Centre, Monash University, Melbourne,
Australia, 7 Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 4 Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 5 Centre for Addiction and Mental Health, Toronto, Canada

Accelerated aging in type 1 diabetes demonstrated with voxel-based analyses of volume and T2 images, Gaby Pell1, Ashleigh Lin2, Mark Wellard3, Debbie Rankins4, George Werther1, Fergus Cameron1, Graeme Jackson1, Elisabeth Northam4, 6 Brain Research Institute, Melbourne, Australia, 7 Murdoch Childrens Research Institute, Melbourne, Australia, 8 Queensland University of Technology, Brisbane, Australia, 9 Royal Children’s Hospital, Melbourne, Australia

Age-related thinning of cortical grey matter, Rolf Kötter1,2, Andrew Reid1,2, Anouk van Norden1, Karlijn de Lau1, Lucas van Oudheusden1, Alan Evans1, Frank-Erik de Leeuw1, 4 UMC Radboud Nijmegen Department of Cognitive Neuroscience, Nijmegen, Netherlands, 5 C & O Vogt Institute for Brain Research, University Clinics Düsseldorf, Düsseldorf, Germany, 6 UMC Radboud Nijmegen Department of Neurology, Nijmegen, Netherlands, 7 McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada

BrainVisa Plugin for Automated Measurements of Sulcal Length and Depth, Bill Rogers1, Peter Kochunov1, David Glahn1, Jeff Rogers1, Peter Fox1, 4 University of Texas Health Science Center, San Antonio, USA, 5 Southwest Foundation for Biomedical Research, San Antonio, USA

Gender differences in the neuroanatomical correlates of the affective startle reflex, Sarah Whittle1,2, Jonathan Kettle1,2, Lorene O’Brien-Simpson1, Murat Yucel2, Julian Simmons1, Nicholas Allen1,2, 5 QRYGEN Research Centre, University of Melbourne, Melbourne, Australia, 7 Melbourne Neuropsychiatry Centre, University of Melbourne, Melbourne, Australia, 8 Department of Psychology, University of Melbourne, Melbourne, Australia

PHYSIOLOGY, METABOLISM, & NEUROTRANSMISSION

Effects of aging on blood flow, oxygen metabolism and blood oxygenation level dependent (BOLD) responses to visual stimulation, Bean Ances, Christine Liang, Oleg Leonitiev, Joanna Perthen, Adam Fleisher, Amy Lansing, Richard Buxton, University of California San Diego, La Jolla, USA

Effects of Levodopa on the neural mechanisms of meaning suppression: A 4T fMRI study, David Copland1, Greig De Zubicaray2, Katie McMahon1, 4 School of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, Australia, 5 Centre for Magnetic Resonance, The University of Queensland, Australia

Neural integration of baroreflex and cognitive/sensory processing shapes central regulation of beat-to-beat blood pressure, Marcus Gray1, Karin Rylander2, Neil Harrison1, Mikael Elam2, B. Gunnar Wallin1, Hugo Critchley1,3, 4 CISC, Brighton Sussex Medical School, The University of Sussex, Brighton, United Kingdom, 5 Institute of Clinical Neurosciences, Unit of Clinical Neurophysiology Sahlgren University Hospital, Gothenburg, Sweden, 6 Institute of Cognitive Neuroscience, Alexandra House, University College London, London, United Kingdom

Imaging of Glucose Metabolic Response in Human Brain Induced by Stimulation of Acupoint ST 36: A FDG PET Study, Xianglan Jin1, Yilong Ma1, Jintao Zhang1, Yigen Wu1, Baoei Shan1, Davi Yin1, Jinping Sun1, Xian Shi1, Jiahe Tian1, Shulin Yao1, Bo Yu1, Ling Yin1, 4 Neurology Department, 202nd Hospital of PLA, Shenyang, China, 1 Department of Neurology, New York University School of Medicine, New York, USA, 3 Neuroinformatics Center, PLA General Hospital, Beijing, China, 4 Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China, 5 Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China

Imaging oxygen consumption with Near-Infrared Spectroscopy and fMRI simultaneously, Rickson Mesquita1,2, Harsha Radhakrishnan1, Joseph Mandeville1, Theodore Huppert1, Maria Franceschini2, Roberto Covolan1, David Boas2, 4 Universidad Estadual de Campinas, Campinas, Brazil, 5 Massachusetts General Hospital, Charlestown, USA, 6 University of Pittsburgh, Pittsburgh, USA

Understanding your inhibitions: neuropharmacological perturbations of GABAergic systems, metabolic outcomes and network correlations, Caroline Rae1,2, Fatima Nasrallah1,2, Julian Griffin1, Vladimir Balcar1, 4 Prince of Wales Medical Research Institute, Randwick, Australia
Australia, 2The University of New South Wales, Sydney, Australia, 3The University of Cambridge, Cambridge, United Kingdom, 4The University of Sydney, Sydney, Australia

Resting State Networks - Neither Low Frequency Nor Anticorrelated?, Stephen Smith1, Rami Niazy1, Christian Beckmann1, 2, Karla Miller3, 4FMRIB, Oxford University, Oxford, United Kingdom, 2CUBRIC, Cardiff University, Cardiff, United Kingdom, 4Imperial College London, London, United Kingdom

Caffeine is not a universal BOLD contrast booster, Lucie Yang, Merideth Addicott, Ann Peiffer, Robert Kraft, Joseph Maldjian, Jonathan Burdette, Luke Burnett, Michael Chen, Paul Laurienti, Wake Forest University School of Medicine, Winston-Salem, USA

Functional Connectivity within the Human Thalamocortical System, Dongyang Zhang, Abraham Snyder, Michael Fox, Mark Sansbury, Joshua Shimony, Marcus Raichle, Washington University, Saint Louis, USA

SENSORY SYSTEMS
Multisensory & Crossmodal

Cross-modal temporal processing in dyslexia assessed with Biological Parametric Mapping, W. David Hairston1, Ramon Casanova1, Jonathan Burdette2, Frank Wood3, Joseph Maldjian3, 1ANSIR Lab, Dept of Radiology, Wake Forest University School of Medicine, Winston-salem, USA, 2Section of Neuropsychology, Wake Forest University School of Medicine, Winston-salem, USA

Audiovisual interactions during access to speech meaning in cochlear implantees: A H215O-PET study, Hyo-Jeong Lee1, 2, Michael Gaebler1, Eric Trug1, 3, Anne-Lise Giraud1, 2, InsERM U742, Laboratoire de Neurosciences Cognitives, Departement d’Etudes Cognitives, ENS, Paris, France, 2Department of Otalaryngology, Hallym University College of Medicine, Anyang, South Korea, 3Departement d’ORL, de Chirurgie Cervico-Maxillo-Faciale et d’Audiophonologie, Hopital Edouard Herriot, Lyon, France, 4CNRS UMR 5020, Universite Claude Bernard Lyon1, Lyon, France

SENSORY SYSTEMS
Pain & Autonomic Function

Differentiating Pain Encoding in Neuropathic Pain Patients, Lino Becerra1, 2, Gautam Pendse1, David Borsook2, 3, P.A.I.N. Group McLean Hospital, Belmont, USA, 2Harvard Medical School, Boston, USA

High-Resolution fMRI of heat pain perception at 7T in Humans, Li Min Chen, Christopher Gatenby, Elizabeth Stringer, Robert Friedman, Feng Wang, John Gore, Vanderbilt University, Nashville, USA

Activation of the Trigeminal Principal Sensory Nucleus by Orofacial Muscle Pain, Paul Nash1, Vaughan Macefield2, Iven Klineberg2, Greg Murray3, Luke Henderson3, 1Dept Anatomy and Histology, University of Sydney, Sydney, Australia, 2School of Medicine, University of Western Sydney, Sydney, Australia, 3Jaw Function and Orofacial Pain Research Unit, Faculty of Dentistry, The University of Sydney, Sydney, Australia

No evidence for central hypersensitivity in post-operative pain: a serial fMRI study, Ron Kapera1, 2, Fabien Schneider3, Rune Christensen1, Henrik Kehler2, 1PET Unit, Copenhagen, Denmark, 2Dept. Surgical Pathophysiology, Copenhagen, Denmark, 3Dept. Radiology, Saint-Etienne, France

Supraspinal response of mechanically induced osteoarthritic knee pain, Albert Leung1, 3, Dan Muhtar1, Jeng-Ren Duann1, Arout Torossi1, Tony Yaksh1, 1The University of California, San Diego, School of Medicine, La Jolla, USA, 2The University of California, San Diego, Institute for Neurocomputation, La Jolla, USA, 3VA San Diego Healthcare System, La Jolla, USA, 4The University of California, San Diego, La Jolla, USA

Laterization of Pain Matrix Areas related or unrelated to the side of stimulation, Kai Lutz1, Michael Meyer1, Mike Braygger1, Thierry Keller1, Ashley Barlow1, Roger Luechinger1, Lutz Jancke1, Dominik Ettlin1, 1Department of Neuropsychology, Institute for Psychology, University of
Cerebral response to acute pain correlates with degree of diabetic neuropathy, Iain Wilkinson, Rajiv Gandhi, Dinesh Selvarajah, Mike Hunter, Ceila Emery, Paul Griffiths, Solomon Tesfaye, University of Sheffield, Sheffield, United Kingdom

13:45 – 14:45 You Yangs Hall (Level 3)

COGNITION & ATTENTION
Attention (auditory, tactile, motor)

Keeping track of emerging rules: The neural circuitry of dynamic auditory change detection, Alexandra Bendixen1,2, Urte Roeder1, Nelson J. Trujillo-Barreto1, Erich Schröger1,1 University of Leipzig, Leipzig, Germany, 2Cuban Neuroscience Center, Havana, Cuba

Simultaneous ERP and fMRI in an oddball paradigm with standard and deviant conceptual pairs, Ian Laufer, Michihiro Negishi, Nallakandi Rajeevan, Cheryl Lacadie, R. Todd Constable, Yale University School of Medicine, Department of Diagnostic Radiology, New Haven, USA

Characteristics and EEG spectral dynamics of behavioural microsleeps in a Mock-MRI scanner, Govinda Poudel1,2, Richard Jones1,2,3,4, Carrie Innes1,2, Philip Bones1,2,4, Van der Veer Institute for Parkinson's and Brain Research, Christchurch, New Zealand, 2Medicine, University of Otago, Christchurch, New Zealand, 3Medical Physics and Bioengineering, Christchurch Hospital, Christchurch, New Zealand, 4Electrical and Computer Engineering, University of Canterbury, Christchurch, New Zealand

Prominent dysfunction of neural network associated with sustained attention in the patients with schizophrenia compared to the patients with major depression and the healthy controls, Jeong-Ho Seok1, Jae-Jin Kim2, Jong-Doo Lee2, Jeonghun Ku2, Hae-Jeong Park3, Sang Joon Son2, Hyeongrae Lee3, Hye-Sun Kim3, Maeng-Keun Oh3, 1Department of Psychiatry, Hallym University Sacred Heart Hospital, Anyang, Korea, 2Department of Psychiatry, Yonsei University, College of Medicine, Seoul, Korea, 3Department of Diagnostic Radiology, Yonsei University, College of Medicine, Seoul, Korea, 4Department of Biomedical Engineering, Hanyang University, Seoul, Korea

Neural substrates of warning effect: a functional MRI study, Hisakazu T. Yanaka1,2,3, Daisuke N. Saito1, Norihiro Sadato1,2,3, 1Division of Cerebral Integration, Department of Cerebral Research, National Institute for Physiological Sciences, Okazaki, Japan, 2Department of Physiological Sciences, The Graduate University for Advanced Studies (Sokendai), Okazaki, Japan, 3Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST), Tokyo, Japan, 4Department of Functional Neuroimaging, Faculty of Medical Sciences, University of Fukui, Fukui, Japan

COGNITION & ATTENTION
Attention (visual)

Attentional effect on emotional Chinese word processing in the human brain: An event-related fMRI study, Hsin-Mei Chen1, Su-Ling Yeh2, Kuan-Ming Chen1, Jyh-Hong Chen2, 1Department of Psychology, National Taiwan University, Taipei, Taiwan, 2Interdisciplinary MR lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

Modulation of FFA activation by attention and processing demands, Daniel Grupe1, Robert Schultz1, Elinora Hunyadi1, 1Center for Autism Research, Children's Hospital of Philadelphia, Philadelphia, USA, 2Yale University Child Study Center, New Haven, USA

The Different Roles of Posterior Parietal Cortex and Frontal Eye Field in Control of Visual Selection: Effects of Repetitive Transcranial Magnetic Stimulation on Partial Report Analyzed
by Bundesen’s Theory of Visual Attention, James J. Hung1, Jon Driver2, Vincent Walsh2,  
1Department of Neurology, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taipei, Taiwan, 2Institute of Cognitive Neuroscience & Department of Psychology, University College London, London, United Kingdom

Differences in activation latencies during an attention task as measured by rapid event-related fMRI, Thilo Kellermann1, Martina Reske1, N. Jon Shah1,2,4, Frank Schneider1,3, Ute Habel1, 1RWTH Aachen University, Aachen, Germany, 2Research Centre Jülich, Jülich, Germany, 3Brain Imaging Centre West, Jülich, Germany, 4University of Dortmund, Dortmund, Germany

Competitive Interactions in Human Extrastriate Cortex are Modulated by Collinear Alignment, Stephanie McMains1,2, Sabine Kastner1,2, 1CSBMB, Princeton, USA, 2Psychology Dept, Princeton, USA

Context-dependent influences of fronto-parietal areas on visual cortex: Direct confirmation with concurrent TMS-fMRI, Christian Ruff1,2, Felix Blankenburg1,2, Sven Bestmann1, Otto Bjoertomt1, Nikolaus Weiskopf1,2, Jon Driver1,2, 1UCL Institute of Cognitive Neuroscience, London, United Kingdom, 2Wellcome Trust Centre for Neuroimaging at UCL, London, United Kingdom

Content-Specific Top-Down Control from Prefrontal to Visual Cortex during Mental Imagery, Mark Stokes1,2, Russell Thompson1, Rhodri Cusack1, John Duncan1, 1MRC-CBU, Cambridge, United Kingdom, 2Oxford University, Oxford, United Kingdom

Single pulse TMS on frontal eyefields and intraparietal sulcus enhances coupling of visuo-spatial attention and saccadic eye movements, Helene Veenstra1,2, Bas Nijegor1, 1Department of psychiatrics, UMC, Utrecht, Netherlands, 2Department of Experimental Psychology and Psychopharmacology, Utrecht University, Utrecht, Netherlands

COGNITION & ATTENTION

Cognitive Aging

Effects of age on EEG activity during driving, Ku-Ming Chen1, Tong-Ping Su1, Chia-Min Huang1, Chin-Teng Lin1, Li-Wei Ko1, I-Fang Chung1, Tzyy-Ping Jung2, 1Institute of Biomedical Informatics, National Yang-Ming University, Taipei, Taiwan, 2Psychiatry Department, Taipei Veterans General Hospital, Taipei, Taiwan, 3Brain Research Center, National Chiao-Tung University, Hsinchu, Taiwan, 4Swarz Center for Computational Neuroscience, Institute for Neural Computation, University of California, San Diego, USA

Nature of cognitive demands determines a distinct relationship between corpus callosum size and interhemispheric efficiency, Jennifer Ansado1,2, Sven Jouber1,2, Yves Joannette2, Sylvane Faure2, 1Centre de Recherche, IUGM & Faculté de médecine, Université de Montréal, Montréal, Canada, 2Département de psychologie et CERNEC, Montréal, Canada, 3Laboratoire de Psychologie Expérimentale et Quantitative, Université Nice-Sophia Antipolis, Nice, France

Diffusion Tensor Imaging of Memory Decline, Efrat Sasson1, Glen Doniger2, Ofer Pasternak3, Yaniv Assaf4, 1Department of Neurobiochemistry, Tel Aviv University, Tel Aviv, Israel, 2Department of Clinical Science, NeuroTrax Corporation, Newark, USA, 3School of Computer Science, Tel Aviv University, Tel Aviv, Israel, 4Functional brain imaging unit, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel

COGNITION & ATTENTION

Cognitive Development

Developmental changes in inter-regional correlations in cortical thickness during adolescence: The influence of working memory ability and IQ, Lucy Cragg1, Gabriel Leonard2, Michel Perron3,4, Bruce Pike2, Louis Richer2, Roberto Toro1, Suzanne Veillette3,4, Zdenka Pausova1,3, Tomas Paus1,2, 1Brain and Body Centre, University of Nottingham, Nottingham, United Kingdom, 2Montreal Neurological Institute, McGill University, Montreal, Canada, 3Université de Montréal, Montreal, Canada, 4Groupe ECOBES, CEJEP Jonquiere, Jonquiere, Canada, 5Department of Psychology, University of Quebec in Chicoutimi, Chicoutimi, Canada
DTI parameters in the superior longitudinal fasciculus associated with spatial working memory performance in children, Martin Vestergaard Hansen¹, Kathrine Skak Madsen¹,², Lisser Rye Ejersbo³, Christian Gerlach⁴, Thomas Z. Ramsøy⁴, Olaf B. Paulson¹,², Terry L. Jernigan¹,²,³, Danish Research Centre for MR, Copenhagen University Hospital, Hvidovre, Denmark, ²Center for Integrated Molecular Brain Imaging, Copenhagen, Denmark, ³Laboratory of Cognitive Imaging, University of California, San Diego, USA, ⁴Learning Lab Denmark, Danish School of Education, University of Aarhus, Copenhagen, Denmark

Age-related changes in face induced gamma oscillations, Natasa Kovacevic¹, Roxane Itier¹, Anthony McIntosh¹,², Rotman Research Institute, Toronto, Canada, ³Department of Psychology, University of Toronto, Toronto, Canada

Effects of bilingualism on numerical neurocognition in a paediatric population. An fMRI investigation, Katrien Mondi¹, Esli Struys¹, Danielle Balériaux², Piet Van de Craen¹, Department of Linguistics, Vrije Universiteit Brussel, Brussels, Belgium, ²MR Unit, Université Libre de Bruxelles, Brussels, Belgium

Music and the infant brain: a fMRI study in newborns, Maria Cristina Saccuman¹, Paola Scifo¹,², Guido Andreoli³, Danilo Spada³, Federica Navarre³, Cristina Baldoli⁴, Stefan Koelsch³, Daniela Perani¹,²,³, ¹Vita-Salute San Raffaele University, Milan, Italy, ²Department of Nuclear Medicine, Scientific Institute San Raffaele, Milan, Italy, ³CERMAC San Raffaele Scientific Institute, Milan, Italy, ⁴Department of Neuroradiology, Scientific Institute San Raffaele, Milan, Italy, ⁵Psychology Institute, School of Medicine, Universita' degli Studi, Milan, Italy, ⁶Max-Planck-Institute for Neuropsychology, Leipzig, Germany

COGNITION & ATTENTION

Executive Function

Unconscious formation of free intentions: functional dissociation between regions in prefrontal cortex, Chun Siong Soon¹, Anna He¹, John-Dylan Haynes²,³, Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Germany, ²Bernstein Center for Computational Neuroscience Berlin, Berlin, Germany

COGNITION & ATTENTION

Perception, Imagery, Awareness

Motor familiarity modulates mirror neurons system activity during auditory action recognition in sighted and congenitally blind individuals, Daniela Bonino¹,², Emilio Ricciardi¹, Lorenzo Sani¹, Tomaso Vecchi¹, Mario Guazzelli¹, James Hasby¹, Luciano Fadiga⁶, Pietro Pietrini¹, Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, ²Department of Psychology, University of Pavia, Pavia, Italy, ³MRI Lab, Institute of Clinical Physiology, C.N.R. Research Area, Pisa, Italy, ⁴Psychology Chair, University of Pisa, Pisa, Italy, ⁵Department of Psychology, Princeton University, Princeton, USA, ⁶Department of Biomedical Sciences and Advanced Therapy – Physiology Section, University of Ferrara, Ferrara, Italy

Specificity of neural responses to observed and executed actions revealed with fMR-adaptation, Trevor Chong¹,², Ross Cunningham¹, Mark Williams¹, Nancy Kanwisher³, Jason Mattingley², ¹Macquarie University, Sydney, Australia, ²The University of Queensland, St Lucia, Australia, ³Massachusetts Institute of Technology, Cambridge, USA

Hearing moves seeing: converging psychophysical and fMRI evidence of auditory-driven visual apparent motion, Elliot Freeman¹, Su Watkins², Jon Driver², Geraint Rees², Brunel University, Uxbridge, United Kingdom, ²University College London, London, United Kingdom

Restless Minds – A relation between rest and the self in the brain - A deep-TMS study, Michal Gruberger¹,²,³, Talma Hendler¹,²,³, Eran-Vadim Harel¹,²,³, Hagai Harani¹,²,³, Levkovitz Yechiel¹,²,³, Abraham Zangen¹, Department of Psychology, Tel-Aviv University, Tel-Aviv, Israel, ²The Emotion-Cognition Research Center, Shalvata Mental Health Center, Hod-Hasharon, Israel, ³Functional Brain Center, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel, ⁴Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, ⁵Department of Neurobiology, The Weizmann Institute of Science, Rehovot, Israel
Consistency and functional specialization in the default mode brain network, Ben Harrison*,2, Jesus Pujol1, Marina López-Solá1, Rosa Hernández-Ribas1, Joan Deus1, Hector Ortiz1, Carles Soriano-Mas1, Murat Yücel1, Christos Pantelis, Narcis Cardoner1, *Institut d’Alta Tecnologia-PRBB, Barcelona, Spain, 2Melbourne Neuropsychiatry Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Australia

Modulations of induced gamma power and synchrony during gaze processing, Roxane Itier1, Natasa Kovacevic1, Anthony McIntosh1,2, *Rothman Research Institute, Toronto, Canada, 2University of Toronto, Toronto, Canada

High frequency gamma rhythm in parietal cortex during imagined hand movements, Blake Johnson, Macquarie Centre for Cognitive Science, Sydney, Australia

COGNITION & ATTENTION
Reasoning & Problem Solving

MEG-EEG correlates of mentalistic and mechanical reasoning in healthy subjects. An analysis of the effects of incongruity, Eric Brunet-Gouet, Damien Vistoli, Emilie Bobin, Christine Passerieux, Inserm ERI15 / UVSQ EA 4047, Versailles, France

Creative Achievement and Cortical Thickness in a Large Healthy Cohort, Rex E. Jung1,2,3, H. Jeremy Bockholt1, Judith Segall1, Arvind Caprilian1, Robert Chavez1, Shirley Smith1, M. Layne Kalbflesch4, *MIND Research Network, Albuquerque, USA, 2Department of Neurology, University of New Mexico, Albuquerque, USA, 3Department of Psychology, University of New Mexico, Albuquerque, USA, 4Krasnow Institute, George Mason University, Fairfax, USA

The neural basis of autistic performance on Raven’s Progressive Matrices, Isabelle Soulieres1,2, Thomas Zeffiro1, Fabienne Samson2,3, Elise Barbeau2,3, Cherif Sahyoun1, Michelle Dawson1, Laurent Mottron2,3, 1Neural Systems Group, Psychiatry Department, Massachusetts General Hospital, Boston, USA, 2Clinique spécialisée de l’autisme, Hôpital Rivière-des-Prairies, Montreal, Canada, 3Psychiatry Department, Université de Montréal, Montreal, Canada, 4Harvard-MIT Division of Health Sciences and Technology, Boston, USA

COGNITION & ATTENTION
Space, Time, & Number Coding

Effect of sex and menstrual cycle phase on brain activation for 3D mental rotation, Christine Corbly, Linah Al-Alem, Xun Liu, Thomas Kelly, Thomas Curry, Jane Joseph, University of Kentucky, Lexington, USA

Brain indices of complexity in arithmetic expressions, Naïyi Wang1, Burkhard Maess1, Yuejia Luo1, Angela D Friederici1, 1Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2State Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China

DISORDERS OF THE NERVOUS SYSTEM
Alzheimer & Dementia

Neuroanatomical correlates of neuropsychiatric symptoms in mild Alzheimer’s disease, Peita D Breen1,2, William J McGeown1, Michael F Shanks2, Annalena Venneri1,2, 1Clinical Neuroscience Centre, University of Hull, Hull, United Kingdom, 2Department of Neuroscience University of Parma, Parma, Italy, 3Department of Neuroscience, University of Modena and Reggio Emilia, Modena, Italy

MICROSTRUCTURAL ALTERATIONS AND NEUROGENESIS-RELATED BRAIN REGIONS IN ALZHEIMER’S DISEASE, Andrea Cherubini1,2, Patrice Péron1, Margherita Di Paola1, Giacomo Luccichenti1, Umberto Sabatini1, Gianfranco Spalletta1, 1Department of Clinical and Behavioral Neurology, Santa Lucia Foundation, Rome, Italy, 2Department of Radiology, Santa Lucia Foundation, Rome, Italy

MAPPING DEMYELINATION OF THE SUBCORTICAL WHITE MATTER IN EARLY ALZHEIMER’S DISEASE, Eleonora Fornari1, Maria G. Knyazeva*,2, Reto Meuli1, Joseph Ghika1, Andrea Bröschi1, Isabelle Bourquin1, Philippe Maeder1, 1Radiology Dept, University Hospital and University of Lausanne, Lausanne, Switzerland, 2Neurology Dept, University Hospital and University of Lausanne, Lausanne, Switzerland
3D Mapping of Brain Atrophy in Alzheimer’s Disease and Mild Cognitive Impairment with Tensor-Based Morphometry, Xu Huo, Alex Leow, Suh Lee, Neelroop Parikhsh, Andrea Kluender, Arthur Toody, Natasha Lepore, Yi-Yu Chou, Caroleine Brun, Ming-Chang Chiang, Marina Barysheva, Clifford Jack Jr, Michael Weiner, Paul Thompson, Laboratory of Neuro Imaging, Dept. of Neurology, UCLA School of Medicine, Los Angeles, USA, Mayo Clinic College of Medicine, Rochester, USA, Dept. Radiology, Medicine and Psychiatry, UC San Francisco, San Francisco, USA

Use of MetaROIs and Minimal Deformation Templates to identify FDG PET Biomarker Regions in Alzheimer’s Disease, Cindee Madison, Susan Landau, Rayhan Lal, Connie Cheung, Norman Foster, Eric Reiman, Robert Koepp, Michael Weiner, William Jagus, UC Berkeley, Berkeley, USA, UC San Francisco, San Francisco, USA, University of Utah, Salt Lake City, USA, Banner Alzheimer’s Institute, Salt Lake City, USA, University of Michigan, Ann Arbor, USA

Cognitive decline associated with loss of hippocampal activation on longitudinal fMRI in non-demented older subjects, Kelly O’Keefe, Jacqueline O’Brien, Amy DeLuca, Peter LaViolette, Bradford Dickerson, Ali Atri, Deborah Blacker, Maija Pihlajamaki, Keith Johnson, Reisa Sperling, Brigham and Women’s Hospital, Boston, USA, Massachusetts General Hospital, Boston, USA

Brain functional activity predicts subsequent structural atrophy in Alzheimer’s disease but not normal aging, Benjamin Shannon, Abraham Snyder, Cindy Lustig, Randy Buckner, Marcus Raichle, Department of Radiology, Washington University, Saint Louis, USA, Department of Neurology, Washington University, Saint Louis, USA, Department of Psychology, University of Michigan, Ann Arbor, USA, Department of Psychology, Harvard University, Cambridge, USA, Howard Hughes Medical Institute, Chevy Chase, USA

DISORDERS OF THE NERVOUS SYSTEM
Mood & Anxiety Disorders

State or Trait? The effect of stressful-experience on brain activation correlates with neuroticism, Rose Admon, Orit Stern, Keren Rosenberg, Gadi Lubin, Talmia Hendler, Functional Brain Center, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, Physiology Dept, Tel Aviv University, Tel Aviv, Israel, Psychology Dept, Tel Aviv University, Tel Aviv, Israel, Mental Health Section, Israeli Defense Forces, Israel

Reduced cortico-limbic connectivity in remitted recurrent depression, Naranjargal Dashdorj, Neil Nixon, Graham Worwood, Mario Liotti, Elena Georgiadis, Dorothea Auer, Peter Liddle, Academic Radiology, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom, Division of Psychiatry, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom

Cortical thickness and depression in a population-based sample of adolescents, Marije Jansen, Gabriel Leonard, Michel Perron, Bruce Pike, Louis Richer, Roberto Toro, Suzanne Veillette, Zdenka Pausova, Tomas Paus, Brain & Body Centre, University of Nottingham, Nottingham, United Kingdom, Montreal Neurological Institute, McGill University, Montreal, Canada, Université de Montréal, Montreal, Canada, Groupe ECOBES, CEJEP Jousiere, Jonquière, Canada, Department of Psychology, University of Quebec in Chicoutimi, Chicoutimi, Canada

SELF-REPORTED RUMINATION AS TRAIT MARKER FOR DEPRESSION: EVIDENCE FROM FUNCTIONAL NEUROIMAGING, Danilo Arnone, Emma Pegg, Shane McKie, Daragh Downey, Rebecca Elliott, Bill Deakin, Ian Anderson, Neuroscience and Psychiatry Unit, University of Manchester, Manchester, United Kingdom

Longitudinal assessment of brain structural alterations in major depressive disorder, Carles Soriano-Mas, Rosa Hernández-Ribas, Narcis Cardoner, Mikel Urretavizcaya, Joan Deus, Héctor Ortiz, Marina López-Solá, Ben J. Harrison, José M. Menchón, Julio Vallejo, Jesús Pujol, Institut d’Alta Tecnologia-PRBB, CRC Corporació Sanitària, Barcelona, Spain, Department of Psychiatry, Hospital Universitari Bellvitge, Barcelona, Spain, Department of Clinical and Health Psychology, Universitat Autònoma de Barcelona, Barcelona, Spain, Electronic Engineering Department, Technical University of Catalonia (UPC), Barcelona, Spain, Clinical Sciences Department, Faculty of Medicine, University of Barcelona, Barcelona, Spain, Melbourne Neuropsychiatry Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Australia
Reduced orbitofrontal-amygdala resting-state connectivity in anxiety disorder patients, Christian Windischberger1,2, Andreas Weissenbacher1,2, Florian Gerstl1,2, Ewald Moser1,2, Rupert Lanzenberger1,1MR Center of Excellence, Medical University, Vienna, Austria, 2Center for Biomedical Engineering and Physics, Medical University, Vienna, Austria, 1Department of Psychiatry and Psychotherapy, Medical University, Vienna, Austria

DISORDERS OF THE NERVOUS SYSTEM

Parkinson’s Disease & Other Basal Ganglia

On the cerebral effects of L-DOPA in Morbus Parkinson – a study using fMRI, Christian Enzinger1,2, Petra Schwingenschnitzl1, Petra Katschmayr1, Stefan Rope1,4, Faton Gorani1, Marisa Loitfelder1,2, Erwin Ott1, Franz Fazekas1,1Dept. of Neurology, Medical University Graz, Graz, Austria, 2Institute of Psychology, Karl Franzens University Graz, Graz, Austria, 3Section of Neuroradiology, Dept. of Radiology, Medical University Graz, Graz, Austria

Effect of L-Dopa therapy on the fronto-striatal activity observed in patients with Parkinson’s disease during set-shifting, Thomas Jabaud1,2, Laura Monetta1,2, Antonio P. Strafella2,4, Anne-Louise Lafontaine3, Michel Panisset1, Alain Pito1, Claudine Gauthier1,2, Oury Monchi1,5, 1Functional Neuroimaging Unit, Montreal Geriatric’s Institute, Montreal, Canada, 2Toronto Western Hospital, Toronto, Canada, 3Montreal Neurological Institute and Hospital, Montreal, Canada, 4Andre Barbeau’s Movement Disorders Unit, University of Montreal Hospital Centre, Montreal, Canada, 5University of Montréal, Montreal, Canada, 6Centre for Addiction and Mental Health, Toronto, Canada

Effects of deep brain stimulation on somatosensory evoked magnetic fields in Parkinsonian patients, Jyrki Mikkela1, Julia Pohjola1, Samu Tauli1, Antti Ahonen1, Eero Pekkonen1, 1BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland, 2Department of Neurosurgery, Helsinki University Central Hospital, Helsinki, Finland, 3Elekta Neuronavig Oy, Helsinki, Finland, 4Department of Neurology, Helsinki University Central Hospital, Helsinki, Finland

DISORDERS OF THE NERVOUS SYSTEM

Schizophrenia

Working memory network activation and functional relationships: MEG studies in patients, unaffected siblings, and normal volunteers, Richard Coppola1,2, Sreenivasan Rajamoni1,2, Fred Carver1, Tom Holroyd1, Stefano Marenco1, Danell Weinberger2, 1MEG Core Facility, Bethesda, USA, 2CBDB, NIMH, Bethesda, USA

Cortical activation preceding the perception of auditory verbal hallucinations: an fMRI study, Kelly Diederen1, Iris Sommer1, Jan Dirk Blom1, Rutger Goekoop1, Kirstin Daalman1, Marco Boks1, Bas Niggers1, Rene Kahn1, 1University Medical Centre, Utrecht, Netherlands, 2Parnassia Psycho-Mental centre, The Hague, Netherlands

Functional imaging of emotional self concept in schizophrenia, Ute Habel, Katharina Paedl, Frank Schneider, Tilo Kircher, Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany

Different neural correlates of ambivalence in schizophrenia and depression: a H15O PET study, Jae-Jin Kim1,2,3, Young-Chul Jang1,2, Il Ho Park1,2, Ji-Won Chun1, Hye Sun Kim1, Jeong Ho Seok4, Joon Suk Lim5, Maeng-Gun Oh5, Hae-Jeong Park5, Jong Doo Lee5, 1Institute of Behavioral Science in Medicine, Severance Mental Health Hospital, Yonsei University College of Medicine, Gwangju-si, South Korea, 2Department of Psychiatry, Yonsei University College of Medicine, Seoul, South Korea, 3Department of Diagnostic Radiology, Yonsei University College of Medicine, Seoul, South Korea, 4Department of Psychiatry, Hallym University Sacred Heart Hospital, Anyang, South Korea

A combined fMRI and 1H-MRS study of the ACC and the hippocampus in patients with schizophrenia, Luke Stoeckel1,2, Meredith Reid1,3, Jan Den Hollander1, Shastry Akella1, Kathy Aysar1,2, Adrienne C. Lahti1, 1Neuroimaging and Translational Research Lab, Department of Psychiatry and Behavioral Neuroimaging, University of Alabama at Birmingham (UAB), Birmingham, USA, 2Department of Psychology, UAB, Birmingham, USA, 3Department of Biomedical Engineering, UAB, Birmingham, USA, 4Department of Medicine, UAB, Birmingham, USA
Cerebral Asymmetry and Functional Laterality in Psychosis, Clare Mackay1, Neil Roberts2, Roozbeh Rezaie1, Tom Barrick1, Digby Quested1, Guy Goodwin1, Julie Connell1, Manaan Kari Ray1, Tim Crow1, 1Department of Psychiatry, University of Oxford, Oxford, United Kingdom, 2University of Liverpool, Liverpool, United Kingdom, 3St Georges Hospital Medical School, London, United Kingdom

Abnormal white matter microstructure in schizophrenia: a voxelwise analysis of axial and radial diffusivity, Marc Seal1, Murat Yücel2,3, Alex Fornito1, Stephen Wood1, Ben Harrison1, Mark Walterfang1, Gaby Pell1,4, Christos Pantelis1, 1Melbourne Neuropsychiatry Centre, The University of Melbourne, Victoria, Australia, 2ORYGEN Research Centre, Victoria, Australia, 3Institut d’Alta Tecnologia-PRBB, CRC Corporació Sanitària, Barcelona, Spain, 4Brain Research Institute, Austin Health, Victoria, Australia

EMOTION & MOTIVATION

Reward

Brain responses to hunger and its satiation: an arterial spin labeling study, Michael Farrell1,2, John Dixon3, Julie Playfair3, Maureen Dixon1, Maria Gavricescu1, Michael McKinley1, Melissa Hayden1, Derek Denton1, Paul O’Brien4, Gary Egans4, 1Howard Florey Institute, University of Melbourne, Parkville, Australia, 2Centre for Neuroscience, University of Melbourne, Parkville, Australia, 3Centre for Obesity Research and Education, Monash University, Prahran, Australia, 4Baker Heart Research Institute, Alfred Hospital, Prahran, Australia

Common and distinct brain regions involved in processing different nature of positive and negative reinforcements during uncertain situations, Elise METEREAU, Jean-Claude DREHER, ‘Reward and decision making’ team, Centre de Neuroscience Cognitive, CNRS - Université de Lyon 1, Lyon, France

The medial orbitofrontal cortices and the nucleus accumbens contribute to reward processing under passive situations for monetary gain and loss, Atsushi Sekiguchi1,2, Motoaki Sugitani1,3, Naho Ikuta1, Shigeru Sato1, Kaoru Horie1, Ryuta Kawashima1, 1Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan, 2Department of Psychosomatic Medicine, Kyushu University, Fukuoka, Japan, 3Department of Cerebral Research, NIPS, Okazaki, Japan, 4Graduate School of International Cultural Studies, Tohoku University, Sendai, Japan

Effects of visual cues related to the beginning and the end of smoking on the brains of deprived and non-deprived smokers, Bastian Stippekohl, Rudolf Stark, Dieter Vaitl, Bender Institute of Neuroimaging, Giessen, Germany

An fMRI study of normal-weight restrained versus unrestrained eaters, Jason van Steenburgh1, Maria Coletta1, Deborah Green1, Ferroze Mohamed1, Steve Platek2, Schweta Moonat1, Michael Lowe1, 1Drexel University, Philadelphia, USA, 2University of Liverpool, Liverpool, United Kingdom, 3Temple University, Philadelphia, USA

EMOTION & MOTIVATION

Social Behavior

Empathy for Pain is Modulated by the Social Context: An Event-related fMRI Investigation, Yuko Akitsuki1,2, Jean Decety1, 1Departments of Psychology and Psychiatry and Center for Cognitive and Social Neuroscience, The University of Chicago, Chicago, USA, 2Department of Functional Brain Imaging, Institute of Development, Aging and Cancer (IDAC), Tohoku University, Sendai, Japan

Facial emotion recognition and amygdala activation across the menstrual cycle, Birgit Derntl1,2,3, Christian Windschreiber1,2, Simon Robinson1, Elisabeth Lamplmayr1, Ilse Kryspin-Exner2, Ruben Gar3, Ewald Moser1,4,6, Ute Habel3, 1MR Centre of Excellence, Medical University of Vienna, Vienna, Austria, 2Institute for Clinical, Biological and Differential Psychology, Faculty of Psychology, University of Vienna, Vienna, Austria, 3Department of Psychiatry and Psychotherapy, University of Aachen RWTH, Aachen, Germany, 4Centre for Biomedical Engineering and Physics, Medical University of Vienna, Vienna, Austria, 5Center of Mind/Brain Studies, University of Trento, Matarello, Italy, 6Department of Psychiatry, University of Pennsylvania, Philadelphia, USA
Monoamines regulate emotional impact in inferomedial prefrontal cortex, Albert Gjedde, Jacob Gedde, PET Center, Aarhus University Hospitals, Aarhus, Denmark, Center of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark, Dept of Neurology, Aarhus University Hospitals, Aarhus, Denmark

Dissociable neural pathways are involved in the perception of someone else’s congruent and incongruent emotional facial response, Evelyne Lepron, Jean-François Demonet, Inserm, Toulouse, France

Neural Basis of Social Cooperation with Reputations, Kazuhsa Niki, Shinsuke Suzuki, Syoken Fujisaki, Eizo Akiyama, Neuroscience Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, Graduate School of Systems & Information engineering, University of Tsukuba, Tsukuba, Japan

GENETICS

Human vs Computer Algorithm Choices in Identifying Identical Twin Pairs Based on Cortical Shape Characteristics - Who’s Better?, Kelly Botteron, Donna Dierker, Richard Todd, Jim Alexopoulos, Daniel Seung Kyun Han, Tomoyuki Nishino, Erin Reid, Alex Todorov, David Van Essen, Washington University School of Medicine, Dept Psychiatry, St. Louis, USA, Washington University School of Medicine, Mallinckrodt Institute of Radiology, St Louis, USA, Washington University School of Medicine Anatomy and Neurobiology, St Louis, USA

Neurodevelopmental Candidate Gene Variation and MRI-defined Brain Structural Differences in Healthy Controls and Major Depressive Disorder Patients, Becky Inkster, Thomas Nichols, Pierandrea Moglia, Paul Matthews, Clinical Imaging Centre, Hammersmith Hospital, London, Clinical Pharmacology and Discovery Medicine, GlaxoSmithKline, London, United Kingdom, Medical Genetics, Verona, Clinical Pharmacology and Discovery Medicine, GlaxoSmithKline, Verona, Italy

Allelic variation in NOS1AP is associated with altered prefrontal cortex function and functional connectivity during working memory, Laura A. Libby, Kristin K. Nicodemus, Rachel G. Higier, Morgan J. Frust, Hao Yang Tan, Joshua W. Buckholtz, Bhaskar Kolachana, Richard E. Straub, Daniel R. Weinberger, Joseph H. Callicott, CBDB, GCAP, NIMH IRP, NIH, DHHS, Bethesda, USA

Epistasis of BDNF and SLC6A4 in Depression, Lukas Pezawas, Andreas Meyer-Lindenberg, Aaron Goldman, Beth Verchinski, Gang Chen, Bhaskar Kolachana, Michael Egan, Venkata Mattay, Ahmad Harari, Daniel Weinberger, Genes, Cognition and Psychosis Program, National Institute of Mental Health, Bethesda, USA, Division of Biological Psychiatry, Medical University of Vienna, Vienna, Austria, Scientific and Statistical Computing Core, National Institute of Mental Health, National Institutes of Health, Bethesda, USA, Department of Psychiatry, University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic, Pittsburgh, USA, Central Institute of Mental Health, Mannheim, Germany

IMAGING TECHNIQUES & CONTRAST MECHANISM EEG

A Mobile Wearable Wireless Brain Computer Interface Platform for Operational Neuroscience, Chin-Teng Lin, Tzyy-Ping Jung, Chin-Chern Chiu, Li-Wei Ko, Chih-Feng Chao, Sheng-Fu Liang, Natl. Chiao-Tung Univ, Hsinchu, Taiwan, UCSD, La Jolla, San Diego, USA, Natl. Cheng Kung Univ, Tainan, Taiwan

Rejection of the ballistocardiographic artefact using a cICA based algorithm, Yves Leclercq, Pierre Maquet, Christophe Phillips, Cyclotron Research Center, Liège, Belgium

Martinos Ctr. for Biomed. Imaging, Charlestown, USA, 1Harvard-MIT division for Hlth. Sci. and Technology, Cambridge, USA, 4Radiology, MGH, Boston, USA, 5Anesthesiology, MGH, Boston, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM
Functional MRI

fMRI with TX SENSE at High Field: The importance of the Reception Field, Fernando Boada1, Tamer Ibrahim1, Victor Stenger2, 1University of Pittsburgh, Pittsburgh, USA, 2University of Hawaii, Honolulu, USA

Mapping current waveforms with Multiple Alternating Balanced Steady States, Giedrius Buracas1, Jongho Lee1, Richard Buxton1, Eric Won1, Thomas Liu1, 1UCSD, Dept. Radiology, La Jolla, USA, 2Advanced MRI, LFMI, NINDS, NIH, Bethesda, USA

EEG Default Mode Network: Fast vs. Slow Music of Movie Episodes, Weijia Feng, Andrew CN Chen*, Center for Higher Brain Functions, Capital Medical University., Beijing, China

High Resolution Mapping of V5 at 7 Tesla, Robin Heidemann1, Robert Trampel1, Enrico Reimer1, Joen Van Lepes1, Markus Raabe1, Fabrizio Fasano2, Robert Turner2, 1Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2Institute for Experimental Psychology, University of Regensburg, Regensburg, Germany, 3Neuroimaging Laboratory, Fondazione Santa Lucia, Rome, Italy

Transit Time and Cerebrovascular Reactivity, Michael Jurkiewicz, Julien Poublanc, Adrian Crawley, David Mikulis, Department of Medical Imaging, The Toronto Western Hospital of the University Health Network, Toronto, Canada

SSFP fMRI at 7 Tesla, Jongho Lee, Masaki Fukunaga, Jeff Duyn, Advanced MRI, LFMI, NINDS, National Institute of Health, Bethesda, USA

Volumetric Magnetic Resonance Inverse Imaging improves the sensitivity of fMRI by reducing physiological noise, Fa-Hsuan Lin1,2, Thomas Wiste3, Polly Dhond3, Thomas Zeffiro4, Lawrence Wald3, Graham Wiggins3, John Belliveau3, 1Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, USA, 2Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, 3Harvard-MIT Division of Health Sciences and Technology, Cambridge, USA, 4Neural Systems Group, Massachusetts General Hospital, Charlestown, USA

Computer-controlled hypercapnic vasodilation for accurate and reproducible BOLD calibration, C.I. Mark, G.B. Pike, McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, Canada

Upper Bound Estimation of Neuronal Current-Induced Magnetic Field Changes in Humans, Kevin Murphy1, Jerzy Bodurka2, Peter A. Bandettini2,1, Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, USA, 2Functional MRI Facility, National Institute of Mental Health, Bethesda, USA

Superresolution Parallel Functional MRI, Ricardo Otazo1, Fa-Hsuan Lin2,3, Stefan Posse1,4,5, 1Electrical and Computer Engineering Department, University of New Mexico, Albuquerque, USA, 2MGH-HMS-MIT Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, USA, 3Department of Radiology, Massachusetts General Hospital, Boston, USA, 4Department of Psychiatry, University of New Mexico, Albuquerque, USA, 5Department of Physics and Astronomy, University of New Mexico, Albuquerque, USA

An easily used method to detect brain regions associated with individual differences using spontaneous functional connectivity, Ming Song, Tianzi Jiang, national key laboratory of pattern recognition, beijing, China

Estimation of vascular contribution to DMR1 (Diffusion weighted fMRI) signal, Shin-ichi Urayama1, Kenji Aso1, Toshihiko Aso1,2, Satoru Kohn1, Nobukatsu Sawamoto1, Hidenao Fukayama1, Denis Le Bihan1,1, Human Brain Research Center, Graduate School of Medicine, Kyoto University, Kyoto, Japan, 2NeuroSpin, CEA, Saclay, France


Inline Distortion Correction for Echo-Planar fMRI, Markus Vogler\(^1\,^2\), Sheeba Arnold\(^3\), Oliver Hinds\(^4\), Susan Whitfield-Gabrieli\(^5\), Josef Pfaffner\(^6\), Christina Triantafyllou\(^1\,^3\), \(^1\)Siemens Medical Solutions, Applications Development, Erlangen, Germany, \(^2\)University of Applied Sciences, Hof, Germany, \(^3\)McGovern Institute for Brain Research, MIT, Cambridge, USA, \(^4\)Department of Brain and Cognitive Sciences, MIT, Cambridge, USA, \(^5\)Athinoula A. Martinos Center, Department of Radiology, MGH, Harvard Medical School, Cambridge, USA

Changes in Tissue Volume Fraction and T1 during Brain Activation, Wanyong Shin, Hong Gu, Tihong Yang, Neuromaging Research Branch, National Institute on Drug Abuse, NIH, Baltimore, USA

**IMAGING TECHNIQUES & CONTRAST MECHANISM**

MEG

EEG Default Mode Network: Gender Consistency and Difference, Andrew CN Chen*, Huixuan Zhao, Weijia Feng, Center for Higher Brain Functions, Capital Medical University, Beijing, China

Large-Scale Parameter Estimation and Dynamic Source Localization for the Magnetoencephalography (MEG) Inverse Problem, Camilo Lamus\(^1\,^2\), Simona Temereanca\(^1\,^3\), Chris J. Long\(^1\), Matti S. Hamalainen\(^1\), Emery N. Brown\(^1\), Patrick L. Purdon\(^1\), \(^1\)Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA, \(^2\)Department of Anaesthesia and Critical Care, Massachusetts General Hospital, Boston, USA, \(^3\)MGH/MIT/HMS Martinos Center for Biomedical Imaging, Charlestown, USA, \(^4\)Harvard-MIT Division of Health Science and Technology, Cambridge, USA

**LANGUAGE**

Language Acquisition

Phoneme categorization elicits reversed response in the left premotor cortex in control versus dyslexic readers: a support to the 'allophonic' hypothesis of dyslexia, Olivier Duflot\(^3\), Willy Serniclaes\(^1\), Liliane Sprenger-Charolles\(^1\), Jean-Francois Démonet\(^1\), \(^1\)Inserm UMR S825, Toulouse, France, \(^2\)CNRS Laboratoire Psychologie de la Perception, Paris, France

The Bilingual Semantic System in the Late Korean-English Bilinguals: An fMRI Study, Minjung Kim, Woorim Jeong, Seungbok Lee, Department of Psychology, Chungbuk National University, Cheongju, South Korea

Neural bases of word and non-word reading in trained children with developmental dyslexia, Rodolphe Nenert\(^1\), Christophe Levêque\(^2\), Marie-thérèse LeNormand\(^2\), Philippe Evarard\(^2\), Scandia De Schonen\(^2\), \(^3\)Inserm U825, Hôpital Purpan, Toulouse, France, \(^4\)Department of Radiology, Hôpital d'Instruction des Armées du Val-de-Grâce, Paris, France, \(^5\)LPP, Université Descartes-CNRS, Paris, France, \(^6\)Laboratoire of Developmental Physiology Hôpital Robert Debré, Paris, France

Signal processing for whole-head MEG data from awake infants, Toshiaki Imada\(^1\), Alexis Bosseler\(^2\), Samu Taulu\(^2\), Elina Pihko\(^2\), Jyrki Mäkelä\(^2\), Antti Ahonen\(^2\), Patricia Kuhl\(^2\), \(^1\)Institute for Learning and Brain Sciences, University of Washington, Seattle, USA, \(^2\)Elekta Neuromag Oy, Helsinki, Finland, \(^3\)BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland

**LANGUAGE**

Production

LanguageFunctioning after Lesions to the Arcuate Fasciculus, Nina Dronkers\(^1\,^2\), And Turken\(^1\,^2\), Robert Knight\(^1\), Julianna Baldi\(^1\), \(^1\)VA North. California Health Care System, Martinez, USA, \(^2\)University of California, Davis, USA, \(^3\)University of California, San Diego, USA, \(^4\)University of California, Berkeley, USA

Substrates of Switching of Phonology between the First and Second Languages, Chihiro Hosoda\(^1\,^2\), Takashi Hamakawa\(^1\), Tadashi Narita\(^1\), Kikuo Ohno\(^1\), Manabu Honda\(^1\), \(^1\)Department of Cortical Functional Disorders, National Center of Neurology and Psychiatry, Kodaira, Japan, \(^2\)Department of Neurosurgery, Tokyo Medical and Dental University, Tokyo, Japan

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Dynamic brain activation during language processing in temporal lobe epilepsy: longitudinal fMRI analysis, Jae-Hun Kim¹, Jong-Min Lee¹, Hang Joon Jo¹, June Sic Kim³, Chi Heon Kim², Chun Kee Chang¹, Juonjo Kang¹, Sun I Kim¹, ¹Department of Biomedical Engineering, Hanyang University, Seoul, Korea, ²MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, ³Department of Psychology, Kangwon National University, Kangwon, Korea

Generation of action verbs in Parkinson’s disease: a fMRI study, Patrice Péran¹,², Dominique Cardebat³, Andrea Cherubini⁴, Fabrizio Piras³, Giacomo Lucchetti¹, Antonella Peppe³, Carlo Cartaigrone³, Olivier Rascle³, Jean-François Démonet², Umberto Sabatinì¹, ¹Department of Radiology, IRCCS Foundation Santa Lucia, Rome, Italy, ²INSERM U825, Toulouse, France, ³Center for Research in Language, University of California, San Diego, USA, ⁴Neuroimaging laboratory, Rome, Italy, ⁵Laboratory of Clinical and Behavioural Neurology, IRCCS Santa Lucia Foundation, Rome, Italy, ⁶Neurological Clinic, Department of Neurosciences, Tor Vergata University of Rome, Rome, Italy

MEMORY & LEARNING
Plasticity (normal & following pathology)

Task-induced changes in short-range and long-range synchronization during subsequent sleep, Ysbrand Van Der Werf¹,², Cornelis Stam³, Eus Van Someren¹,², ¹Dept. Sleep and Cognition, Netherlands Institute for Neuroscience, an Institute of the Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands, ²Dept. Clinical Neurophysiology, VU University medical center, Amsterdam, Netherlands

Striatal Contribution to Sleep-dependent Consolidation of Motor Sequence Learning, Karen Debas¹, Julie Carrières², Pierre Orban³, Marc Barakat⁴, Gilles Vandevalle¹, Abdallah Haifi Talha⁵, Avi Karn⁶, Leslie Ungerleider⁷, Habib Benali⁸, Julien Doyon⁴,⁵,⁶, ¹Functional Neuroimaging Unit, Department of Psychology, University of Montreal, Montreal, Canada, ²Centre d'Etude du Sommeil et des Rythmes Biologiques, Hôpital du Sacré-Cœur de Montréal, Montréal, Canada, ³Centre de recherche en neuropsychologie et en cognition, Department of Psychology, University of Montreal, Montreal, Canada, ⁴Laboratory for Functional Brain Imaging and Learning Research, The Brain-Behavior Center, Haifa, Israel, ⁵Laboratory of Brain and Cognition, NIMH, NIH, Bethesda, USA, ⁶Unité Mixte de Recherche-S 678, Institut National de la Santé et de la Recherche Médicale/University of Paris 6, Centre Hospitalier Universitaire Pitié-Salpêtrière, Paris, France

Localization of Cognitive Function in Rats- MRI Study, Tamar Blumenfeld-Katzir, Ofra Pasternak, Yaniv Assaf, Tel Aviv University, Tel Aviv, Israel

MEMORY & LEARNING
Working Memory

Working memory in women: fMRI comparison of face processing vs. mental rotation in n-back format, Bonnie Alexander¹, Sheila Crewther¹, David Crewther¹, ¹La Trobe University, Bundoora, Australia, ²Brain Sciences Institute, Swinburne University, Hawthorn, Australia

Variations in task difficulty dissociate activity in prefrontal cortex and medial temporal lobe during working memory encoding, Wesley Clapp, Jonas Karlsson, Michael Rubens, Theodore Zanto, Adam Gazzaley, University of California San Francisco (UCSF), San Francisco, USA

Automatic Coding of Old-New Effect during Working Memory: Evidence from Multimodal Imaging, Chunyan Guo¹,², Jessica Clark¹,², Adam Lawson¹, Yang Jiang¹, ¹Department of Psychology, Capital Normal University, Beijing, China, ²Behavioral Science Department, University of Kentucky College of Medicine, Lexington, USA, ³Psychology Department, University of Kentucky, Lexington, USA

Age-associated changes in the neural correlates of episodic and working memory, Helen Macpherson¹, Andrew Pipingas², Richard Silberstein³, ¹Swinburne University, Melbourne, Australia, ²Swinburne University, Melbourne, Australia, ³Swinburne University, Melbourne, Australia

Frontal and Parietal Activation During Working Memory Differentiates Dyslexia from Controls as Revealed by Magnetoencephalography (MEG), Nicholas Velisaris¹, Lesley

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Efficiency & trial-to-trial variance of spatial working memory performance is manifest across overlapping load-dependent networks, Michael Valenzuela, Nicole Kochan, Melissa Slavin, Julian Trollor, Perminster Sadek, Anthony McIntosh, Michael Breakspear. 430 M-PM

Bayesian Brain Source Imaging based on combined MEG/EEG and fMRI using MCMC, Sung C. Jun, John S. George, Juliana Par, e-Blagoev, Sergey Plis, Doug M. Ranken, David M. Schmidt. 434 M-PM

Graph partitioned spatial priors for imaging, Lee Harrison, William Penny, Guillaume Flandin, Karl Friston, Wellcome Trust Centre for Neuroimaging, London, United Kingdom. 438 M-PM

Spatiotemporal Noise Covariance for Unified Analysis of MEG AND EEG DATA, SUNG JUN, SERGEY PLIS, Gwangju Inst. of Science & Technology, Gwangju, Korea. 442 M-PM

Combining ICA and GLM for FMRI data analysis, Salima Makni, Christian Beckmann, Steve Smith, Mark Woolrich, FMRIB, Oxford, United Kingdom. 446 M-PM

Neuroimaging of human face processing by Bayesian MCMC method, Gokcen Yildiz, A. Deniz Duru, Ahmet Ademoglu, Katholike Universiteit Leuven, Leuven, Belgium. 450 M-PM

11:30 – 12:30 Corryong Hall (Level 2)


Beyond Prediction: More Robust Sparse fMRI Models Reveal Distributed Clusters of Local Activity, Melissa Carroll, Guillermo Cecchi, Irina Rish, Rahul Garé, Ravi Rau, Princeton University Computer Science Department, Princeton, USA. 458 M-PM

Predicting EEG power oscillations using fMRI, Federico De Martino, Giancarlo Valente, Rainer Goebel, Elia Formisano, Department of Neurocognition, University of Maastricht, Maastricht, Netherlands. 462 M-PM*

Total variation approach for high temporal resolution event detection in fMRI, Mostafa Ghamad Rezaie, Luis Hernandez-Garcia, University of Michigan, Ann Arbor, USA. 466 M-PM

An Informatics System for the Management of Distributed Neuroimaging Research Data, Neil Killeen, Jason Lohrey, Wee Siong Soh, Wilson Liu, Steve Melnikoff, Gary Egam. 470 M-PM
Melbourne, Australia, 1Howard Florey Institute, the Florey Neuroscience Institutes, Melbourne, Australia, 1Victorian E-Research Strategic Initiative, Melbourne, Australia

Probabilistic classification models for Brain Computer Interfaces, Jérémie Mattout1,2, Guillaume Gibert1,2, Virginie Attina1,2, Emmanuel Mably1,2, Olivier Bertrand1,2, 1Brain Dynamics and Cognition, U821 INSERM, Lyon, France, 2Lyon 1 - Université Claude Bernard, Lyon, France

Comparison of small clinical samples with Voxel-Based Morphometry: a quantitative approach to the analysis of outliers effects by means of virtual phantoms, Federico Nocchi1,2, Tiziana Franchin1,3, Elisabetta Genovese1, Daniela Longo1, Giuseppe Fariello1, Vittorio Cannata1, 1Clinical Engineering Service, Bambino Gesù Children's Hospital, Rome, Vatican City, 2Philips Medical Systems, Monza, Italy, 3Department of Bioengineering, Politecnico of Milan, Milan, Italy, 4Health Physics, Bambino Gesù Children's Hospital, Rome, Vatican City, 5Department of Paediatric Radiology, Bambino Gesù Children's Hospital, Rome, Vatican City

Contribution of cortical thickness measurement to the prediction of fast conversion from Mild Cognitive Impairment to Alzheimer's Disease, Olivier QUERES1,2, Jean-Albert LOTTERIE1,2, Jérémie PARIENTE1,2, Isabelle BERRY1,2, Jean-Claude FORT1,2, Florent AUBRY1,2, Pierre CELYSIS1,2, 1INSERM U825, Toulouse, France, 2University Toulouse III Paul Sabatier, Toulouse, France, 3Laboratoire de Statistiques et probabilités, Toulouse, France

Automatic Classification of Human Brain Constituents including Crossing Fibres using HARDI and a Support Vector Machine, Susanne Schnell1, Björn Kreher1, Jürgen Hennig1, Hans Burkhardt1, Valerij Kiselev1, 1Medical Physics, Dept. of Diagn. Radiology, University Hospital Freiburg, Freiburg, Germany, 2Chair in Pattern Recognition and Image Processing, Institute of Computer Science, University of Freiburg, Freiburg, Germany

A NEW TRIANGULATION METHOD TO LOCALIZE FUNCTIONAL ACTIVITY ON THE CORTICAL SURFACE, Alan Tucholka1,2, Bertrand Thirion1,2, Philippe Pinel1, Jean-Baptiste Poline1, Jean-François Mangin1, 1CEA Saclay, Neurospin/LNAO, Bat 145, 91191, Gif-sur-Yvette, France, 2INRIA Futurs, Paritetal, Paris, France, 3INSERM UNICOG, Neurospin, Paris, France

Estimating Structural Complexity Changes in Alzheimer’s Disease and Frontotemporal Dementia, Karl Young1,3, An-Tao Du1, Joel Kramer1, Howard Rosen2, Bruce Miller2, Michael Weiner2,3, Norbert Schuff1,3, 1Department of Radiology, University of California San Francisco, San Francisco, USA, 2Department of Neurology, University of California San Francisco, San Francisco, USA, 3Center For Imaging of Neurodegenerative Diseases, Department of Veterans Affairs Medical Center, San Francisco, USA

MODELING & ANALYSIS

Motion Correction/Spatial Normalization, Atlas Construction

Affine and nonlinear spatial normalization techniques using derivatives of brain magnetic resonance images, Jia-Xiu Liu1, Yong-Sheng Chen1, Li-Fen Chen2, 1Department of Computer Science, National Chiao Tung University, Hsinchu, Taiwan, 2Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan, 3Integrated Brain Research Laboratory, Taipei Veterans General Hospital, Taipei, Taiwan

SLICE TIMING CORRECTION IN BOLD FMRI DATA, Rate Martins1, Alexandre Andrade2, Patricia Figueiredo1, 1School of Engineering, Technical University of Lisbon, Lisbon, Portugal, 2Institute of Biophysics and Biomedical Engineering University of Lisbon, Lisbon, Portugal

Structural differences can affect functional interpretation: Differences between modulated and unmodulated fMRI in healthy aging, Jonathan Peelle, Murray Grossman, Department of Neurology, University of Pennsylvania, Philadelphia, USA

Comparison of Registration Techniques on Inter-subject Variation of Diffusion Tensor Imaging, Xiujuan Geng1, Hong Gu1, Thomas Ross1, Gary Christensen1, Yihong Yang2, 1Neuroimaging Research Branch, National Institute on Drug Abuse, NIH, Baltimore, USA, 2University of Iowa, Iowa City, USA
MODELING & ANALYSIS
Univariate Modeling, Linear, & Nonlinear

Increased Frontal Delta Synchronization of Bipolar Patients: a MEG Study, Shyan-Shiou Chen1, Li-Fen Chen2,3, Pei-Chi Tu2, Tung-Ping Su4,5, Jen-Chuen Hsieh2,3, Ying-Chia Lin1,  
1Department of Mathematics, National Taiwan Normal University, Taipei, Taiwan, 2Institute of Brain Science, School of Medicine, National Yang-Ming University, Taipei, Taiwan, 3Integrated Brain Research Laboratory, Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan, 4Division of Neuroscience, School of Life Sciences, National Yang-Ming University, Taipei, Taiwan, 5Division of Psychiatry, School of Medicine, National Yang-Ming University, Taipei, Taiwan, 6Psychiatric Department, Taipei Veterans General Hospital, Taipei, Taiwan

The Global Mean Should be Abandoned as Default Normalization Reference in PET Perfusion and Metabolism Studies, Per Borglommer1,2, Albert Gjedde1,2, 1PET Center, Aarhus University Hospitals, Aarhus, Denmark, 2Center of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark

The relationship between brain size and cortical structure in the adult human brain, Kiho Im1, Jong-Min Lee1, Oliver Lyttelton1, Sun Hyang Kim1, Alan Evans2, Sun I. Kim1, 1Department of Biomedical Engineering, Hanyang University, Seoul, South Korea, 2McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada

Advances in False Discovery Rate control applied to neuroimaging analyses, Glenn Lawyer1, Egil Ferskingstad1, Ragnar Nesvåg1, Katarina Varnäsa1, Arnoldo Frigessi2, Erik G. Jönsson1, Ingrid Agartz1,2, 1Department of Psychiatry, University of Oslo, Oslo, Norway, 2Department of Biostatistics, University of Oslo, Oslo, Norway, 3Department of Psychiatric Research, Diakonhjemmet Hospital, Oslo, Norway, 4Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden

Spatio-temporal dynamics of p300-related neuronal activation: an EEG/fMRI study, Dante Mantini1,2, Laura Marzetti1,2, Armando Tartaro1,2, Gian Luca Romani1,2, Cosimo Del Gratta1,2, 1Institute for Advanced Biomedical Technologies, University Foundation “G. D’Annunzio”, Chieti, Italy, 2Department of Clinical Sciences and Bio-imaging, University “G. D’Annunzio”, Chieti, Italy

An Application of Dynamic Analysis of t-Statistics to Clinical fMRI – Initial Evaluation of Brain Tumor Cases, Toshiharu Nakai1, Epifanio Bagarinano1, Satoshi Nakao1, Tomohisa Okada2, Chikako Nakai1, Kayako Matsuo1, 1Functional Brain Imaging Lab, National Center for Geriatrics and Gerontology, Ohbina, Japan, 2Grid Technology Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 3Nakao Clinic, Kobe, Japan, 4Institute of Biomedical Research and Innovation, Kobe, Japan, 5Faculty of Business and Informatics, Toyohashi Sozo University, Toyohashi, Japan

GLM Permutation - Nonparametric Inference for Arbitrary General Linear Models, Thomas Nichols1,2, Gerard Ridgway2, Matthew Webster1, Stephen Smith1, 1GlaxoSmithKline Clinical Imaging Centre, London, United Kingdom, 2Centre for Medical Image Computing, University College London, London, United Kingdom, 3FMRIB Centre, Oxford University, Oxford, United Kingdom

Age-related nonlinear properties of EEG variation in post-photic stimulation: A multiscale entropy analysis, Tetsuya Takahashi1, Tetsuhito Murata1, Tomoyuki Mizuno1, Mitsuru Kikuchi2, Kimiko Mizukami2, Kosuke Narita1, Hirotaka Kosaka2, Koichi Takahashi2, Yuji Wada1, 1Department of Neuropsychiatry, Faculty of Medical Sciences, University of Fukui, Fukui, Japan, 2Department of Psychiatry and Neurobiology, Graduate School of Medical Science, Kanazawa University, Kanazawa, Japan, 3Department of Psychology, Faculty of Human studies, Jinai University, Fukui, Japan, 4Department of Psychiatry and Human Behavior, Gunma University Graduate School of Medicine, Gunma, Japan, 5Department of Informatics, Faculty of Science and Engineering, Kinki University, Osaka, Japan

On Non-normality, Non-parametric Tests and Pooling Permutations Over Space for Voxel Based Morphometry, Anderson M. Winkler1, Thomas E. Nichols2, David C. Glahn1, 1Department of Psychiatry, University of Texas Health Science Center at San Antonio, San Antonio, USA, 2FMRIB Centre, Oxford University, United Kingdom, 3GSK Clinical Imaging Centre, United Kingdom
Optimizing Kernel Size for the Smoothed Variance t-test, Hui Zhang1, Timothy Johnson1, Jeffery Fessler1, Kent Kiehl1, Thomas Nichols2,3,4, 1University of Michigan, Ann Arbor, USA, 2GlaxoSmithKline Clinical Imaging Centre, London, United Kingdom, 3FMRIB Centre, Oxford, United Kingdom, 4University of New Mexico, Logan, USA

MOTOR BEHAVIOR
Hand Movements

Somatosensory areas 3a and 4p are activate during motor imagery in patients with hemiparetic stroke, Andrew Butler1, Linda Confalonieri2, Giuseppe Pagnoni2, Lawrence Barsalou1, 1Department of Rehabilitation Medicine, Emory University, Atlanta, USA, 2CESCOM, University of Milan Bicocca, Milan, Italy, 3Department of Psychiatry and Behavioral Sciences, Emory University, Atlanta, USA, 4Department of Psychology, Emory University, Atlanta, USA

Gender and Handedness Effects on Corticospinal and Spinothalamic Tracts: A structural asymmetry study using diffusion spectrum imaging, Su-Chun Huang1, Fang-Chen Yeh1, Hsiao-Lan Wang1, V. J. Wedeen2, Wen-Yih Isaac Tseng1,2, 1Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan, 2Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan, 3Faculty of Education, Centre for Neuroscience in Education, University of Cambridge, Cambridge, United Kingdom, 4MGH Martins Center for Biomedical Imaging, Harvard Medical School, Charlestown, USA

Planning to grasp haptically experienced objects reactivates the lateral occipital complex, Gregory Krolcza1, Scott H. Frey1,2, 1Department of Psychology, University of Oregon, Eugene, USA, 2Lewis Center for Neuroimaging, University of Oregon, Eugene, USA

Touch typing performance correlates with white matter integrity in specific regions of the motor system, Jan Scholz, Heidi Johansen-Berg, FMRIB Centre, Oxford, United Kingdom

MOTOR BEHAVIOR
Locomotion

Functional potential demonstrated by Diffusion Tensor Tactography in hemiplegic patients with cerebral palsy, Su Min Song1, Sung Ho Jang2, Ho Lee1, In Kyu Yu1, Seung Yeon Kim1, Han Ku Moon1, 1Dept of PM&R, college of medicine.Eulji university, Daejeon, Korea, 2Dept of PM&R, college of Medicine, Yeungnam university, Daegu, Korea, 3Dept of diagnostic radiology, college of medicine, Eulji university, Daejeon, Korea, 4Dept of Pediatrics, college of medicine, Eulji university, Daejeon, Korea, 5Dept of Pediatrics, college of medicine, Yeungnam university, Daegu, Korea

MOTOR BEHAVIOR
Motor-Premotor Cortex/Motor Cortical Functions

Physiological Correlates of Motion Sickness Induced by Dynamic Virtual Reality

Environment, Chin-Teng Lin1,2, Yu-Chieh Chen1,2, Chun-Ling Lin1,2, Chih-Feng Chao1, Jeng-Ren Duann1,3, Tzyy-Ping Jung1,3, 1Brain Research Center, University System of Taiwan, Hsinchu, Taiwan, 2Department of Electrical and Control Engineering, National Chiao-Tung University, HsinChu, Taiwan, 3Institute for Neural Computation, University of California, San Diego, USA

Resting-state connectivity of the motor network in acute stroke patients, Woo-Kyoung Yoo1, Chang-hyun Park1,2, Suk Hoon Ohn1, Sung H. Yoo1, Myoung-Hwan Ko1, Sung Tae Kim1, Kwang Ho Lee1, Yun-Hee Kim1, 1Department of Physical Medicine and Rehabilitation, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 2Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, Korea, 3Department of Physical Therapy, Yonsei University, Wonju, Korea, 4Department of Physical Medicine and Rehabilitation, Chonbuk National University Medical School, Jeonju, Korea, 5Department of Radiology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

Central limitation of muscle force mediated by posterior insula in a fatiguing grip force task, Kai Lutz1, Lea Hilty2, Mike Brügger1, Roger Luechinger1, Lutz Jancke1, 1Department

550 M-PM
554 M-PM
558 M-PM
562 M-PM
566 M-PM*
570 M-PM
574 M-PM
578 M-PM
582 M-PM
Neuropsychology, Institute for Psychology, University Zürich, Zürich, Switzerland, Exercise Physiology, Institute for Human Movement Sciences, Swiss Federal Institute of Technology and Institute of Physiology, University of Zurich, Zürich, Switzerland, Institute of Biomedical Engineering, Swiss Federal Institute of Technology and the University of Zurich, Zürich, Switzerland

Local and Remote Changes in Cerebral Blood Flow During Motor Task Following a Single Session of 5Hz rTMS Applied to the Primary Motor Cortex, Shalini Narayana1, Wei Zhang1, Crystal Franklin1, Joseph Panzarella1, Peter Fox2, 3, Research Imaging Center, UT Health Science Center, San Antonio, USA, 2South Texas Veterans Health Care Center, San Antonio, USA

A gradient for neuroplastic capacity within the primary motor cortex: Indications from a case report post hemispherectomy, Jakob Rath1, Robert Schmidhammer2, Thomas Steinkellner3, Nicolaus Klinger1, Alexander Geißler1, Roland Beilstein3, 1Study Group Clinical fMRI, MR Center of Excellence, Department of Neurology, Medical University of Vienna, A-1090 Vienna, Austria, 2Ludwig Boltzmann Institute for Experimental and Clinical Traumatology, Research Center for Traumatology, A-1200 Vienna, Austria

Probing ipsilateral premotor-to-motor connectivity during movement selection, Sergiu Groppa1, Boris Schlaag1, Oliver Graner1, Bart van Nuenen1, Gesa Hartwigsen1, Thomas Weyh2, Hartwig Siebner1, 1Department of Neurology, Christian-Albrechts-University, Kiel, Germany, 2Department of Neurology, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, 3Institute for Medical Electronics, University of Technology Munich, Munich, Germany

I did this! brain response to visually presented hand actions reveals recently performed acts, Alon Talmor1, Hezy Yeshurun1, Talma Hendler2, 3, School of Computer Science, Sackler Faculty of Exact Sciences, Tel Aviv University, Israel, Tel Aviv, Israel, 2, 2 Functional Brain Center, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Israel, Tel Aviv, Israel, 3Psychology Department, Sackler Faculty of Medicine, Tel Aviv University, Israel, Tel Aviv, Israel

The changes of both gray matter density and white matter integrity in pianist’s brain: a combined structural and diffusion MRI study, Ying Han1, Hong Yang1, Ya-Ting Lv1, Chao-Zhe Zhu1, Yong He1, He-Han Tang1, Qi-Yong Gong1, Yue-Jia Luo1, Yu-Feng Zhang1, Qi Dong1, 1State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 2Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, 3National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 4McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, Canada

NEUROANATOMY

Anatomical Studies

Effects of hypertension on grey matter volumes over 4 years in healthy adults aged 60-64: a voxel based morphometry study, Xiaohua Chen1, 2, Wei Wen1, 2, Perminder Sachdev1, 2, Kaarin Anstey1, 3, School of Psychiatry, University of New South Wales, Sydney, Australia, 2Neuropsychiatric Institute, Prince of Wales Hospital, Sydney, Australia, 3Centre for Mental Health Research, Australian National University, Canberra, Australia

Optimized high-resolution mapping of magnetisation transfer at 3 Tesla reveals substructures in the human thalamus in clinically feasible measurement time, Peter Dechent1, Tabea Gringel1, 2, Eckro Loff1, Walter Schulz-Schaeffer1, Gunther Helm1, 1MR-Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 2Department of Neuroradiology, University Medical Center, Göttingen, Germany, 3Department of Neuropathology, University Medical Center, Göttingen, Germany

Transmitter receptor mapping reveals hierarchy and input specificity in human primary somatosensory cortex, Valentina Garibotto1, 2, Simon B. Eickhoff1, Nicola Palomo-Gallagher1, Karl Zilles1, 3, 1Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre, Jülich, Germany, 2San Raffaele Scientific Institute, Milan, Italy, 3C.&O. Vogt-Institute of Brain Research, University, Düsseldorf, Germany

606 M-PM

610 M-PM

614 M-PM
Observer-Independent Cytoarchitectonic Mapping of the Human Medial Orbitofrontal Cortex, Anton Henssen1, Simon B. Eickhoff1,2,3, Karl Zilles1,2,3, Axel Schleicher1, Hartmut Mohlberg1,3, Katrin Amunts2,3,4, C&O. Vogt Institut für Hirnforschung, Düsseldorf, Germany, 2Institut für Medizin, Forschungszentrum Jülich, Jülich, Germany, 3Brain Imaging Center West (BICW), Jülich, Germany, 4Klinik für Psychiatrie und Psychotherapie, Universitätsklinikum Aachen, RWTH Aachen, Aachen, Germany

Gender and Age Associated Differences of Cerebral Glucose Metabolism in Normal Healthy Populations: Statistical Parametric Mapping Analysis of F-18 FDG Brain Positron Emission Tomography, Seong-Jang Kim1, Sang Heon Song2, Tae-Hong Lee1, 1Department of Nuclear Medicine, PNUH, Busan, Korea, 2Department of Internal Medicine, PNUH, Busan, Korea, 3Department of Radiology, PNUH, Busan, Korea

Functional differentiation of the human insula revealed by ALE meta-analysis, Florian Kurth1, Simon B. Eickhoff1,2,3, Katrin Amunts2,3,4, Karl Zilles1,2,3, C. & O. Vogt Institute of Brain Research, University Düsseldorf, Düsseldorf, Germany, 2Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre Jülich, Jülich, Germany, 3Brain Imaging Center West (BICW), Jülich, Germany, 4Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany

Common cortical fold variants explored using PALS and CIVET surface registration techniques, Oliver Lyttelton1, Donna Dierker2, David Van Essen3, Alan Evans4, 1McConnell Brain Imaging Center, McGill University, Montreal, Canada, 2Department of Anatomy & Neurobiology, School of Medicine, Washington University, St Louis, USA

Reversed sexual dimorphism in hippocampal Grey Matter density in women and men with schizophrenia compared to matched healthy controls using 3 Tesla MRI, Adham Mancini-Marie1,2, José Jimenez1,2, Cheryl Corcoran1, Emmanuel Stip1,2, Melissa Rinaldi1, Tania Pampoulova1,2, Adrianna Mendrek1,2, 1Department of Psychiatry, Centre de Recherche Fernand Seguin, L-H Lafontaine Hospital, University of Montreal, Montreal, Canada, 2Department of Psychiatry, Faculty of Medicine, University of Montreal, Montreal, Canada, 3Center of Prevention and Evaluation, New York State Psychiatric Institute, Columbia University, New York, USA

Brain structure and the female menstrual cycle, Jennifer Perrin, Pierre-Yves Herve, Alain Pitiot, John Totman, Tomas Paus, Brain & Body Centre, University of Nottingham, Nottingham, United Kingdom

Amygdala Structural Deficits in Psychopathy, Yaling Yang Rofman1, Adrian Raine2, Katherine Narr3, Patrick Colletti4, Arthur Toga2, 1Department of Psychology, University of Southern California, Los Angeles, USA, 2Department of Criminology, Psychiatry, and Psychology, University of Pennsylvania, Pennsylvania, USA, 3Laboratory of Neuro Imaging, Department of Neurology, David Geffen School of Medicine at UCLA, Los Angeles, USA, 4Department of Radiology, U.S.C. School of Medicine, Los Angeles, USA

Relationship between body mass index and gray matter volumes in healthy individuals: Cross-sectional and longitudinal analyses, Yasuyuki Takii1, Shigeo Kinomura2, Kazunori Sato1, Ryo Goto3, Ruya Kawashima4, Hiroshi Fukuda5, 1Department of Nuclear Medicine & Radiology, Institute of Development, Aging and Cancer (IDAC), Tohoku University, Sendai, Japan, 2Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan

Tissue Orientation - and thus Structure - Affects T2 Contrast in Ultra High Field MRL, Christopher Wiggins, Valdis Gudmundsdottir, Denis Le Bihan, Vincent Lebon, Myriam Chaumeil, CEA/NeuroSpin, Saclay, France

PHYSIOLOGY, METABOLISM, & NEUROTRANSMISSION

Gender Differences in Age-related Decline of Regional Cerebral Glucose Metabolism, Seong Ae Bang1,2, Sang Soo Cho1,2, Eun Jin Yoon1,2, Eun Ju Lee1,2, Yu Kyeong Kim1,2, Sang Eun Kim1,2, 1Seoul National University College of Medicine, Seoul, South Korea, 2Seoul National University Bundang Hospital, Seoul, South Korea

The post-stimulation undershoot in BOLD fMRI of human brain is not caused by elevated cerebral blood volume, Peter Dechent1, Jürgen Baudewig2, Kai Kallenberg1,2, Andreas Kastrup3, 1Cognitive Neuroimaging Group, Klinik für Psychiatrie, Technische Universität München, München, Germany, 2Munich Re, Munich, Germany, 3Department of Radiology, Technische Universität München, München, Germany

K. Dietmar Merboldt, Jens Frahm, MR-Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 1Department of Neuroradiology, University Medical Center, Göttingen, Germany, 2Department of Neurology, University Medical Center, Göttingen, Germany, 3Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany

Electrophysiological correlates of the brain’s intrinsic large-scale functional architecture, Biyu He, Abraham Snyder, John Zempl, Matthew Smyth, Marcus Raichle, Washington University School of Medicine, St. Louis, USA

Deactivation of the Pregenual Anterior Cingulate Cortex May Predict Increased Hypothalamic Pituitary Adrenal Activation, Najmeh Khalili-Mahani, Jens C. Pruessner, McGill University, Montreal, Canada

Correlations between regional 5-HTT and 5-HT1A receptor availability in healthy subjects, Allison Nugent, Dara Cannon, Paul Carlson, Rebecca Davis, Wayne Drevets, Section on Neuroimaging in Mood and Anxiety Disorders, NIMH, Bethesda, USA, 2Department of Psychiatry, National University of Ireland, Galway, Ireland

Exogenous cortisol administration results in medial temporal hypoactivation in the human brain, Jennifer Robinson, William Lovullo, Sibel Cakir, Jennifer Barrett, Peter Fox, David Glahn, 1Department of Psychiatry, University of Texas Health Science Center, San Antonio, USA, 2Behavioral Sciences Laboratories, Veterans Affairs Medical Center, Oklahoma City, USA, 3Department of Psychiatry, Istanbul University, Istanbul, Turkey, 4Research Imaging Center, University of Texas Health Science Center, San Antonio, USA

Pharmacological modulation during fMRI: muscarinic and nicotinic proportions of the attention network according to Posner, Renate Thielen, Bianca Voss, Martina Reske, Thilo Kellermann, Sarah Halter, Abigail Sheldrick, Katrin Radenbach, Ute Habel, Frank Schneider, NJ Shah, Til Kircher, Centre for Rural & Remote Mental Health, University of Newcastle, Orange, Australia, 2Dept. of Psychiatry & Psychotherapy, University Clinics, Aachen, Germany, 3Dept. of Psychiatry, University of California, San Diego, USA, 4Dept. of Psychiatry, Georg-August-University, Goettingen, Germany, 5Research Centre Juélich, Helmholtzgesellschaft, Juelich, Germany

Normative Blood Flow Values in Adults in the Posterior Fossa Using MR Perfusion, Ali Shaibani, Amir H. Yassar, Jessy Mouannes, Aaron Skolnik, Shahram Rahimi, Aghaie Anahita, Timothy J Carrol, Bernard R Bendok, Matthew T Walker, 1Northwestern University, Feinberg School of Medicine, Chicago, USA, 2Northwestern University, Evanston, USA

SENSORY SYSTEMS
Multisensory & Crossmodal

A hierarchy of visual predictions on auditory speech processing, Luc Arnal, Benjamin Morillon, Anne-Lise Giraud, Inserm U742. Université Pierre et Marie Curie-Paris 6, Paris, France

Flash VEP is reduced in children when preceded by an audio-visual stimulus., Hamish Innes-Brown, Ayla Baratcu, Mohit Shivdasani, Antonio Paolini, Auditory Clinical Neuroscience Unit, Bionic Ear Institute, Melbourne, Australia

Cortical processing of human vs. non-human categories of action sounds, Lauren Engel, Aina Puce, James Lewis, Center for Advanced Imaging, West Virginia University, Morgantown, WV USA, Morgantown, USA

SENSORY SYSTEMS
Pain & Autonomic Function

Perfusion based functional MRI study of thirst and satiation using an arterial spin labeling method, Tharushini Bowdala, Michael Farrell, Michael McKinley, Michael Mathai, Robin McAllen, Paddy Phillips, Derek Denton, Gary Egan, Howard Florey Institute, Florey Neurosciences Institutes, University of Melbourne, Parkville, Australia, 2Flinders University, Southern Adelaide Health Service and Repatriation General Hospital, Bedford Park, Australia, 3Office of the Dean, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Parkville, Australia, 4Baker Heart Research Institute, Alfred Hospital, Prahran, Australia
EVOKE MAGNETIC BRAIN RESPONSES IN TRAUMATIC PERIPHERAL NEUROPATHIC PAIN (before and after a local block), P.J. Theuvenet, B.W. van Dijk, Maria J. Peters, F.L. Lopes da Silva, J.M. van Rees, Andrew C.N. Chen, Dept. of Anesthesiology, Alkmaar Medical Center, Alkmaar, Netherlands, Center for Higher Brain Functions, Capital Medical University, Beijing, China

CORTICAL ACTIVATION DURING THE URGE TO COUGH IN HEALTHY VOLUNTEERS, Lisa Ho, Kevin McGuinness, Douglas R Corfield, Graham Kemp, Sandy Jack, John Earis, Peter Calverley, Neil Roberts, Ashley Woodcock, Jacky Smith, Magnetic Resonance & Image Analysis Research Centre (MARIARC), University of Liverpool, Pembroke Place, Liverpool, United Kingdom, Respiratory Research Group, University of Manchester, Manchester, United Kingdom, Institute of Science & Technology in Medicine, Keele University, Keele, United Kingdom, University Hospital Aintree, Liverpool, United Kingdom, School of Infection and Immunity, University of Liverpool, Liverpool, United Kingdom

AUGMENTED CEREBRAL ACTIVATION BY LUMBAR MECHANICAL STIMULUS IN CHRONIC LOW BACK PAIN PATIENTS – AN fMRI STUDY, Jiro Kurata, Yoshitaka Kobayashi, Mika Kokubun, Takashi Akaishizawa, Miho Sekiguchi, Shin-ichi Konno, Shin-ichi Kikuchi, Department of Anesthesiology, Teikyo University School of Medicine, Itabashi, Japan, Department of Orthopaedic Surgery, Fukushima Medical University School of Medicine, Fukushima, Japan, Department of Radiology, Southern Tohoku General Hospital, Koriyama, Japan

MAPPING BRAIN RESPONSE TO PAIN IN FIBROMYALGIA PATIENTS USING TEMPORAL ANALYSIS OF fMRI, Marina López-Soldà, Jesús Pujol, Hector Ortiz, Joan Carles Vilanova, Benjamin Harrison, Murat Yücel, Carles Sortana-Mas, Narcis Cardoner, Carme Busquets, Rosa Hernández-Ribas, Joan Deus, Institut d’Alta Tecnologia-PRBB, CRC Corporació Sanitària, Barcelona, Spain, Clinical Sciences Department. Faculty of Medicine. University of Barcelona, Barcelona, Spain, Department of Electronic Engineering, Technical University of Catalonia, Barcelona, Spain, Magnetic Resonance, Girona Clinic, Girona, Spain, Melbourne Neuropsychiatry Centre, Department of Psychiatry, Melbourne, Australia, Department of Psychiatry, Bellvitge University Hospital, Barcelona, Spain, Pain Unit, Girona University Hospital Doctor Josep Trueta, Girona, Spain, Department of Clinical and Health Psychology, Autonomous University of Barcelona, Barcelona, Spain

PERCEPTUAL AND ACTIVATION DIFFERENCES BETWEEN EXPERIMENTAL MUSCLE AND CUTANEOUS PAIN, Heather Cameron, Arshad Zaman, Neil Roberts, Turo Nurminski, University of Liverpool, Liverpool, United Kingdom, The Walton Centre for Neurology and Neurosurgery NHS Trust, Liverpool, United Kingdom

EMOTION & MOTIVATION

EMOTIONAL PERCEPTION

REGULATION OF VAGAL TONE BY MEDIAL PREFRONTAL CORTEX VARIES BY EMOTIONAL VALENCE, Richard D. Lane, Kateri McCreie, Eric M. Reiman, Carolyn L. Ford, Julian F. Thayer, Department of Psychiatry, University of Arizona, Tucson, USA, Department of Psychology, Stanford University, Palo Alto, USA, Translational Genomics Research Institute, Phoenix, USA, Banner Alzheimer Institute, Banner Positron Emission Tomography Center, Banner Good Samaritan Medical Center, Phoenix, USA, Department of Psychology, Ohio State University, Columbus, USA
COGNITION & ATTENTION
Attention (auditory, tactile, motor)

Neural mechanisms underlying error correction and spatial realignment during adaptation to optical wedge prisms, Heidi Chapman1, Rammalee Eramudugolla', Mark Stradwick3, Andrea Loftus', Ross Cunningham', Jason Mattingley2, 1Department of Psychology, University of Melbourne, Melbourne, Australia, 2Queensland Brain Institute, University of Queensland, Brisbane, Australia, 3Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia, 4Department of Psychology, University of Western Australia, Perth, Australia

An exploration of the cortical sources of the P3a, P3b and Novelty P3 sub-components of the ERP,, Jacqueline Rushby1,2, Robert Barry1, Thomas Weickert1, 1Brain & Behaviour Research Institute and School of Psychology, University of Wollongong, Wollongong, Australia, 2Prince of Wales Medical Research Institute and School of Psychiatry, University of NSW, Randwick, Australia

Dance floor in the brain, Karsten Specht1,2, Berge Osnes1, Kenneth Hugdahl2,3, 1Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway, 2Clinical Engineering Department, Haukeland University Hospital, Bergen, Norway, 3Division of Psychiatry and Bergen Mental Health Center, Haukeland University Hospital, Bergen, Norway

COGNITION & ATTENTION
Attention (visual)

Effect of endogenous attention on the human brain response to illusory line motion, Tomoaki Ayabe1,2,3, Tomohiro Ishizu1, Tomokazu Urakawa1, Yoshiki Kaneoke1, Ryusuke Kakiy1, 1National Institute for Physiological Science, Okazaki, Japan, 2The Graduate University for Advanced Studies, Okazaki, Japan, 3Keio University, Tokyo, Japan, 4Japan Society for Promotion of Science, Tokyo, Japan

The neurocognitive effects of donepezil on visual short-term memory capacity following 24 h of sleep deprivation, Lisa Chuah1, Annette Chen1, Delise Chong1, Rekan William1, Jiat-Chow Tan1, Martin Pan2, Robert Lai2, Vincenzo Libri1, Michael Chee1, 1Cognitive Neuroscience Lab, Duke-NUS Graduate Medical School, Singapore, Singapore, 2Neurology Centre of Excellence of Drug Discovery, GlaxoSmithKline, Harlow, United Kingdom

Neuroanatomical correlates of performance enhancement by nicotine under conditions of selective attention, divided attention and stimulus detection, Brittia Hahn1, Thomas J. Ross1, Frank A. Wolkenberg1, Diaa M. Shakley2, Marilyn A. Huey2, Elliot A. Stein1, 1National Institute on Drug Abuse, Neuroimaging Research Branch, Baltimore, USA, 2National Institute on Drug Abuse, Chemistry and Drug Metabolism Section, Baltimore, USA

Early attention: local modulations and network changes, Andreas A. Ioannides1, Vahe Poghosyan2, Marothea Voutsidou2, 1RIKEN, Brain Science Institute (BSI), Laboratory for Human Brain Dynamics, Wako-shi, Japan, 2AAM Scientific and Cultural Services Limited, Laboratory for Human Brain Dynamics, Nicosia, Cyprus

Change of ERP features with respect to the task difficulty of visual oddball task, Kyung Hwan Kim, Ja Hyun Kim, Jin Yun, Department of Biomedical Engineering Yonsei University, Wonju, South Korea

Activation in V1 reflects the local saliency of pop-out stimuli, Lucia Melloni1,2, Sara van Leeuwen1,2, Arjen Alink1,2, Notger Müller1,2, 1Cognitive Neurology Unit, Johann Wolfgang Goethe-University, Frankfurt am Main, Germany, 2Brain Imaging Center, Frankfurt am Main, Germany, 3Department of Neurophysiology, Max Planck Institute for Brain Research, Frankfurt am Main, Germany

Conflict resolution in a focused visual attentional task. A MEG study, Carmen Santisteban1,2, Jesus M. Alvarado1,2, Manuel Cortijo1,3, 1Instituto de Estudios Biofuncionales, Madrid, Spain, 2Facultad de Psicologia, Madrid, Spain, 3Facultad de Farmacia, Madrid, Spain
Selectivity of visual attention is relatively preserved following 24h of sleep deprivation. Jiat Chow Tan, Delise Chong, William Rekshan, Michele Veldsman, Annette Chen, Michael Chee, Cognitive Neuroscience Laboratory, Duke-NUS Graduate Medical School, Singapore, Singapore

EMOTION & MOTIVATION
Emotional Learning

The influence of contingency awareness on neural responses, valence ratings and skin conductance responses in a picture-picture conditioning paradigm. Tim Klucken, Rudolf Stark, Dieter Vaitl, Bender Institute of Neuroimaging, Giessen, Germany

COGNITION & ATTENTION
Cognitive Aging

Age-related slowing of task switching is associated with decreased integrity of frontoparietal white matter. Brian Gold1, David Powell2, Liang Xuan2, Greg Jicha3, Charles Smith2,3,1Anatomy and Neurobiology, Lexington, USA, 2Magnetic Resonance Imaging and Spectroscopy Center, Lexington, USA, 3Neurology, Lexington, USA

Functional and structural changes in the ageing human brain: how EEG and fMRI measures complement each other to further our understanding of cognitive aging. M.M. Lorist1,2, N.M. Maurits1,3,1Department of Experimental and Work Psychology, University of Groningen, Groningen, Netherlands, 2BCN-NeuroImaging Center, University Medical Center Groningen, University of Groningen, Groningen, Netherlands

Normal Aging: an Executive Function fMRI Study. David Zhu1,2, Rose Zacks1, Jill Slade2, 1Department of Psychology, Michigan State University, East Lansing, USA, 2Department of Radiology, Michigan State University, East Lansing, USA

COGNITION & ATTENTION
Cognitive Development

DEVELOPMENTAL MATURATION OF NEURAL SYSTEMS SUBSERVING CALCULATION AND ITS ALTERATION IN A CASE OF MATH LEARNING

Disability. Paul Eslinger, Clancy Blair, David Baker, Jianli Wang, Jennifer Realmuho, Qing Yang, Penn State University, Hershey, USA

Differences in Interhemispheric Communication Due to Handedness: a Structural and Functional Study. Sarina Iwabuchi, Ian Kirk, Research Centre for Cognitive Neuroscience, Department of Psychology, University of Auckland, Auckland, New Zealand

Where in the brain is intelligence: a diffusion tensor imaging study on mental retardation subjects. Yonghui Li, Lian Li, Yuan Zhou, Chunshui Yu, Ven Qin, Kuncheng Li, Yong Liu, Ni Shu, Tianz Jiang, National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China

Developmental Changes in Verbal Working Memory Load-Dependency: An fMRI Investigation. Elizabeth O'Hare1,2, Lisa Liu1, Suzanne Houston1, Sarah McCourt1, Susan Bookheimer2,1, Elizabeth Sowell2,1, UCLA Laboratory of Neuro Imaging, Los Angeles, USA, 2UCLA Interdepartmental Neuroscience Program, Los Angeles, USA, 3UCLA Department of Psychiatry and Biobehavioral Sciences, Los Angeles, USA, 4Roosevelt University, Dept. of Psychology, Chicago, USA

COGNITION & ATTENTION
Perception, Imagery, Awareness

Neural correlates of human body perception. Rosanne Aleong1, Tomas Paus1,2, 1Cognitive Neurosciences Unit, Montreal Neurological Institute, Montreal, Canada, 2Brain & Body Centre, University of Nottingham, Nottingham, United Kingdom

Fragmentation of fMRI resting state networks (RSN) in deep non Rapid Eye Movement (REM) sleep as compared to wakefulness as revealed by a group probabilistic ICA analysis in healthy volunteers. Melanie Bolty1,2, Vincent Perlberg1, Guillaume Marrele2, Thanh Dang-Vu2,4,
Neuronal ensemble dynamics during a fast visual recognition task: application of Segmental analysis in an event-related design, Sergey Borisov1,2,3, Sergey Shishkin2, Andrei Medvedev1, Alexander Kaplan2, John VanMeter2, 1 Center for Functional and Molecular Imaging, Georgetown University Medical Center, Washington, USA, 2Dept. of human physiology, Biological faculty, M.V.Lomonosov Moscow State University, Moscow, Russia, 3Brain Image Center and Dept. of Neurology, Johann Wolfgang Goethe University Clinic, Frankfurt am Main, Germany

The processing of different face dimensions depends on attention, but not only: an fMR-adaptation study, Kathrin Cohen Kadosh1, Richard N. A. Henson2, Roi Cohen Kadosh1, Mark H. Johnson1, Frederic Dick3, 1Centre for Brain and Cognitive Development, School of Psychology, Birkbeck College, London, United Kingdom, 3MRC Cognition & Brain Sciences Unit, Cambridge University, Cambridge, United Kingdom, 2Institute of Cognitive Neuroscience & Department of Psychology, University College London, London, United Kingdom, 4Center for Research in Language, University of California, San Diego, USA

Social Modulation of Touch Representation - an fMRI study, valeria gazzola1, michael spezio2, fulvia castelli2, ralph adolphes1, christian keyser3, 1Social Brain Lab, BCN-Neuroimaging Center, University Medical Center Groningen, University of Groningen, groningen, Netherlands, 3Division of Humanities and Social Sciences, Caltech, Pasadena, USA

Neural correlates of bodily self-awareness, Pär Halje, Bigna Lenggenhager, Olaf Blanke, Laboratory of Cognitive Neuroscience, Brain Mind Institute, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland

Local ongoing BOLD fluctuations in hMT+ bias the perception of visual motion, Guido Hesselmann1, Christian Kell1, Evelyn Eger2, Andreas Kleinschmidt1, 1CEA Neurospin, INSERM U562, Gif-sur-Yvette, France, 2University of Frankfurt, Dep. of Neurology, Frankfurt, Germany

Dynamic neural responses during 3-D object structure perception from motion, Sunao Iwaki2, Giorgio Bonmassar2, John W. Belliveau2, 1Nat Inst Adv Indus Sci & Tech, Ikeeda, Japan, 2Mass General Hospital, Boston, USA

COGNITION & ATTENTION
Reasoning & Problem Solving

Voxel-based Lesion Symptom Mapping and White Matter Tractography: Analysis of Regions Mediating Non-verbal Reasoning, Juliana Baldo1, Nina Drontkers1,2,3, And Turken1, 1VA Northern California Health Care System, Martinez, USA, 2University of California, Davis, USA, 3University of California, San Diego, USA

The Effects of Choice on Discourse Processing: An fMRI Study, Eunsoo Cho, Sun-Hee Back, Yoonyung Chung, Sung-il Kim, Korea University, Seoul, Korea

General Intelligence (g) and Intelligence in General (FSIQ) as Manifested in the Brain, Rex E. Jung1,2,3, H. Jeremy Bockholt1, Judith Segall1, Avrind Caprihan1, Shirley Smith1, Robert Chavez2, Ronald A. Yeo3, Richard J. Haier4, 1MIND Research Network, Albuquerque, USA, 2Department of Neurology, University of New Mexico, Albuquerque, USA, 3Department of Psychology, Albuquerque, USA, 4Department of Medicine, University of California, Irvine, USA

Integrating information in conditional reasoning: an EEG study, Jean-Baptiste Van der Henst, Mathilde Bonnefond, CNRS, Laboratoire sur le Langage le Cerveau et la Cognition, Bron, France
COGNITION & ATTENTION
Space, Time, & Number Coding

Navigation in a virtual office landscape; effects of landmarks and obstacles, Carl S Pintzka, Hallvard Evensmoe, Jian Xu, Hamne Lohn, Asta Håberg, Department of Circulation and Medical Imaging, Norwegian University for Science and Technology (NTNU), Trondheim, Norway

Parietal areas involved in format-independent representation of mathematical functions, Anna Wilson, Mike Thomas, Vanessa Lim, Michael Corballis, Department of Psychology, The University of Auckland, Auckland, New Zealand, Department of Mathematics, The University of Auckland, Auckland, New Zealand

DISORDERS OF THE NERVOUS SYSTEM
Alzheimer & Dementia

Patterns of Brain Activation in Persons at Genetic Risk for Alzheimer’s disease: An fMRI Follow-Up, Alison Burggren, Kenji Ogura, Jesse Brown, Gary Small, Susan Bookheimer, UCLA Department of Psychiatry and Biobehavioral Sciences, Los Angeles, USA, UCLA Neuroscience IDP, Los Angeles, USA

The Substantia Innominata in Mild Cognitive Impairment: Implications as a Potential Biomarker, Terence Chiu, Wei Wen, Xiaohua Chen, Perminder Sachdev, Neuropsychiatric Institute, Euroa Centre, Prince of Wales Hospital, Randwick, NSW 2031, Sydney, Australia, School of Psychiatry, University of New South Wales, NSW 2052, Sydney, Australia

Reduced precuneus deactivation during object naming in dementia, Lars Frings, Katharina Dressel, Stefanie Abels, Dorothee Saur, Dorothee Kümmerer, Hansjörg Masi, Cornelius Weiller, Michael Häußler, Freiburg Brain Imaging, University of Freiburg, Freiburg, Germany, Gerontopsychiatry & Neuropsychology Section, Department of Psychiatry & Psychotherapy, University Medical Center, Freiburg, Freiburg, Germany, Department of Neurology, University Medical Center, Freiburg, Freiburg, Germany, Department of Neuroradiology, University Medical Center, Freiburg, Freiburg, Germany, Neurolinguistics Section, RWTH Aachen University, Aachen, Germany, Centre of Geriatrics and Gerontology, Freiburg, Germany

Reverse association between corpus callosum size and interhemispheric efficiency in normal aging and Alzheimer’s disease, Jennyfer Ansado, Sven Joubert, Sylvane Fauvre, Yves Joannette, Centre de Recherche, IUGM & Faculté de médecine, Université de Montréal, Montréal, Canada, Laboratoire de Psychologie Expérimentale et Quantitative, Université Nice-Sophia Antipolis, Nice, France, Département de psychologie et CERNEC, Montréal, Canada

Volumetric reduction of anterior medial temporal lobe structures precedes amnestic mild cognitive impairment, Sarah Martin, Charles Smith, Fred Schmitt, Brian Gold, Department of Anatomy and Neurobiology, Lexington, USA, Department of Neurology, Lexington, USA, Department of Psychiatry, Lexington, USA, Alzheimer's Disease Center and Sanders-Brown Center on Aging, Lexington, USA, Magnetic Resonance Imaging and Spectroscopy Center, Lexington, USA

Changes in serotonin transporter density in Alzheimer’s disease, Yasuomi Ouchi, Etsuji Yoshikawa, Masami Futatsubashi, Toshihiko Kannō, Genichi Sugihara, Kazuhiko Nakamura, Yasuhiro Magata, Molecular Imaging Frontier Res Ctr, Hamamatsu University School of Medicine, Hamamatsu, Japan, Hamamatsu Photonics KK, Hamamatsu, Japan, Hamamatsu Medical Ctr, Hamamatsu, Japan, Psychiatry, Hamamatsu University School of Medicine, Hamamatsu, Japan

Cortical Thickness Mediates Relationships between Lesion Area and Verbal Working Memory Performance in Multiple Sclerosis, Lawrence Sweed, Denise Cote, Stephen Rao, Emily Tritschuk, Beth Jerkes, Richard Mulligan, James Paskavitz, Warren Alpert Medical School of Brown University, Providence, USA, Butler Hospital, Providence, USA, Cleveland Clinic, Cleveland, USA, Northwestern University, Chicago, USA, Perceptive Informatics, Waltham, USA
DISORDERS OF THE NERVOUS SYSTEM
Mood & Anxiety Disorders

Turboprop-DTI Reveals White Matter Abnormalities in Social Anxiety Disorder., Anton Orlicenko¹, K. Luan Phan², Huling Peng³, Emil F. Coccaro², Konstantinos Arfanakis². ¹Department of Electrical and Computer Engineering, Illinois Institute of Technology, Chicago, USA, ²Department of Psychiatry, University of Michigan, Ann Arbor, USA, ³Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, USA, ⁴Department of Psychiatry, University of Chicago, Chicago, USA

Magnetic resonance volumetric analysis of brain regions in body dysmorphic disorder, Jamie Feunem², Jennifer Townsend³, Alexander Bystritsky¹, Malin McKinley¹, Susan Bookheimer⁵. ¹UCLA Semel Institute for Neuroscience and Human Behavior, Los Angeles, USA, ²UCLA Center for Cognitive Neuroscience, Los Angeles, USA

Evidence of dysfunctional pain inhibition in Fibromyalgia reflected in rACC during provoked pain, Karin Jensen¹, Eva Kosek¹, Frank Petzke¹, Peter Fransson¹, Hanke Marcus¹, Steven C R Williams², Serena Carvillé³, Ernest Choy⁴, Yves Mainguy⁴, Richard Gracey⁴, Martin Ingvar¹, ¹Karolinska Institute, Stockholm, Sweden, ²University hospital of Cologne, Cologne, Germany, ³Kings College, London, United Kingdom, ⁴Pierre Fabre Médicament, Labège, France, ⁵University of Michigan, Ann Arbor, USA

Response to task failure is modulated by past depression and rumination, Emma Pegg, Shane McRae, Bill Deakin, Ian Anderson, Rebecca Elliott, Neuroscience and Psychiatry Unit, University of Manchester, Manchester, United Kingdom

Aberrant intrinsic functional organization in medication-naïve patients with first depressive episode revealed by resting-state fMRI, Yuan Zhou¹,², Chaishui Yu³, Yong Liu³, Ming Song², Kuncheng Li¹, Tianzi Jiang¹, ¹Center for Social and Economic Behavior, Institute of Psychology, Chinese Academy of Sciences, Beijing 100101, P. R. China, Beijing, China, ²National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing 100080, P. R. China, Beijing, China, ³Department of Radiology, Xi’anwu Hospital of Capital University of Medical Science, Beijing 100053, P. R. China, Beijing, China

DISORDERS OF THE NERVOUS SYSTEM
Parkinson’s Disease & Other Basal Ganglia

SPM Analysis of F-18 FDG PET in Parkinson’s Syndrome Patients with Urinary Dysfunction, Kyung Hoon Hwang¹, Nam-Bum Kim³, Min-Kyoung Lee³, Wonsick Choe¹. ¹Gachon Univ Gil Hospital, Incheon, South Korea, ²Gachon Univ Neuroscience Research Institute, Incheon, South Korea

Effects of Subthalamic Nucleus Deep Brain Stimulation on Parkinsonian Resting Tremor: An MEG Study, Hame Park¹,², June Sic Kim¹,², Sun Ha Paik³, Beom Seok Jeon¹,², Chun Kee Chung¹,², Jee-Young Lee¹. ¹MEG Center, Seoul National University Hospital, Seoul, Korea, ²Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, ³Department of Neurology, Seoul National University College of Medicine, Seoul, Korea, ⁴Interdisciplinary Program in Cognitive Science, Seoul National University, Seoul, Korea

Evidence for cortical and subcortical alterations in Restless Legs Syndrome: the pathoanatomy of RLS revisited, Alexander Unrath³, Hans-Peter Mueller³, Freimuth Juengling², Jan Kassubek¹. ¹University of Ulm, Department of Neurology, Ulm, Germany, ²St. Clara Spital, Department of Nuclear Medicine, Basel, Switzerland

DISORDERS OF THE NERVOUS SYSTEM
Schizophrenia

GREY MATTER VOLUME INCREASE AFTER EARLY ANTIPSYCHOTIC TREATMENT IN DRUG NAIVE, FIRST EPISODE SCHIZOPHRENIC COHORT, Yi Deng¹, Grußme McAlonan¹, Hasan Merali¹, Charlton Cheung¹, Vinci Cheung¹, Eric Chen¹, Siew Chua¹. ¹Department of Psychiatry, The University of Hong Kong, Hong Kong, Hong Kong, ²Harvard Medical School, Harvard University, Boston, USA
Trial-by-trial analysis of combined EEG and fMRI shows dynamic of cognitive function in healthy controls and patients with schizophrenia, Ana Diukova, Pavan Malikarjun, Dorothee Auer, Peter Liddle, Institute of Neuroscience, University of Nottingham, Nottingham, United Kingdom

Multimodal neuroimaging of executive-emotional processing in adolescents at genetic risk for schizophrenia, Sarah Hart, Guido Gerg, Diana Perkins, Joseph Blocher, Joshua Bizzell, Justin Woodlief, Hongbin Gu, Aysemil Belger, Neurodevelopmental Disorders Research Center, University of North Carolina at Chapel Hill, Chapel Hill, USA, Department of Psychiatry, University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, USA, Duke-UNC Brain Imaging and Analysis Center, Duke University Medical Center, Durham, USA, Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, USA

Dysfunctional modulation of emotional interference in the medial prefrontal cortex in schizophrenia, Il Ho Park, Hae-Jeong Park, Ji-Won Chun, Eung Yeop Kim, Jae-Jin Kim, Department of Psychiatry, Yonsei University College of Medicine, Seoul, South Korea, Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, South Korea, Department of Diagnostic Radiology, Yonsei University College of Medicine, Seoul, South Korea

EFFECT OF EARLY ANTIPSYCHOTIC TREATMENT ON CAUDATE AND AMYGDALA VOLUME IN NEUROLEPTIC NAIVE, NEWLY DIAGNOSED SCHIZOPHRENIA, Meikei Leung, Siew Chua, Hasan Merali, Yi Deng, Charlon Cheung, Vinci Cheung, Eric Chen, Gréatine McAlonan, Department of Psychiatry, The University of Hong Kong, Hong Kong, Hong Kong, Harvard Medical School, Harvard University, Boston, USA

Cortical and Subcortical Reward Prediction Error Learning in Psychosis, Graham Murray, Phil Corlett, Luke Clark, Mathias Pessiglione, Ed Bullmore, Peter Jones, Garry Honey, Andy Blackwell, Trevor Robbins, Paul Flethcer, Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, CAMEO Early Psychosis Service, Cambridge, United Kingdom, Behavioural and Clinical Neuroscience Institute, Cambridge, United Kingdom, Pitie-Salpetriere Hospital, Paris, France

Cerebellar grey and white matter changes associated with cannabis use in schizophrenia and in healthy controls, Nadia Solowij, Colleen Respondek, Sarah Whittle, Evelyn Lindsay, Dan Lubman, Murat Yücel, School of Psychology and Illawarra Institute for Mental Health, University of Wollongong, Wollongong, NSW, Australia, Schizophrenia Research Institute, Sydney, NSW, Australia, Melbourne Neuropsychiatry Centre, Department of Psychiatry, University of Melbourne and Melbourne Health, Melbourne, VIC, Australia, ORYGEN Research Centre, Melbourne, VIC, Australia

T$_1$ relaxometry detects temporal lobe pathology in people at ultra-high risk for psychosis, Damien Kennedy, Lisa Phillips, Pat McGorry, Alison Yang, Marc Seal, Dennis Velakoulis, Christos Pantelis, Stephen Wood, Melbourne Neuropsychiatry Centre, University of Melbourne, Melbourne, Australia, Department of Psychology, University of Melbourne, Melbourne, Australia, ORYGEN Research Centre, University of Melbourne, Melbourne, Australia

EMOTION & MOTIVATION

Reward

Cue reactivity in abstinent problem gamblers and nicotine dependent persons: an fMRI study, Anna Goudriaan, Michiel De Ruiter, Dick Veltman, Wim van den Brink, University of Amsterdam, Department of Psychiatry, Academic Medical Center, Amsterdam, Netherlands, Department of Psychiatry, VUMC, Vrije Universiteit Amsterdam, Amsterdam, Netherlands, Department of Clinical Neuropsychology, Vrije Universiteit Amsterdam, Amsterdam, Netherlands, Netherlands Cancer Institute, NIKI, Amsterdam, Netherlands

Incentive-induced performance decrements in a reward pursuit task, Dean Mobbs, Demis Hassabis, Ben Seymour, Jennifer Marchant, Nikolaus Weiskopf, Ray Dolan, Chris Frith, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, MRC-Cognition and Brain Sciences Unit, Cambridge, United Kingdom, Niels Bohr project “Interacting Minds”, CFIN, University of Aarhus, Aarhus, Denmark
Modulation of the Orbitofrontal Cortex as a Function of Expertise, Martin Skov1, Ulrich Kirk2, Mark S. Christensen1,3, Niels Nygaard4, 1Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Copenhagen, Denmark, 2Anatomy Department, Wellcome Department of Imaging Neuroscience, University, London, United Kingdom, 3Institute for Physical Exercise and Sport Science, University of Copenhagen, Copenhagen, Denmark, 4Institute for Architecture and Aesthetics, Aarhus School of Architecture, Aarhus, Denmark

Aberrant reward network connectivity in obese women in response to high- and low-calorie food images, Luke Stoeckel1, Jean Kim1, Rosalyn Weller1, James Cox1, Barry Horwitz2, 1Department of Psychology, University of Alabama at Birmingham (UAB), Birmingham, USA, 2Brain Imaging and Modeling Section, NIDCD, NIH, Bethesda, USA

Cue-reactivity and subjective craving in abstinent opiate-dependent males: an fMRI study., Fleur Zijlstra1,2,3, Dick Veltman1, Jan Booi1, Wim van den Brink1, Ingmar H.A. Franken1, 1Amsterdam Institute for Addiction Research, Amsterdam, Netherlands, 2Department of Psychiatry, Academic Medical Centre, Amsterdam, Netherlands, 3Department of Nuclear Medicine, Academic Medical Centre, Amsterdam, Netherlands, 4Institute of Psychology, Erasmus University Rotterdam, Rotterdam, Netherlands

EMOTION & MOTIVATION

Social Behavior

In the blink of an eye: Similar N170 but different late ERPs while viewing blinks vs. meaningful eye movements, Julie Brefczynski-Lewis, Michael Berrebi, Marie McNeely, Aina Puce, Center for Advanced Imaging, West Virginia University, Morgantown, USA

Gender differences in the neural correlates of empathic behavior, Birgit Derntl, Andreas Finkelmeyer, Thilo Kellermann, Timur Toygar, Frank Schneider, Irina Falkenberg, Ute Habel, Department of Psychiatry and Psychotherapy, University Aachen RWTH, Aachen, Germany

Moral emotion to usual behaviors – a NIRS study —, Hirotoshi HIRAISHI, Primate Research Institute, Kyoto Univ, Niyama, Aichi, Japan

Between physical and social cognition: An ERP study, Yue-Jia Luo1,2, Junfeng Guo3, 1State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 2Key Laboratory of Mental Health, Institute of Psychology, The Chinese Academy of Sciences, Beijing, China

Differences of Gonadectomy on Social Behavior, Cognition, and Amygdala Volume in the Rhesus Macaque, A. Brent Richards1, Sarah Ward1, Debra Rothmond2, Stephanie Schmitz1, Rhosel Lenroot3, Jay Giedd1, Pam Noble2, Ruth Woodward2, James Winslow1, Cynthia Shannon Weickert3, 1MiNDS Unit, National Institute of Mental Health, Bethesda, USA, 2Neuroscience Institute of Schizophrenia and Allied Disorders, University of New South Wales, Randwick, Australia, 3Nonhuman Primate Core Facility, National Institute of Mental Health, Poolesville, USA, 4Child Psychiatry Branch, National Institute of Mental Health, Bethesda, USA, 5Research Animal Management Branch, National Institute of Child Health and Human Development, Bethesda, USA

GENETICS

VOLUMETRIC DIFFERENCES IN BRAIN STRUCTURE IN IDENTICAL AND FRATERNAL TWINS COMPUTED USING RIEMANNIAN TENSOR-BASED MORPHOMETRY, Caroline Brun1, Natasha Lepore1, Xavier Pennec2, Yi-Yu Chou1, Agatha D. Lee1, Marina Barysheva1, Katie McMahan1, Greig de Zubicaray1, Margie Wright1, Arthur W. Toga2, Paul M. Thompson3, 1Laboratory of Neuro Imaging, UCLA, Los Angeles, USA, 2Aiseleios Research Project, INRIA, Sophia-Antipolis, France, 3Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia, 4Genetic Epidemiology Lab, Queensland Institute of Medical Research, Brisbane, Australia

BDNF impacts on brain structure of patients with schizophrenia, Kempf Lucas1,2, Robyn Hone1, Bhaskar Kolachand1, Kolachana Mattay3, Andreas Meyer-Lindenberg1, Daniel Weinberger1, 1GCAP/NIMH/NIH, Bethesda, USA, 2KUMC, Kansas City, USA, 3Central Institute of Mental Health, Mannheim, Germany
BDNF val66met polymorphism and short-term, experience-dependent plasticity in motor cortex of elderly human subjects, Stephanie McHughen\(^1\), Kristin Pearson Fuhrhop\(^1\), Jeffrey Klein\(^1\), Erin Klein\(^2\), Vincent Proaccio\(^2\), Steven Cramer\(^1\), 1Dept. of Anatomy & Neurobiology, University of California, Irvine, Irvine, USA; 2Dept. of Neurology, University of California, Irvine, Irvine, USA; 3Dept. of Pediatrics, Center for Molecular and Mitochondrial Medicine and Genetics, University of California, Irvine, Irvine, USA; 4Dept. of Neuroscience, University of Florida, Gainesville, USA

Gene Expression Mapping in Adult Human Cortex: An Open Access Resource, Elaine Shen\(^1\), Chinh Dang\(^1\), Ed Lein\(^2\), Michael Hawrylycz\(^2\), John Hohmann\(^3\), Thomas Hysé\(^4\), Andreas Jeromin\(^5\), Susan Sunkin\(^5\), Paul Wohounkta\(^6\), Hongkai Zeng\(^7\), Joel Kleiman\(^8\), Allan Jones\(^1\), 1Allen Institute for Brain Science, Seattle, USA, 2Section on Neuropathology, Clinical Brain Disorders Branch (CBDB), Genes Cognition and Psychosis Program (GCAP), Intramural Research Program (IRP), NIMH, NIH, Bethesda, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM

EEG

EEG Default Mode Network: Spectral Field Power Mapping. Andrew CN Chen*\(^1\), Weijia Feng, Huixuan Zhao, Yanlin Yin, Peipei Wang, Center for Higher Brain Functions, Capital Medical University, Beijing, China

MACROSCOPIC STATE TRANSITIONS IN ELECTROENCEPHALOGRAPHIC DYNAMICS, David Liley, Mathew Dafilis, Brett Foster, Peter Cadusch, Brain Dynamics Group, Brain Sciences Institute, Swinburne University of Technology, Hawthorn, Victoria 3122, Australia

Solving the EEG problems without the individual’s MRI using a database of images, Pedro Valdés-Hernández\(^1\), Nicolaï von-Ellenrieder\(^2\), Alejandro Ojeda-Gonzalez\(^3\), Yasser Almán-Gómez\(^4\), Silvia Kotchet\(^5\), Carlos Muravchik\(^6\), Pedro Valdés-Sosa\(^7\), 1Cuban Neuroscience Center, Havana, Cuba; 2University of La Plata, La Plata, Argentina; 3University of Buenos Aires, Buenos Aires, Argentina

IMAGING TECHNIQUES & CONTRAST MECHANISM

Functional MRI

Real Time Software for Monitoring MRI Scanning Operation, Jerzy Bodurka\(^1\), Peter Bandettini\(^1\), 1Functional MRI Facility, national Institute of Mental Health, NIH, Bethesda, USA; 2Section on Functional Imaging Method, National Institute of Mental Health, NIH, Bethesda, USA

Comparison of the phase encoded and the multifoil mapping of the primary visual cortex, Bordeir Cecile\(^1\), Doiat Michel\(^2\), Vasseur Flor\(^3\), James Andrew\(^4\), 1ARC Centre of Excellence in Vision Science and Research School of Biological Sciences, Australian National University, Canberra, Australia; 2INSERM, U836, Grenoble, F-38043, Grenoble, France; 3Joseph Fourier University, Institute of Neurosciences, Grenoble, France

Optimizing the detection of fMRI activation in white matter using asymmetric spin echo spiral, Jodie Gavrylyk\(^1\), Kimberly Brewer\(^2\), Steven Beyea\(^2\), Ryan D’Arcy\(^2\), 1National Research Council, Institute for Biodiagnostics, Halifax, Canada; 2Dalhousie University, Halifax, Canada

Quantitative comparison of online and offline motion compensation methods, Oliver Hinds\(^1\), Susan Gabrieli\(^2\), Julie Yool\(^1\), John Gabrieli\(^2\), Christina Triantafyllou\(^3\), 1McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA; 2Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA; 3Athinoula A. Martinos Center, Department of Radiology, MGH, Harvard Medical School, Charlestown, USA

The Neuroimaging Informatics Tools and Resources Clearinghouse (NITRC), Robert Buccigrossi\(^1\), Mark Ellisman\(^2\), Jeff Grether\(^2\), Christian Haselgrove\(^3\), David Kennedy\(^4\), Maryann Martone\(^5\), Nina Preuss\(^6\), Maureen Sullivan\(^7\), Keith Wagner\(^8\), 1Turner Consulting Group, Inc, Washington, USA; 2University of California, San Diego, USA; 3Neuromorphometrics, Inc, Somerville, USA; 4David N. Kennedy, Consulting, Belmont, USA
Distortion-Free High-Resolution Functional MRI for Neurosciences Using Passband Balanced-SSFP at 3T, Jin Hyung Lee, Serge Dumoulin, Gary Glover, Brian Wandell, Dwight Nishimura, John Pauly, Stanford University, Stanford, USA

BOLD signal dropout in EPI: recovery, Guoxiang Liu1,2, Seiji Ogawa2, 1National Institute of Information and Communications Technology, Kobe, Japan, 2Ogawa Laboratories for Brain Function Research, Tokyo, Japan

Detecting fMRI activation in white matter: Interhemispheric transfer of functionally lateralized stimuli across the corpus callosum, Erin Mazurrolle1,2, Ryan D’Arcoy1,2, Xiaowei Song1,4, Steven Belyea1,2,3, 1Institute for Biodiagnostics (Atlantic), National Research Council, Halifax, Canada, 2Department of Radiology, Dalhousie University, Halifax, Canada, 3Department of Surgery, Dalhousie University, Halifax, Canada, 4Department of Medicine, Dalhousie University, Halifax, Canada, 5Department of Physics, Dalhousie University, Halifax, Canada

Fast whole brain fMRI acquisition above heart-rate nyquist frequency: applications of very fast imaging using PRESTO-2DSENSE, Sebastiaan F.W. Nегgers1, Martijn P. van den Heuvel1, René C.W. Mandl1, Erno J. Hermans1,3, Christian F. Beckmann4, Hilleke E. Huishoff Pol1, 1Dept. of Psychiatry, Rudolf Magnus Institute for Neuroscience, University Medical Center, Utrecht, Netherlands, 2F.C. Donders Centre at the Radboud University Nijmegen, Nijmegen, Netherlands, 3Department of Radiology at the Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, 4Clinical Neuroscience Department, Division of Neuroscience and Mental Health, Imperial College London, London, United Kingdom

Optimized EPI for fMRI studies using a Common Gradient Template to compensate local Susceptibility-Induced Signal Loss: A pilot Study, Jochen Rick1, Simon Maier2, Oliver Täschler2, Maxim Zaitsev1, Oliver Speck2, 1Dept. of Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany, 2Dept. of Psychiatry and Psychotherapy, University Hospital Freiburg, Freiburg, Germany, 3Dept. of Neurology, University Hospital Freiburg, Freiburg, Germany, 4Dept. of Biomedical Magnetic Resonance, Otto-von-Guericke University, Magdeburg, Germany

Improvements of prospective motion compensation using real-time shim correction, Daniel Splitthoff, Juergen Hemig, Maxim Zaitsev, Dept. of Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany

Feasibility of k-t BLAST for functional fMRI at (ultra-) high magnetic field strengths, Jane Utting1,2, Sebastian Kozerke2, René Vohn1, Ralph Schnittker2, Roger Luechinger2, Thoralf Niendorf3, 1IZKF-BIOMAT, Medical Faculty, RWTH-Aachen, Aachen, Germany, 2Institute for Biomedical Engineering, University and ETH, Zuerich, Switzerland, 3Experimental MRI, Radiology, Medical Faculty, RWTH-Aachen, Aachen, Germany

Integration of motion correction into the GLM for fMRI analysis of moving subjects, Alle Meije Wink1,2, Shuzhou Jiang1,2, Jo Hajnal1,2, 1Imaging Sciences Department, Imperial College, Robert Steiner MR Unit, Hammersmith Hospital, London, United Kingdom, 2MRC Clinical Sciences Centre, Hammersmith Campus, London, United Kingdom

Nonlinear Registration across Subjects in Functional Connectivity Analysis at a Group Level, Hong Gu, Xinjuan Geng, Elliot Stein, Yihong Yang, Neuroimaging Research Branch, National Institute on Drug Abuse, NIH, Baltimore, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM

Fast retinotopic mapping of visual fields using MEG, Benoit Cottereau1,2, Alexandre Gramfort1, Jean Lorenceau1, Bertrand Thirion1, Maureen Clerc2, Sylvain Baillet2, 1CNRS UPR 640, Paris, France, 2ESME-Sudria, Ivry, France, 3Odyssée Laboratory-ENPC/ENS/INRIA, Sophia-Antipolis, France, 4INRIA Futur,Neurospin, Saclay, France

Comparing MEG source localization algorithms with fMRI statistical maps and neuroanatomy, Johanna Zumer1,2, Elizabeth Dishbrow1,2, Hagai Attias2, Matt Brookes3, Peter Morris4, Srikanth Nagarajan5, 1University of Nottingham, Nottingham, United Kingdom, 2University of California, San Francisco, San Francisco, USA, 3University of California, Davis, Davis, USA, 4Golden Metallic, Inc, San Francisco, USA
LANGUAGE

Language Acquisition

Fast learning of action words evidenced by MEG, Stefanie Enríquez-Gepbert1, Pieën Zwitterlood2, Markus Junghöfer3, Christo Pantev1, Christian Dobel1, 1Institute for Biomagnetism and Biosignalanalysis, University of Münster, Münster, Germany, 2Department of Psychology, University of Münster, Münster, Germany

Dissociate Effects of Age-of-Acquisition from Word Frequency Effects in Picture Naming Using Functional MRI, WEN-JUI KUO, DAISY HUNG, OVID TZENG, Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan

EEG signatures of the BOLD-defined language network in resting state, Marcel CM Bastaansens1,2, Tom Eischele3, René Scheeringa1, 1F.C. Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands, 2Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands, 3Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway

LANGUAGE

Production

Correct and erroneous naming responses in healthy subjects, Stefanie Abel1, Katharina Dressel1, Ralph Schnitker2, Dorothée Kümmerer2, Dorothée Saur1, Cornelius Weiller1, Walter Huber1, 1Neurolinguistics at the Department of Neurology, RWTH Aachen University, Aachen, Germany, 2Interdisciplinary Center for Clinical Research - Neurofunctional Imaging Lab, RWTH Aachen University, Aachen, Germany, 3Department of Neurology, Neurocenter, University of Freiburg, Freiburg, Germany

The involvement of cytoarchitectonic BA 44 and BA 45 in different types of verbal fluency, Stefan Hein1,2, Simon B. Eickhoff2,3, Katrin Amunts1,2,3, 1Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre Jülich, Jülich, Germany, 2Brain Imaging Center West (BICW), Jülich, Germany, 3Dept. of Psychiatry and Psychotherapy, RWTH Aachen, Aachen, Germany

Regional cerebral blood flow intercorrelations during speech production by adults who stutter, Roger Ingham1,2, Janis Ingham2, Frank Zamarriga2, Peter Fox2, 1UC Santa Barbara, Santa Barbara, USA, 2UT Health Science Center in San Antonio, San Antonio, USA

Neural correlates of lexical semantic recovery after treatment in aphasia, Swathi Kiran1, Rajani Sebastian1, Padmadevan Chettiar1, Micheal Deveau2, 1University of Texas at Austin, Austin, USA, 2UT Southwestern, Dallas, USA

White matter correlates of lexical retrieval in elderly adults, Elena Rykhlevskaya1, Manuella Clark-Cotton2,3, Avron Spiro IIIP,5, Loraine Obler2,3,5, Martin Albert2,3, 1Stanford Cognitive and Systems Neuroscience Laboratory, Stanford, CA, 2Medical Research Service, VA Boston Healthcare System, Boston, MA, 3Department of Neurology, Boston University School of Medicine, Boston, MA, 4Normative Aging Study and MAVERIC, VA Boston Healthcare System, Boston, MA, 5Department of Epidemiology, Boston University School of Public Health, 6Program in Speech-Language-Hearing Sciences, CUNY Graduate Center, New York, NY

MEMORY & LEARNING

Plasticity (normal & following pathology)

Cerebellum and Cognition: Plasticity during the automatization of rule-based information processing, Joshua Balsters, Narender Ramnani, Dept Psychology, Royal Holloway University of London, LONDON, United Kingdom

Dependence of hemispheric dominance on fMRI normalization and region of interest procedures, Alexander Geißler, Thomas Steinkelelzer, Jakob Rath, Nicolaus Klinger, Roland Beisteiner, Study Group Clinical fMRI, MR Center of excellence, Department of Neurology, Medical University of Vienna, Vienna, Austria

Learning rules changes connectivity between the prefrontal cortex and cerebellum, Yuri Saalmann*, Joshua Balsters1, Michael Wright*, Narender Ramnani1, 1Department of Psychology, Royal Holloway, University of London, Egham, United Kingdom, 2Department of Psychology, Brunel University, Uxbridge, United Kingdom
MEMORY & LEARNING

Working Memory

Perceptual memory representations studied in delayed discrimination of spatial frequency - behavioral and fMRI evidence for high-fidelity visual stores in early visual cortex, Oliver Baumann1,2, Tor Endestad1, Svein Magussen1, Mark Greenlee2, 1University of Queensland, Brisbane, Australia, 2University of Regensburg, Regensburg, Germany, 3University of Oslo, Oslo, Norway

Inefficient recruitment of working memory updating networks in post-traumatic stress disorder, Richard Clark1, Kathryn Moores1, Alexander McFarlane2, Flinders University, Adelaide, Australia, 2Adelaide University, Adelaide, Australia

Increase of Alpha Coherence in a Working Memory Network: An MEG Study, Hyojin Park1,2, June Sei Kim2, Chun-Kee Chung2, Dong Soo Lee1,2, Eunjoo Kang1, 1Interdisciplinary Program in Cognitive Science, Seoul National University, Seoul, South Korea, 2Department of Nuclear Medicine, Seoul National University Hospital, Seoul, South Korea

Prefrontal cortex and basal ganglia control access to working memory, Fiona McNab, Torkel Klingberg, Stockholm Brain Institute, Karolinska Institutet, Stockholm, Sweden

A TMS “ping” during fMRI reveals physiological consequences of functional connectivity and dissociates multivariate from univariate maps of working memory storage, Bradley Postle1,2, Eva Feredoes1,2, Todd Woodward3, Giulio Tononi1, 1Univ. of Wisconsin Psychology, Madison, USA, 2Univ. of Wisconsin Psychiatry, Madison, USA, 3Univ. of British Columbia Psychiatry, Vancouver, Canada

MODELING & ANALYSIS

Bayesian Modeling

Observing the Observer: a nested Bayesian approach to studies of learning and decision making, Jean Daunizeau1, Mathias Pessiglione1, Klaus Stephan1, Hanneke Den Ouden1, Karl Friston1, 1Welcome Trust Centre for Neuroimaging, London, United Kingdom, 2INSERM U610, Paris, France

Combined spatial and non-spatial Gaussian process prior for fMRI analysis, Adrian Groves, Mark Woolrich, FMRIB Centre, Oxford, United Kingdom

The choice of forward model in MEG localisation, Richard Henson1, Jeremie Mattout2, Karl Friston1, 1MRC CBU, Cambridge, United Kingdom, 2Brain Dynamics and Cognition, U821 INSERM, Lyon, France, 3FIL, London, United Kingdom

How Should Anatomical Connectivity Be Defined?, Enrico Kaden, Alfred Anwander, Thomas R. Knösche, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

A Unified Bayesian Framework for MEG/EEG Source Imaging, David Wipf1, Hagai Attias2, Kensuke Sekhar1, Srikantan Nagarajan1, 1UCSF, San Francisco, USA, 2Golden Metallic, San Francisco, USA, 3Tokyo Metropolitan University, Tokyo, Japan

11:30 – 12:30 Corryong Hall (Level 2)

MODELING & ANALYSIS

Classification & Predictive Modeling

A multivariate approach to fMRI activation detection using pattern recognition and information entropy on tactile data, Malin C.B. Åberg, Line Löken, Johan Wessberg, Department of neuroscience and physiology, Göteborg University, Göteborg, Sweden

Exploiting EEG inverse problem in an asynchronous BCI experiment, Michel Besserve, Jacques Martinerie, Line Garnero, Laboratoire de Neurosciences Cognitives et Imagerie Cérébrale, CNRS UPR 640 LENA & UPMC Univ Paris 06, Paris, France
Classification of Brain Magnetic Resonance Images for Bipolar Disorders Based on Voxel-based Morphometry and Bayesian Theorem, Yong-Sheng Chen¹, Li-Fen Chen²,³, Ya-Ting Chang¹, Yung-Tien Huang¹, Jen-Chuen Hsieh¹,², Tzu-Chen Yeh¹,²,¹ Department of Computer Science, National Chiao Tung University, Hsinchu, Taiwan, ²Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan, ³Integrated Brain Research Laboratory, Taipei Veterans General Hospital, Taipei, Taiwan A porous elastic BOLD hemodynamic model with spatiotemporal response, Peter Drysdale¹,², Jacqueline Huber¹,³, Peter Robinson¹,²,³,¹ School of Physics, University of Sydney, Sydney, Australia, ²Brain Dynamics Center, Westmead Millennium Institute, Westmead Hospital and Western Clinical School of University of Sydney, Westmead, Australia, ³Faculty of Medicine, University of Sydney, Sydney, Australia Classifying brain states based on regional homogeneity of fMRI data, Bin Ly¹, Huiguang He¹, Zhiquang Zhang², Wei Huang¹, Meng Li¹, Guangming Lu¹, ¹Institute of Automation, Chinese Academy of Sciences, Beijing, China, ²Department of Medical Imaging, Nanjing Jinling Hospital, Nanjing, China Classification and control strategies of epileptic seizures via bifurcation analysis, Jong Won Kim¹,², James Roberts¹,², Peter Robinson¹,²,³,¹ School of Physics, The University of Sydney, Sydney, Australia, ²Brain Dynamics Center, Westmead Hospital, Westmead, Australia, ³Faculty of Medicine, The University of Sydney, Sydney, Australia Mutual Information-Based Feature Selection enhances fMRI-based brain activity classification, Vincent Michel¹, Cécilia Damón¹, Alan Tucholka², Merlin Keller¹, Bertrand Thirion¹, ¹Inria Saclay, Saclay, France, ²CEA-Neurospin, Gif sur Yvette, France Mapping Neuronal Fibers Through Partial Volume Voxels, Ofir Pasternak¹, Nir Sochen¹, Nathan Intrator¹, Yaniv Assaf¹,²,¹ Tel Aviv university, Tel Aviv, Israel, ²Functional Brain Imaging Unit, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel A model of realistic conducting volume including or excluding brain lesional area, Paulette Giad¹, Valerio Gabriele¹, Skrap Mirran¹, Budai Riccardo¹, ¹Department of Neurology and DPMSC-Azienda Ospedaliero-Universitaria, S. Maria della Misericordia, Udine, Italy, ²Department of Neurosurgery - Azienda Ospedaliero-Universitaria, S. Maria della Misericordia, Udine, Italy Co-Clustering Approach to Neural Representation of Objects, Svetlana Shinkareva, Julie Conder, University of South Carolina, Columbia, USA A Comparison of Feature Selection Strategies for Classification of fMRI Activation Patterns, Giancarlo Valente, Federico De Martino, Rainer Goebel, Elia Formisano, University of Maastricht, Department of Cognitive Neuroscience, Maastricht, Netherlands MODELING & ANALYSIS Motion Correction/Spatial Normalization, Atlas Construction EVALUATION OF DTI IMAGE ANALYSIS USING NONLINEAR SPATIAL NORMALIZATION AND TISSUE-SPECIFIC, SMOOTHING-COMPENSATED VOXEL BASED ANALYSIS: APPLICATION IN AUTISM, Andrew Alexander¹, Jee Eun Lee¹, Babak Ardekani², Moo Chang¹, Erin Bigler³, Janet Lainhart¹, ¹University of Wisconsin, Madison, USA, ²Nathan Kline Institute, Orangeburg, USA, ³Brigham Young University, Provo, USA, ¹University of Utah, Salt Lake City, USA Improving voxel-based morphometry with diffeomorphic non-linear registration by DARTEL toolbox: conventional SPM normalization vs DARTEL Normalization, Carlton CHU, Geoffrey Tan, John Ashburner, Wellcome Trust Centre for Neuroimaging(FIL), London, United Kingdom The Structural-Functional Correspondence Project, Martin Frost, Rainer Goebel, Dept. Cognitive Neuroscience, Maastricht University, Maastricht, Netherlands Subcortical Structure Template Generation with its Applications in Shape Analysis, Anqi Qiu¹, Timothy Brown², Bruce Fischl³,⁴, Anthony Kolansky², Jun Ma², Randy Buckner²,³, Michael Miller², ¹Division of Bioengineering, National University of Singapore, Singapore, Singapore, ²Center for Imaging Science, Johns Hopkins University, Baltimore, USA, ³Athinoula A Martins
MODELING & ANALYSIS
Univariate Modeling, Linear, & Nonlinear

An improved method for voxel-based T2-weighted MRI analysis, David F Abbott1,2,3, Gaby S Pell1,2,3, Heath Parador1,2,3, Graeme Jackson1,2,3, 1Brain Research Institute, Melbourne, Australia, 2The University of Melbourne, Melbourne, Australia, 3Florey Neuroscience Institutes, Melbourne, Australia

Detection of Local Cortical Asymmetry via Discriminant Power Analysis, Moo K. Chung, Daniel J. Kelley, Kim M. Dalton, Richard J. Davidson, Waisman Laboratory for Brain Imaging and Behavior, University of Wisconsin, Madison, USA

Phase Modeling in Arterial Spin Labeling FMRI, Luis Hernandez-Garcia1, Daniel Rowe2, 1University of Michigan, Ann Arbor, USA, 2Medical College of Wisconsin, Milwaukee, USA

Stimulus interaction effects in parietal and limbic system in an executive task: practical use of a simple rapid event related fMRI method to measure main and interaction effects, J. Martijn Jansma, Allison Nugent, Rebecca Davis, Wayne Drevets, NIH/NIMH/SMAP, Bethesda, USA

Noninvasive Quantifying the Regional CBV Using FWE Model Based on VASO Functional MRI Technique, Chia-Wei Li, Chang-Wei Wu, Jyh-Horng Chen, Interdisciplinary MRI/MRS Laboratory, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan

Advanced simulations of fMRI data sets, Radek Marecek1, Michal Mihalík2, Petr Hlustík1, 1st Department of Neurology, St. Anne’s University Hospital and Masaryk University, Brno, Czech Republic, 2Department of Biomedical Engineering, FEEC, Brno University of Technology, Brno, Czech Republic, 3Department of Neurology and Radiology, School of Medicine, Palacky University and University Hospital, Olomouc, Czech Republic

The Effect of Task Switching on the t-Statistics Correlation to Explore the Neuronal Basis of Motor Execution – An Approach Using Dynamic fMRI, Toshiharu Nakai2, Epifanio Bagarinao2, Yoshiho Tanaka2, Chikako Nakai3, Kayako Matsuo1, 1Functional Brain Imaging Lab, National Center for Geriatrics and Gerontology, Oho, Japan, 2Grid Technology Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 3Faculty of Business and Informatics, Toyohashi Sozo University, Toyohashi, Japan

Predicting the BOLD time courses from simultaneously recorded LFPs, Christopher Tyler1, Nikos Logothetis1, 1Smith-Kettlewell Institute, San Francisco, USA, 2MPI for Biological Cybernetics, Tuebingen, Germany

Robust Group Analysis Using Outlier Modelling, Mark Woolrich, FMRIB Centre, Dept. of Clinical Neurology, University of Oxford, Oxford, United Kingdom

MOTOR BEHAVIOR
Brain-machine Interface

Reading the Mind: Identification and Prediction of the Intended Targets of Reaching Movements Using Magnetoencephalography. Applications for an Implicit Brain Computer Interface, Claudia Bonin1, Kory Johnson1, Mark Hallett1, 1Human Motor Control Section, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, USA, 2Bioinformatics Neuroscience Group, Information Technology Program, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, USA

MOTOR BEHAVIOR
Hand Movements

Effects of timing and task uncertainty on the fronto-parietal motor circuits: An fMRI study, Oliver Jakobs1, Ling Wang2,3, Christian Greifes1,4, Anton Henssen1, Manuel Dafotakis2,3, Karl Zilles1,2,3, Simon B. Eickhoff1, 1C&O. Vogt Institute of Brain Research, University of Düsseldorf, 2Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 3Max Planck Institute for Biological Cybernetics, Tübingen, Germany, 4University of Cambridge, Cambridge, UK
Düsseldorf, Germany, Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre Jülich, Jülich, Germany, Brain Imaging Center West (BICW), Jülich, Germany, Max-Planck-Institut for Neurological Research, Cologne, Germany

fMRI in patients with writer's cramp treated by repetitive transcranial magnetic stimulation (rTMS) of the primary somatosensory cortex, Robert Jech1, Petra Havrankova1, Nolan Walker1, Jana Tauchmanová2, Josef Vymazal3, Evzen Rážicka1, 1Department of Neurology, 1st Medical Faculty, Charles University, Prague, Czech Republic, 2Department of Control Engineering, Faculty of Electrical Engineering, Czech Technical University, Prague, Czech Republic, 3Na Homolce Hospital, Prague, Czech Republic

Dissociating networks of delayed imitation by independent component analysis, Mareike M. Menz, Kathrin Reetz, Adam McNamara, Ferdinand Binkofski, Department of Neurology and NeuroImage Nord, University of Luebeck, Luebeck, Germany

Neural correlates of improved visuomotor functions following stimulation of the noradrenergic system in humans, Ling E. Wang1,2, Gereon R. Fink1,2, Manuel Daftakar1, Christian Grefkes1,2,3,4, 1Cognitive Neurology Section, Institute of Neuroscience and Biophysics – Medicine, Research Centre Juelich, Juelich, Germany, 2International Graduate School of Neurosciences, Ruhr University Bochum, Bochum, Germany, 3Department of Neurology, University of Cologne, Cologne, Germany, 4Neuromodulation & Neurorehabilitation Section, Max-Planck-Institute of Neurological Research, Cologne, Germany

MOTOR BEHAVIOR
Motor-Premotor Cortex/Motor Cortical Functions

Neural correlates of action prediction in sports: How important is expertise?, Ana Maria Abreu1,2, Emiliano Macaluso1, Paola Cesari1, Cosimo Urgesi1, Salvatore Maria Aglioti1, 1Neuroimaging Laboratory, Santa Lucia Foundation, Rome, Italy, 2Department of Psychology, University of Rome ‘La Sapienza’, Rome, Italy, 3Department of Neurological and Visual Sciences, University of Verona, Verona, Italy, 4Scientific Institute Eugenio Medea, San Vito al Tagliamento, Pordenone, Italy

Premotor mirror neuron activation in schizophrenia, Peter Enticott1, Kate Hoy2, Sally Herring1, Patrick Johnston2, Paul Fitzgerald3, 1Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 2Brain Sciences Institute, Swinburne University of Technology, Melbourne, Australia

The Enhancement of Cortical Excitability by Transcranial Direct Current Stimulation in Human Brain, Yong Hyun Kwon1, Sung Ho Jang2, Sang Ho Ahr2, 1Department of Physical Therapy, Yeungnam College of Science & Technology, Daegu, South Korea, 2Department of Physical Medicine and Rehabilitation, School of Medicine, Yeungnam University, Daegu, South Korea

Making EMG recordings during fMRI work: experiences from fundamental and applied studies of the motor system, N.M. Maurits1,2, R.J. Renken2, J.H. van der Hoeven1, A.F. van Rootse1,1, 1Department of Neurology, University Medical Center Groningen, Groningen, Netherlands, 2BCN-NeuroImaging Center, University Medical Center Groningen, University of Groningen, Groningen, Netherlands, 3Department of Neurology and Clinical Neurophysiology, Academic Medical Center Amsterdam, Amsterdam, Netherlands

Normal variation in representation area of thenar and tibial muscles in healthy motor cortex: navigated transcranial magnetic stimulation study, Eini Niskanen1,2, Laura Sääsänen1, Petro Julkunen1, Ritva Vanninen1, Mervi Käönén1,3, 1Department of Clinical Neurophysiology, Kuopio University Hospital, Kuopio, Finland, 2Department of Physics, University of Kuopio, Kuopio, Finland, 3Department of Radiology, Kuopio University Hospital, Kuopio, Finland

An Image-Guided, Robotic, Transcranial Magnetic Stimulation (iTMS) Virtual Lesion Study of Speech, Donald Robin1,2, Frank Guenthner2, Shalini Narayana2, Adam Jacks1, Jason Tourville1, Amy Ramage1, Jack Lancaster1, Crystal Franklin1, Peter Fox1,2, 1Research Imaging Center, University of Texas Health Science Center at San Antonio, San Antonio, USA, 2Honor's College, University of Texas, San Antonio, San Antonio, USA, 3Center for Neurocomputation, Boston University, Boston, USA
Observing multiple people acting: Separability of cortical processing streams associated with each person's actions, Jeremy I. Skipper1, Ekaterina Dobryakova2, Natalie Sebanz1, 1Sackler Institute for Developmental Psychobiology, Weill-Cornell Medical College, New York, USA, 2Rutgers University, Newark, USA, 3University of Birmingham, Birmingham, United Kingdom

EEG spectrum power and EEG –EMG coherence mapping during voluntary movement in children aged 7 to 10 years with different attention and impulsivity, Alexander Trembach1, Yalmina Bugaza2, Maxim Beljavev1, Katrin Vitko1, Eduard Moskaliev1, 1Department of Adaptive Training and Physical Rehabilitation, Kuban State University of Physical Education, Sport and Tourism, Krasnodar, Russia, 2Department of Physiology, Kuban University of Physical Education, Sport and Tourism, Krasnodar, Russia, 3Department of Biomechanics, Kuban State University of Physical Education, Sport and Tourism, Krasnodar, Russia, 4Department of Adaptive Training and Physical Rehabilitation, Kuban State University of Physical Education, Sport and Tourism, Krasnodar, Russia, 5Department of Adaptive Training and Physical Rehabilitation, Kuban State University of Physical Education, Sport and Tourism, Krasnodar, Russia

NEUROANATOMY
Anatomical Studies

Nerve Fiber Mapping in Histological Sections of the Human Brain by Means of Polarized Light, Markus Aser1, Jürgen Dammers1, David Gräfle1, Katrin Amunts1,2, Uwe Pietrzyk1,3, Karl Zilles1,4, 1Institute of Neurosciences and Biophysics 3 - Medicine, Research Center Jülich, Jülich, Germany, 2Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany, 3Department of Physics, University of Wuppertal, Wuppertal, Germany, 4C. and O. Vogt Institute of Brain Research, University of Düsseldorf, Düsseldorf, Germany

A comparison of manual tracing and automated measure of hippocampal volume in a large community-based sample, Nicolas Cherbuin1, Kaarim J. Anstey1, Chantal Meslin1, Perminder S. Sachdev2, 1Centre for Mental Health Research, Australian National University, Canberra, Australia, 2School of Psychiatry, University of New South Wales, Sydney, Australia

Delineation of the subthalamic nucleus (STN) on high-resolution maps of R2+, Peter Dechent1, Erik Eiol2, Tabea Gringel1,2, Michael Knauth1, Gunther Helms1, 1MR Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 2Department of Neuroradiology, University Medical Center, Göttingen, Germany

Congestive heart failure is associated with changes in grey matter volume that cannot be entirely explained by cardiovascular disease, Griselda Garrido1, Leon Flicker1, Christopher Beer1, Nicola Lautenschlager1, Leonard Arnold1, Andrew Campbell1, Nat Lenzo1, Osvaldo Almeida1, 1Servicio de Informática Médica, Instituto do Coração, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil, 2Western Australia Centre for Health & Ageing, University of Western Australia, Perth, Australia, 3School of Medicine and Pharmacology, University of Western Australia, Perth, Australia, 4Department of Medical Engineering and Physics, Royal Perth Hospital, Perth, Australia, 5Department of Nuclear Medicine, Royal Perth Hospital, Perth, Australia

New structural brain findings in maltreated children with PTSD using deformation tensor morphometry: a preliminary report, Andrea Jackowski1,2, Colin Studholme1, Heather Douglas-Palumberi1, Joan Kaufman1,4, 1LiNC, Universidade Federal de Sao Paulo, Sao Paulo, Brazil, 2Child Study Center, Yale University, New Haven, USA, 3Radiology, University of California, San Francisco, USA, 4Psychiatry, Yale University, New Haven, USA

Can regional structural MRI measurement of cerebral health explain age-related cognitive change?, Peter Kochunov1,2, Donald Robin1, Anita Schlosser1, Valeria Kochunov1, Jack Lancaster1,2, Peter Fox1,2, 1Research Imaging Center, University of Texas Health Science Center at San Antonio, san antonio, USA, 2International Consortium for Brain Mapping (ICBM), USA

Laterality Differences in Klinefelter's Syndrome: A voxel-based morphometry study, François Lalonde1, Gregory Ihic1, Gregory Wallace1, Liv Clausen1, Jay Giedd1, 1Child Psychiatry Branch, NIMH, NIH, Bethesda, USA, 2University of Maryland, College Park, USA, 3Laboratory of Brain and Cognition, NIMH, NIH, Bethesda, USA
Characterization of cortical pathology heterogeneity in multiple sclerosis using 7T MRI, Caterina Mainiero¹, Andre van der Kouw², Thomas Benner¹, Graham Wiggins¹, R Phillip Kinkel², Bruce R Rosen¹, ¹Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, USA, ²Neurology, Beth Israel Deaconess Medical Center, Boston, USA

Patterns of cortical thickness in obsessive compulsive disorder (OCD), Veena M. Narayan¹, Owen R. Phillips¹, Katherine L. Nurr¹, Paul M. Thompson¹, Arthur W. Togel¹, Philip R. Szeszko¹, ¹Laboratory of Neuro Imaging, Dept. of Neurology, UCLA, Los Angeles, USA, ²Department of Psychiatry Research, The Zucker Hillside Hospital, North-Shore Long Island Jewish Health Systems, Glen Oaks, USA

The APOE ε4 allele is associated with greater hippocampal atrophy in the subicular and CA1 areas in Alzheimer’s disease: an in vivo MR study, Michela Pievani¹, Francesca Sabattò¹, Cristina Testa¹, Matteo Bonetti¹, Rebecca Dutton¹, Agatha Lee¹, Paul Thompson⁵, Giovanni Frisoni¹,⁵,⁶, ¹LENITEM Laboratory of Epidemiology, Neuroimaging and Telemedecine – IRCCS Centro S. Giovanni di Dio – FBF, Brescia, Italy, ²Machine Vision Laboratory, Department of Mathematics and Computer Science, University of Udine, Udine, Italy, ³Service of Neuroradiology, Istituto Clinico Città di Brescia, Brescia, Italy, ⁴Laboratory of Neuroimaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, ⁵Psychogeriatric Ward - IRCCS Centro San Giovanni di Dio - FBF, Brescia, Italy, ⁶A.Fa.R. Associazione Fatichefoliati per la Ricerca, Rome, Italy

BrainVISA Plugin for Cortical Thickness Measurement Using Surface Normals with Curvature Thresholding, Bill Rogers⁴, Peter Kochunov⁵, David Glahn¹, Jeff Rogers⁵, Peter Fox¹, ¹University of Texas Health Science Center, San Antonio, USA, ²Southwest Foundation for Biomedical Research, San Antonio, USA

Unbiased High Resolution T1 Weighted Brain Images at High Field with a New Interleaved 3D-MPRAGE/Proton Density GE sequence, Pierre-Francois Van de Moortele, Eddie Auerbach, Cheryl Olman, Essa Yacoub, Kamil Ugrurh, Steen Moeller, CMRR-University of Minnesota, Minneapolis, USA

A surface-based fractal information dimension method for cortical complexity analysis, Yuanchao zhang¹,², Jiefeng Jiang¹, Levi Lin¹,², Feng Shi¹, Chunshui Yu¹, Tianzi Jiang¹, ¹National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, ²Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, ³Department of Mathematics, Zhejiang University, Hangzhou, China

PHYSIOLOGY, METABOLISM, & NEUROTRANSMISSION

Striatal dopamine release induced by repetitive transcranial magnetic stimulation over dorsolateral prefrontal cortex: Effect of aging, Seong Ae Bang¹,², Sang Soon Cho¹,², Eun Jin Yoon¹,², Ji Sun Kim¹,², Byang Chul Lee¹,², Yu Kyeong Kim¹,², Sang Eun Kim¹,², ¹Seoul National University College of Medicine, Seoul, South Korea, ²Seoul National University Bundang Hospital, Seoul, South Korea

Laminar distribution and co-distribution of neurotransmitter receptors in early human visual cortex, Claudia Rottschy¹,²,³, Simon B. Eickhoff², Karl Zilles¹,³,³,³, C&O. Vogt Institute of Brain Research, University of Düsseldorf, Düsseldorf, Germany, ²Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre Jülich, Jülich, Germany, ³Dept. of Neurology, RWTH Aachen, Aachen, Germany, ⁴Brain Imaging Center West (BICW), Jülich, Germany

fMRI correlates of EEG slow oscillations during sleep in humans, Silvina Horovitz¹, Masaki Fukunaga¹, Dante Picchioni², Walter Carr², Jacco de Zwart³, Peter van Gelderen¹, Thomas Balkin³, Allen Braun³, Jeff Duyjn³, ¹NINDS - National Institutes of Health, Bethesda, USA, ²Walter Reed Army Institute of Research, Silver Spring, USA, ³Naval Medical Research Center, Silver Spring, USA, ⁴NIH - National Institutes of Health, Bethesda, USA

Brain activation involved in appetite change in schizophrenia patients treated with atypical antipsychotic, Emmanuel Stip¹,²,³, Adham Mancini-Marie¹,², Karyne Anselmo¹, Genevieve Létourneau¹,², Pascal Dallamillieure¹,², Adrianna Mendrek¹,², Lahcen Ait Bentaleb¹,², Olivier Lipp¹,², Marie-Claude Delisle¹,², Pierre Léoufrite¹,², Tania Pampoulva¹, Pierre Lalonde¹,², Sonia Dollfus¹,², ¹Department of Psychiatry, Centre de Recherche Fernand Seguin, L-H Lafontaine
Hospital, University of Montreal, Montreal, Canada, 2Department of Psychiatry, Faculty of Medicine, University of Montreal, Montreal, Canada, 3Centre Esquirol, Université de Basse Normandie, CHU Côte de Nacre, Caen, France, 4Centre Ceycron, Caen, France

Use of FDG-PET to Evaluate the Limbic-Pituitary-Adrenal Axis During Estrogen Challenge: A Preliminary Analysis, William Ottowitz1, Martin Lindquist1, Darin Dougherty3, Alan Fischman1, Janet Hall1, 2GSAS, Columbia University, New York, USA, 3Dept Statistics, Columbia University, New York, USA, 4MGH Psychiatric Neuroscience Program, Boston, USA, 5MGH Dept of Nuclear Medicine, Boston, USA, 6Reproductive Endocrinology, Boston, USA

Prospective Neurochemical Characterization of Child Offspring of Parents with Bipolar Disorder, Manpreet Singh1, Kiki Chang1, Daniel Spielman2, 1Stanford University School of Medicine, Stanford, USA, 2Richard Lucas Center for Magnetic Resonance Spectroscopy and Imaging, Stanford, USA

Regional distribution of aerobic glycolysis in the resting human brain, S. Neil Vaishnavi, Andrei Vlassenko, Melissa Rundle, Abraham Snyder, Mark Mintun, Marcus Raichle, Dept. Radiology, Washington Univ. School of Medicine, St. Louis, USA

BOLD Response in Lateral Geniculate Nucleus (LGN) at Very Short Stimulus Durations, Barry Yeşilyurt1, Kamil Uğurbil1, 2Kamil Uludag1, 1Max-Planck-Institute for Biological Cybernetics, High-Field Magnetic Resonance Center, Tübingen, Germany, 2Center for Magnetic Resonance Research, Department of Radiology, University of Minnesota Medical School, Minneapolis, USA

SENSORY SYSTEMS

Multisensory & Crossmodal

An electrophysiological study of the development of multisensory facilitation in children, Ayla Baratchi1, Hamish Innes-Brown1, Mohit N. Shivasani1, Sheila Crewther1, Tony G. Paolini1, 1Auditory Clinical Neuroscience Unit, The Bionicear Institute, Melbourne, Australia, 2School of Psychological Sciences, Melbourne, Australia

Sound-induced illusory flashes: issues for a psychophysiological investigation, Hamish Innes-Brown1, 2David Crewther1, 2Bionic Ear Institute, Melbourne, Australia, 3Brain Sciences Institute, Swinburne University, Melbourne, Australia

Neural correlates of sensory feedback loops in reaching, Alexandra Reichenbach1, Jean-Pierre Bresciani1, Angelika Peer1, Kamil Uludag1, Heinrich Bülthoff1, Axel Thielischer1, 1Max-Planck-Institute for Biological Cybernetics, High-Field Magnetic Resonance Center, Tübingen, Germany, 2Max-Planck-Institute for Biological Cybernetics, Dept. for Cognitive and Computational Psychophysics, Tübingen, Germany, 3Technische Universität München, Institute of Automatic Control Engineering, Munich, Germany

SEGREGATED VISUO-HAPTIC PROCESSING OF TEXTURE AND LOCATION, Gregory Gibson1, 2, Randall Stilla1, Krish Sathian1, 2, 1Rehabilitation R&D Center of Excellence, Atlanta VAMC, Decatur, USA, 2Department of Neurology, Emory University, Atlanta, USA

SENSORY SYSTEMS

Pain & Autonomic Function

Cola-bottle Tonic Pain Test (C-TPT) on EEG Default Mode Spectral Field Power Mapping, Andrew CN Chen*, Liping Song, Li Du, Yanling Luo, Center for Higher Brain Functions, Capital Medical University, Beijing, China

Enhanced functional connectivity of the dorsolateral prefrontal cortex during intermittent pain in patients with Alzheimer's disease, Leonie Cole1, 2, 3, Maria Gavrilescu1, Stephen Gibson1, 2, 3, Michael Farrell1, 2, 3, Gary Egan1, 2, 3, Howard Florey Institute, Florey Neurosciences Institute, Parkville, Australia, 2Centre for Neuroscience, University of Melbourne, Parkville, Australia, 3National Ageing Research Institute, Parkville, Australia, 4Department of Medicine, University of Melbourne, Parkville, Australia, 5Caulfield Pain Management and Research Centre, Caulfield, Australia
Illness Behaviour in Chronic Low Back Pain Patients is Associated with Reduced Insular Cortex Volume, Sioban Kelly1,2, Donna Lloyd1, Gordon Findlay1, John Downes1, Turo Nurmikko1, Neil Roberts3, 1Pain Research Institute, Liverpool, United Kingdom, 2School of Psychology, University of Liverpool, Liverpool, United Kingdom, 3School of Psychology, University of Manchester, Manchester, United Kingdom, 4The Walton Centre for Neurology and Neurosurgery, Liverpool, United Kingdom, 5Magnetic Resonance Image Analysis Research Centre, University of Liverpool, Liverpool, United Kingdom

Brain responses to visceral pain – influence of central serotonin signaling, Jennifer Labus1, Michiel van Nieuwenhoven1, Shin Fukudo2, Emeran Mayer1, 1Center for Neurobiology of Stress, Brain Research Institute, Depts of Psychiatry and Biobehavioral Sciences and Medicine at the University of California, Los Angeles, Los Angeles, USA, 2Behavioral Medicine, Tohoku University Graduate School of Medicine, Sendai, Miyagi, Japan, Sendai, Miyagi, Japan, 3Gastroenterology, University Hospital Maastricht, The Netherlands, Maastricht, Netherlands

NMDA-antagonist and morphine reduce pain and fMRI-activation of pain areas in CRPS, Anja Schwarz1, Sylvia Gustin1, Niels Birbaumer1, Nektarius Sinis2, Ralf Veit1, Wolfgang Larbig1, Herta Flor3, Martin Lotze4, 1Institute of Medical Psychology and Behavioral Neurobiology,Tuebingen, Germany, 2Traumatology Hospital of the University of Tuebingen, Tuebingen, Germany, 3Department of Clinical and Cognitive Neuroscience at the University of Heidelberg, Central Institute of Mental Health, Mannheim, Germany, 4Functional Imaging Institute for Diagnostic Radiology and Neuroradiology, University of Greifswald, Greifswald, Germany

Acupuncture Mediated Brain Activity Demonstrated with fMRI at 4 Tesla, Mark Strudwick1, Katie McMahon1, Stephen Wilson1, Greg DeZubicaray1, 1Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia, 2School of IT, University of Queensland, Brisbane, Australia

COGNITION & ATTENTION
Attention (auditory, tactile, motor)

The "VPI": an early voice-preferential electrophysiological response, Ian Charest1, Cyril Pernet1, Guillaume Rousselet1, Sarah Fillion-Bilodeau1, Pascal Belin1, 4, 1Centre for Cognitive Neuroimaging, Department of Psychology, University of Glasgow, Glasgow, Scotland, 2Medical Research Council, Edinburgh, United Kingdom, 3Department of Psychology, Université de Montréal, Montréal, Canada, 4International Laboratory for Brain, Music and Sound Research, Université de Montréal and McGill University, Montréal, Canada

Examining the Pharmacology of Mismatch Negativity: Electrophysiological Investigations in Healthy Subjects, Sumie Leung1, Rodney Croft1, Torsten Baldeweg1, Barry O'Neill1, Pradeep Nathan1, 1Biological Psychiatry Research Unit, Brain Sciences Institute, Faculty of Life and Social Sciences, Swinburne University of Technology, Melbourne, Australia, 2Institute of Child Health (University College London) and Great Ormond Street Hospital for Children NHS Trust, London, United Kingdom, 3Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom

Top-down and bottom-up control of auditory attention: A combined fMRI and probabilistic tractography study, Juha Salminen1,2,3, Teemu Rinne1, Sonja Koistinen1,2, Tuomas Neuvonen2,3, Synnöve Carlsson2,3, Olli Salonen1, Kimmo Alho1, 1Department of Psychology, University of Helsinki, Finland, 2Neuroscience Unit, Institute of Biomedicine/physiology, University of Helsinki, Finland, 3Advanced Magnetic Imaging Centre, Helsinki University of Technology, Finland, 4Medical School, University of Tampere, Finland, 5Brain Research Unit, Helsinki University of Technology, Finland, 6Helsinki Medical Imaging Center, Helsinki University Central Hospital, Finland

Schizophrenia-associated deficits of mismatch negativity reflect stimulus presentation and auditory feature with special focus on emotional prosody, Heike Thoennessen1, Mikhail Zvyagintsev1, Frank Boers2, Jürgen Dammers2, Christine Norr2, Klaus Mathiak1,4, 1Dept. of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany, 2Institute of Medicine,
Research Center Jülich, Juelich, Germany, Max-Planck-Institute of Experimental Medicine, Goettingen, Germany, Institute of Psychiatry King’s College London, London, United Kingdom

COGNITION & ATTENTION

Attention (visual)

Right Parietal Cortex and Top-Down Visuospatial Attention: Combined on-line rTMS and fMRI, Felix Blankenburg1, Christian Ruff2*, Sven Bestmann2, Oliver Josephs1, Ralf Deichmann4, Otto Bjoertomt5, Jon Driver2,3, Bernstein Center for Computational Neuroscience, Charite, Berlin, Germany, Institute of Cognitive Neuroscience, University College London, London, United Kingdom, Wellcome Trust Centre for Neuroimaging at UCL, Institute of Neurology, London, United Kingdom, University Hospital, Brain Imaging Center, Frankfurt, Germany

Attentional Modulation of Multisensory Audiovisual Integration during Speech Perception, Scott Fairhall, Emiliano Macaluso, Santa Lucia Foundation, Rome, Italy

Probing the link between sources and targets of attentional control: a concurrent TMS-fMRI study of visuospatial selection, Klaartje Heinen1, Christian Ruff1, Sven Bestmann1, Bertram Schenkluhn1, Felix Blankenburg1, Otto Bjoertomt1, Vincent Walsh1, Jon Driver1, Chris Chambers1, Institute of Cognitive Neuroscience, UCL, London, United Kingdom, Wellcome Trust Centre for Neuroimaging, London, United Kingdom, Department of Neurology and Neuroscience Research Center, Charite, Berlin, Germany

Brain responses to direct gaze: An optical topography study, Yoko Isogaya1, Akiko Ohata2, Hiroki Sato2, Atushi Mak1, Takao Sato1, Norito Kawakami1, The University of Tokyo, Tokyo, Japan, Advanced Research Laboratory, Hitachi, Ltd, Saitama, Japan

EFFECTS OF TRANSCRANIAL ANODAL DIRECT CURRENT STIMULATION OVER THE RIGHT PARIETAL CORTEX ON UNILATERAL NEGLECT IN STROKE PATIENTS, Myoung-Hwan Ko1, Sang-Hyoung Han1, Jeong-Hwan Seo1, Yun-Hee Kim2, Chonbuk National University Medical School & Hospital, Jeonju, South Korea, Sungkyunkwan University School of Medicine, Samsung Medical Center, Seoul, South Korea

Selective guidance of attention by items in working memory: converging fMRI and ERP results, Judith Peters1,2, Pieter Roelfsema3,4, Rainer Goebel1,2, Cognitive Neuroscience Dept, Faculty of Psychology, Maastricht University, Maastricht, Netherlands, Brain Imaging Center (M-BIC), Maastricht University, Maastricht, Netherlands, Department of Vision and Cognition, Netherlands Institute for Neuroscience, an institute of the Royal Netherlands Academy of Arts and Sciences (KNAW), Amsterdam, Netherlands, Department of Experimental Neurophysiology, Center for Neurogenomics and Cognitive Research, Vrije Universiteit, Amsterdam, Netherlands

Working Memory Consolidation Delays Perceptual Processing in Visual Cortex: A Time-Resolved fMRI Study, Paige Scarf1, Paul Duc1, Rene Marois2, Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, USA, Department of Psychology, Vanderbilt Vision Research Center, Center for Integrative and Cognitive Neuroscience, Vanderbilt University, Nashville, USA

Lapses in attention during sleep deprivation: more than meets the eye, Michael WL Chee3,4, Jiat Chow Tan1, Hui Zheng1, Parimal Saraya1, Weismann H Daniel1, Zagorodnov Vitali1, David F Dinges1, Cognitive Neuroscience Laboratory, Duke-NUS Graduate Medical School, Singapore, Department of Psychology, University of Michigan, Michigan, USA, School of Computer Engineering, Nanyang Technological University, Singapore, Singapore, Unit for Experimental Psychiatry, University of Pennsylvania School of Medicine, Pennsylvania, USA

COGNITION & ATTENTION

Cognitive Aging

Structural consequences of chronic insomnia: a voxel-based morphometric study, Ellemarie Altena1,2, Hugo Vrenken2, Ysbrand Van der Werf3,4, Eus Van Someren1,2, Netherlands Institute for Neuroscience, Amsterdam, Netherlands, VU University Medical Center, Amsterdam, Netherlands

Age-Related Neural Inefficiency and Compensation Across Multiple Cognitive Domains, Cheryl Grady, Andrea Proctor, Magda Wojtowicz, Darryl Bannom, Randy McIntosh, Rotman Research Institute, Toronto, Canada
Cognitive training impacts functional brain activity and cerebral blood flow of healthy older adults in a randomized controlled trial, Jennifer Mozolic, Ashley Morgan, Paul Laurenti, 1 Department of Radiology, Wake Forest University School of Medicine, Winston-Salem, USA; 2 Graduate Program in Neuroscience, Wake Forest University School of Medicine, Winston-Salem, USA

60 T-PM

COGNITION & ATTENTION
Cognitive Development

The development of white matter tracts and response inhibition examined using diffusion tensor imaging, Jessica Cohen, Fred Sabb, Robert Bilder, Susan Bookheimer, Barbara Knowlton, Robert Asarnow, Russell Poldrack, UCLA Department of Psychology, Los Angeles, USA; 2 UCLA Department of Psychiatry, Los Angeles, USA; 3 UCLA Brain Research Institute, Los Angeles, USA; 4 UCLA Interdepartmental Neuroscience Program, Los Angeles, USA; 5 UCLA Brain Mapping Center, Los Angeles, USA

64 T-PM

Early Development of Cortical Brain Responses to Rapidly Presented Auditory Stimulation: a Magnetoencephalographic Study, Carolin Sheridan, Rossitza Draganova, Hubert Preissl, Eric Siegel, Rathinaswamy Govindan, Hari Eswaran, Curtis Lowery, 1 University of Arkansas for Medical Sciences, Little Rock, USA; 2 University of Tuebingen, Tuebingen, Germany; 3 University of Muenster, Muenster, Germany

68 T-PM

Development of Default Mode and Task Positive Network Integrity and Interactions from Childhood to Young Adulthood, AM Clare Kelly, Lucina Uddin, Zarrar Shezad, Dylan Gee, Daniel Margulies, Adriana Di Martino, F Xavier Castellanos, Michael Milham, Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience, NYU Child Study Center, New York, USA; 2 Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, Berlin, Germany

72 T-PM

Basal Perfusion in Adolescents at Risk for Alcohol Use Disorders, Ai-Ling Lin, David Glahn, Rene Ovella, Peter Fox, Ahmad Hariri, Douglas Williamson, Research Imaging Center, University of Texas Health Science Center, San Antonio, USA; 2 Department of Psychiatry, University of Texas Health Science Center, San Antonio, USA; 3 Department of Psychiatry, University of Pittsburgh, Pittsburgh, USA; 4 Department of Psychiatry, Epidemiology and Biostatistics, University of Texas Health Science Center, San Antonio, USA

76 T-PM

Emotion, cognition and its interaction in adolescent-onset schizophrenia: an fMRI study, Katharina Pauly, Nina Seiferth, Thilo Kellermann, Timo Vloet, N. Jon Shah, Frank Schneider, Ute Habel, Tilo Kircher, 1 Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany; 2 Department of Child and Adolescent Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany; 3 Brain Imaging Center West, Juelich, Germany; 4 Institute of Neuroscience and Biophysics – Medicine, Research Center Juelich, Juelich, Germany; 5 Institute of Physics, University of Dortmund, Dortmund, Germany

80 T-PM

COGNITION & ATTENTION
Perception, Imagery, Awareness

Components in Continuous Meditation. An fMRI Investigation, Klaus B. Barentsen, Bo Sommerlund, Johannes Damsgaard-Madsen, Mark Fosnes, Pernille Bruhn, Hans Stodkilde-Jørgensen, 1 Department of Psychology, University of Aarhus, Aarhus, Denmark; 2 MR ResearchCenter, Aarhus University Hospital, Aarhus, Denmark

84 T-PM

Resting state connectivity integrity in the default network reflects the level of consciousness impairment in brain-injured patients. An fMRI study in brain death, coma, vegetative state, minimally conscious state and locked-in syndrome, Melanie Boly, Audrey Vanhaudenhuyse, Luaba Tshibanda, Marie-Aurelie Bruno, Pierre Boveroux, Quentin Noirinhomme, Caroline Schnakers, Athena Demertzis, Didier Ledoux, Bernard Lambermont, Gustave Moonen, Robert-Ferninand Dondelinger, Christophe Phillips, Pierre Maquet, Steven Laureys, 1 Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium; 2 Neurology Department, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium; 3 Radiology Department, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium; 4 Anesthesiology Department, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium; 5 Internal Medicine Department, CHU Sart Tilman Hospital, University of Liège, Liège

88 T-PM*
Segregating parietal areas related to number processing and response times, Marinella Cappelletti1, Ilwee-Ling Lee1, Elliot Freeman1, Cathy Price1, 1Institute of Cognitive Neuroscience, London, United Kingdom, 1Wellcome Trust Centre for Neuroimaging, London, United Kingdom

Neuramagnetic correlates of mental rotation of hands, Lincoln J. Colling, Blake Johnson, Macquarie Centre for Cognitive Science, Macquarie University, Sydney, Australia

Different cues to the beat during auditory sequence perception modulate motor area activity: an fMRI investigation of musicians and non-musicians, Jessica Grahn, James Rowe, Medical Research Council, Cognition and Brain Sciences Unit, Cambridge, United Kingdom

A Repetition Suppression Study of the Visual Processing of Gait and Configuration from Biological Motion, Ashley Hamlin, James Thompson, George Mason University, Fairfax, USA

Simultaneous recording of fNIRS and SCR improves lie detection accuracy, Toyoharu Hosokawa1, Koji Kazai1, Akihiro Yagi2, Haruhiro Katayose2, 1Kwansei Gakuin University, Sanda, Japan, 1Kwansei Gakuin University, Nishinomiya, Japan

Complexity-dependent changes of the spontaneous brain activities in the parietal cortices during mental arithmetic, Sunao Iwaki, Hiroko Koi-Shimazaki, Natl. Inst. Adv. Indust. Sci. & Tech (AIST), Ikeda, Japan

COGNITION & ATTENTION
Reasoning & Problem Solving

REGIONAL DOPAMINE D2 RECEPTOR DENSITY AND INDIVIDUAL DIFFERENCES IN PSYCHOMETRIC CREATIVITY, Orjan Blom1,2, Simon Červenka2,3, Anke Karabanov1,3, Hans Forssberg1,3, Lars Farde1,2, Fredrik Ullen1,3, 1Department of Woman and Child Health, Division for Neuropediatrics, Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden, 2Department of Clinical Neuroscience, Psychiatry Section, Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden, 3Stockholm Brain Institute, Stockholm, Sweden

Dissociable contributions of ventrolateral prefrontal and frontopolar cortex sub-regions during analogical reasoning, Adam Hampshire, John Duncan, Adrian Owen, MRC Cognition & Brain Sciences Unit, Cambridge, United Kingdom

Parietal deactivation in major depressive disorder during cognitive performance: a functional magnetic resonance imaging study, Adham Mancini-Marie1,2, Emmanuel Stip1,2, Stephanie Potvin1,2, Boualem Mensour2, Jean-Maxime Leroux2, Gilles Beaudouin2, Chérine Fahim1,2, Mario Beauregard1,2, 1Department of Psychiatry, Centre de Recherche Fernand Seguin, L-H Lafontaine Hospital, University of Montreal, Montreal, Canada, 2Department of Psychiatry, Faculty of Medicine, University of Montreal, Montreal, Canada

Parietal deactivation in major depressive disorder during cognitive performance: a functional magnetic resonance imaging study, Adham Mancini-Marie1,2, Emmanuel Stip1,2, Stephanie Potvin1,2, Boualem Mensour2, Jean-Maxime Leroux2, Gilles Beaudouin2, Chérine Fahim1,2, Mario Beauregard1,2, 1Department of Psychiatry, Centre de Recherche Fernand Seguin, L-H Lafontaine Hospital, University of Montreal, Montreal, Canada, 2Department of Psychiatry, Faculty of Medicine, University of Montreal, Montreal, Canada

COGNITION & ATTENTION
Space, Time, & Number Coding

Conceptual but not perceptual number processing is affected by TMS to the parietallobe, Marinella Cappelletti, Neil Muggleton, Vincent Walsh, University college London, London, United Kingdom

Orienting Attention to Numbers: Involvement of Frontal Lobes, Elena Rusconi1, Domenica Bueti1, Marianna Riello1, Vincent Walsh1, Brian Butterworth2, 1CIMEC Center of Mind Brain Science, Italy, 2ICN, United Kingdom, 3ICMEC, Italy, 4ICN, United Kingdom

DISORDERS OF THE NERVOUS SYSTEM
Alzheimer & Dementia

Volumetric and functional brain changes in Huntington's disease: a two year longitudinal study, Hamed Asadi1, Nellie Georgiou-Karistian2, Maree Farrow1, Amusha Sritharan2, Ross
Amyloid deposition related to cortical thinning, J. Alex Becker¹, Jeremy Carmasin¹, Bruce Fischl¹, Doug Greve², Amy DeLuca³, Pete LaViolette⁴, Jacqueline O'Brien⁵, Kelly O'Keefe³, Alan Fischman¹, Dorene Rentz⁴, Reisa Sperling⁵, ⁶, Keith Johnson⁵, ⁶, Massachusetts General Hospital, Boston, USA, ⁶Brigham and Women's Hospital, Boston, USA

Reduced resting state activity in dorsal visual-spatial attention system in Alzheimer’s disease, Jessica Damoisex⁷, Christian Beckmann⁵, Ernesto Sanz Arigita¹, Cornelis Stam¹, Frederik Barkhof⁴, Stephen Smith¹, Philip Scheltens¹, Serge Rombouts⁵, ⁷VU University Medical Center, Amsterdam, Netherlands, ⁵Oxford Centre for Functional Magnetic Resonance Imaging of the Brain, Oxford, United Kingdom, ⁶Leiden Institute for Brain and Cognition (LIRC), Leiden University Medical Center, Institute for Psychological Research, Leiden University, Leiden, Netherlands

Cholinergic dysfunction in subcortical ischemic vascular dementia: a transcranial magnetic stimulation study, Stefan Goliaszewski¹, ², Raffaele Nardone², Juergen Bergmann¹, ², Christian Siedentopf¹, ², Florian Koppelstaetter², ³, Eugen Gallasch², Anja Ischebeck², Gunther Lachner¹, ²Department of Neurology, Paracelsus Medical University Salzburg, Salzburg, Austria, ³Department of Neurology, F. Tappeiner Hospital Meran, Meran, Italy, ²fMRI Lab, Department of Psychiatry, Medical University Innsbruck, Innsbruck, Austria, ²Department of Radiology, Medical University Innsbruck, Innsbruck, Austria, ²Department of Neurology, Medical University Innsbruck, Innsbruck, Austria, ²Institute of Physiology, Medical University Graz, Graz, Austria, ²Institute of Psychology, University of Salzburg, Salzburg, Austria

Correlation between “Ala score” and CBF in Alzheimer’s disease - A SPECT study, Takashi Kawachi¹, Hiroyasu Kasakabe¹, Haruhiko Oda¹, Yasuji Yamamoto², Toshio Kawamata³, Kiyoshi Maeda³, ¹IBRI, Kobe, Japan, ²Kobe university, Kobe, Japan, ³Obara Hospital, Kobe, Japan

Correlation between findings of rCBF and ¹H-MRS in posterior cingulate gyrus for the patients with memory impairment, Takashi Nishish⁴, Kazumasa Hayasaka⁴, Yutaka Arakawa⁴, Katsushige Iwai⁴, Akinori Takeda⁴, Yoshiko Yamaoka⁴, Youko Konagaya¹, Tukihiro Washimi⁴, Kenji Yoshiyama⁴, Hideyuki Hattori⁴, Shousuke Satake⁴, Hisayuki Miura², Hideotoshi Endo⁴, Hiroshi Yatsuya⁴, Shinji Naganawa⁴, ¹Department of Radiology, Nagoya University Graduate School of Medicine, Nagoya, Japan, ²Department of Radiology, National Hospital for Geriatric Medicine, Obu, Japan, ³Department of Neurology, National Hospital for Geriatric Medicine, Obu, Japan, ⁴Department of Psychiatry, National Hospital for Geriatric Medicine, Obu, Japan, ⁵Department of General Outpatient services, National Hospital for Geriatric Medicine, Obu, Japan, ⁶Department of Public Health, Nagoya University School of Medicine, Nagoya, Japan

Deconstructing Frontotemporal Lobar Degenerations, Matthias Schroeter², ³, Karolina Raczyka², Jane Neumann¹, D. Yves von Cramon¹, ², ³Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²Day Clinic, Leipzig, Germany, ³Institute for Systems Neuroscience, University Medical Center Hamburg Eppendorf, Hamburg, Germany

Regional thalamic degeneration in Alzheimer’s disease characterised by structural- and diffusion tractography-based analyses, Brian Patenaude¹, Mark Jenkinson¹, Jeske Damoisex², Steve Smith², Paul Matthews¹, Frederik Barkhof³, Serge Rombouts³, Ernesto Sanz-Arigita¹, Mojtaba Zarei¹, ³Oxford Centre for Functional Magnetic Resonance Imaging of the Brain, Oxford, United Kingdom, ³VU University Medical Center, Amsterdam, Netherlands, ³Leiden Institute for Brain and Cognition, Leiden, Netherlands

DISORDERS OF THE NERVOUS SYSTEM
Mood & Anxiety Disorders

Correlation between fractional anisotropy and cerebral measurements of gray and white matter substances in late-life depression, Diana M Bezerra¹, Marco A A Moscoso¹, Salma R I Ribete¹, Renata Avila¹, Fábio L S Duran¹, Geraldo F Busatto², Rodrigo Batistelo³, Marcel P Jackowski¹, Cássio M C Bottino¹, ¹Old Age Research Group (PROTER), Department and Institute
of Psychiatry, Faculty of Medicine, University of Sao Paulo, Sao Paulo, Brazil, 2Neuroimaging Laboratory, Department and Institute of Psychiatry, Faculty of Medicine, University of Sao Paulo, Sao Paulo, Brazil, 3Computer Science Department and Institute of Mathematics and Statistics, University of Sao Paulo, Sao Paulo, Brazil

**Effects of Cholinergic Inhibition in Major Depressive Disorder on Interactions between Attention and Emotional Processing in the Amygdala**, Maura Furey, Julie frost-Bellgowen, Ashish Khauna, Mark Opal, Wayne Drevets, Mood and Anxiety Disorders Program, NIMH, NIH, Bethesda, USA

**Widely Spread Cortical Morphology Abnormalities in Major Depressive Disorder**, Lei Lin1, Chunshui Yu1, Yuan Zhou1, Feng Shi2, Kuncheng Li2, Tianzi Jiang1, 1National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, 3Department of Mathematics, Zhejiang University, Hangzhou, China

**Differences between bipolar disorder patients and control subjects using DTI and track-based spatial statistics**, Jadwiga Rogowska1, Tomasz Soltysinski1,2, Deborah Yurgelun-Todd1, 1Cognitive Neuroimaging Laboratory, Brain Imaging Center, McLean Hospital & Harvard Medical School, Belmont, USA, 2Institute for Precision and Biomedical Engineering, Warsaw University of Technology, Warsaw, Poland

**Differential activation of fronto-striato-limbic circuitry in panic disorder and posttraumatic stress disorder**, Oliver Tuescher1,2,3, Xia Na Protopopescu2,2,9, Hong Pan4, Marylene Cloitre4, Tracy Butler1, Martin Goldstein1,2, Almut Engelien1,5, Daniella Furman1, Michael Silverman1,2, Yihong Yang4, Elizabeth Phelps4, Jack Gorman5, Joseph LeDoux3, David Silbersweig3, Emily Stern3, 1Functional Neuroimaging Laboratory, Weill Medical College of Cornell University, New York, USA, 2The Rockefeller University Laboratory of Neuroendocrinology, New York, USA, 3Department of Neurology, Albert-Ludwigs-University, Freiburg, Germany, 4NYU Child Studies Center, New York University School of Medicine, New York, USA, 5Mount Sinai School of Medicine, New York, USA, 6Department of Psychiatry, Münster, Germany, 7Department of Psychology, New York University, New York, USA, 8Center for Neural Science, New York University, New York, USA, 9both authors contributed equally to this work

**DISORDERS OF THE NERVOUS SYSTEM**

**Parkinson’s Disease & Other Basal Ganglia**

**Changes in Tissue Intensity Associated with Disease Severity in Huntington’s Disease**, Elizabeth Aylward1, Jennifer Dines3, Katherine Field1, Olivia Liang1, Reading Sarah2, Ross Christopher2, 1University of Washington, Seattle, USA, 2Johns Hopkins University, Baltimore, USA

**Diffusion tensor imaging in the analysis of white matter alterations in idiopathic restless legs syndrome**, Jan Kassubek, Hans-Peter Müller, Anne-Dorte Sperfeld, Alexander Unruh, Dept. of Neurology, University of Ulm, Ulm, Germany

**Patterns of fractional anisotropy changes in white matter of cerebellar peduncles sensitive for distinguishing cerebellar diseases**, Neal Prakash1,2, Nathan Hageman1, Xue Hua3, Arthur Toga4, Susan Perlman5, Noriko Salamon4, 1Kaiser Hawaii, Honolulu, USA, 2UCLA, Neurology, Los Angeles, USA, 3UCLA, Radiology, Los Angeles, USA

**Mean-Field Modelling of Parkinsonian Tremor**, Sacha van Albada1,2, Peter Robinson1,2,3, 1School of Physics, University of Sydney, Sydney, Australia, 2The Brain Dynamics Centre, Westmead Millennium Institute, Westmead Hospital and Western Clinical School of the University of Sydney, Westmead, Australia, 3Faculty of Medicine, University of Sydney, Sydney, Australia

**DISORDERS OF THE NERVOUS SYSTEM**

**Schizophrenia**

**Dopamine-induced changes in neural network patterns supporting aversive conditioning**, Andreea Diaconescu1, Mahesh Menon1, Shtit Kapur2, Anthony McIntosh1, 1Rotman Research Institute, Toronto, Canada, 2Centre for Addiction and Mental Health, Toronto, Canada

**Longitudinal structural and diffusion imaging in adolescent-onset schizophrenia: a delayed brain maturation story?**, Gwenaëlle Douard3, Stephen Smith1, Jesper Andersson1, Mark
Mechanism of Nicotinic Enhancement of Visual Attention in Schizophrenia, L. Elliot Hong\textsuperscript{1}, Thomas Ross\textsuperscript{1}, Betty Jo Salmeron\textsuperscript{1}, Gunvant Thaker\textsuperscript{1}, Elliot Stein\textsuperscript{1}, 1Maryland Psychiatric Research Center, Department of Psychiatry, University of Maryland School of Medicine, Baltimore, USA, 2Neuroimaging Research Branch, National Institute on Drug Abuse, NIH, Baltimore, USA

Brain regions associated with presence in the virtual environment: Comparison between patients with schizophrenia and healthy controls, Soo Hee Choi\textsuperscript{1}, Jae-Jin Kim\textsuperscript{1,2}, Jeonghun Ku\textsuperscript{2}, So Young Kim\textsuperscript{1}, Hyeong Rae Lee\textsuperscript{1}, Il Ho Park\textsuperscript{1,2}, Kang-Jun Yoon\textsuperscript{1}, Sun I. Kim\textsuperscript{1}, 1Department of Psychiatry, Yonsei University College of Medicine, Seoul, South Korea, 2Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Gwangju, South Korea, 3Department of Biomedical Engineering, Hanyang University, Seoul, South Korea

Decreased Information Transmission Efficiency in Schizophrenia, Yong Liu\textsuperscript{1}, Yuan Zhou\textsuperscript{1}, Ming Song\textsuperscript{1}, Yihui Hao\textsuperscript{2}, Haihong Liu\textsuperscript{2}, Zhenying Liu\textsuperscript{2}, Tianzi Jiang\textsuperscript{1}, 1National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Institute of Mental Health, Second Xiangya Hospital, Central South University, Changsha, China

Dysbindin is Associated with Imaging Phenotypes in Schizophrenia, Katherine L. Narr\textsuperscript{1}, Philip R. Szeszko\textsuperscript{2}, Todd Lencz\textsuperscript{3}, Roger P. Woods\textsuperscript{2}, Liberty S. Hamilton\textsuperscript{1}, Owen Phillips\textsuperscript{4}, Delbert G. Robinson\textsuperscript{1}, Katherine E. Burdick\textsuperscript{2}, Pamela DeRosa\textsuperscript{5}, Raju Kucherlapati\textsuperscript{6}, Paul M. Thompson\textsuperscript{7}, Arthur W. Toga\textsuperscript{8}, Anil K. Malhotra\textsuperscript{9}, Robert M. Bilder\textsuperscript{10}, 1Departments of Neurology and Psychiatry, David Geffen School of Medicine, University of California at Los Angeles, USA, 2Division of Psychiatry Research, The Zucker Hillside Hospital, North Shore-Long Island Jewish Health System, USA, 3Harvard Medical School-Partners Healthcare Center for Genetics and Genomics, Cambridge, USA

fMRI study of a matched-performance visual discrimination task in individuals with schizophrenia and first-degree relatives, Luke Stoeckel\textsuperscript{1,2}, Kathy A. Harer\textsuperscript{1,2}, Adrienne Laht\textsuperscript{1}, 1Neuroimaging and Translational Research Lab, Department of Psychiatry and Behavioral Neurobiology, University of Alabama at Birmingham (UAB), Birmingham, USA, 2Department of Psychology, UAB, Birmingham, USA, 3Maryland Psychiatric Research Center, University of Maryland at Baltimore, Baltimore, USA

EMOTION & MOTIVATION

Reward

Comparison of Cerebral Activation during Verbal and Monetary Reward: Individual Differences in Achievement Goal, Eunsoo Cho, Yoonkyung Chung, Eun Mo Yeon, Han Jeon, Soonkoo Kwon, Sung-il Kim, Korea University, Seoul, Korea

Functional MRI study of reward anticipation and outcomes in the patients with obsessive-compulsive disorder, Wi Hoon Jung\textsuperscript{1}, Ji Yeon Han\textsuperscript{1}, Do-Hyung Kang\textsuperscript{1}, Ji Young Park\textsuperscript{1}, Jung-Seok Choi\textsuperscript{1}, Myung-Hoon Jung\textsuperscript{1}, Chi-Hoon Choi\textsuperscript{1}, Jong-Min Lee\textsuperscript{1}, Jun Soo Kwon\textsuperscript{1,2}, 1Interdisciplinary Program in Brain Science and in Cognitive Science, Seoul National University, Seoul, South Korea, 2Department of Psychiatry, Seoul National University College of Medicine, Seoul, South Korea, 3Department of Biomedical Engineering, Hanyang University, Seoul, South Korea

Delay Discounting during Different Reward Episodes and its Genetic Correlates, Corinna Nuesser\textsuperscript{1}, Dina Schardt\textsuperscript{1}, Susanne Erk\textsuperscript{4}, Markus Nothen\textsuperscript{1,4}, Marcella Rietschel\textsuperscript{1}, Per Hoffmann\textsuperscript{1,4}, Markus Skowronek\textsuperscript{1}, Sven Cichon\textsuperscript{1,4}, Kerstin Ludwig\textsuperscript{1,4}, Thomas Goslitzer\textsuperscript{2}, Henrik Walter\textsuperscript{1}, 1Division of Medical Psychology, Department of Psychiatry, University of Bonn, Bonn, Germany, 2Institute of Psychology II, Technische Universität Dresden, Dresden, Germany, 3Department of Genomics, Life & Brain Center, University of Bonn, Bonn, Germany, 4Institute of Human Genetics, University of Bonn, Bonn, Germany, 5Central Institute for Mental Health, Div. Genetic Epidemiology in Psychiatry, Mannheim, Germany

Smoking or eating? Neuronal mechanisms underlying nicotine’s effect on eating behavior, Michael N. Smolka\textsuperscript{1}, Lena Krebs\textsuperscript{2}, Oliver Grimm\textsuperscript{2}, Andrea Kobiella\textsuperscript{2}, Sabine Klein\textsuperscript{2}, 1Section of Systems Neuroscience, Department of Psychiatry and Psychotherapy, Technische Universität Dresden, Dresden, Germany, 2Department of Addictive Behavior and Addiction Medicine, Central Institute of Mental Health, Mannheim, Germany
**EMOTION & MOTIVATION**

**Sexual Behavior**

The feasibility of PULSAR arterial spin labeling in the investigation of the male sexual response, Janniko Georgiadis, Michael Farrell, Rudolf Boessen, Maria Gavrilescu, Rudi Korkiea, Remco Renken, Hans Hoogduin, Gary Egarter, Dept. Neuroscience, University Medical Center Groningen, University of Groningen, Groningen, Netherlands; Howard Florey Institute, Florey Neuroscience Institutes, University of Melbourne, Melbourne, Australia; Centre for Neuroscience, University of Melbourne, Melbourne, Australia; Rudolf Magnus Institute for Neurosciences, University Medical Center Utrecht, Utrecht, Netherlands; Office of the Dean, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Melbourne, Australia; Baker Heart Research Institute, Alfred Hospital, Prahran, Australia; BCN NeuroImaging Center, University Medical Center Groningen, University of Groningen, Groningen, Netherlands.

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**EMOTION & MOTIVATION**

**Social Behavior**

Neural correlates of message tailoring and self-relatedness in smoking cessation programming, Hannah Faye Chua, Israel Liberson, Robert Welsh, Victor Strecher, University of Michigan, Ann Arbor, USA.

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Neuroanatomical Correlates of Human Personality Characteristics: Introversion/Extraversion, Matthew A. Howard, Sarah L. Gregory, Steven C. R. Williams, Centre for Neuroimaging Sciences, Institute of Psychiatry, King’s College London, London, United Kingdom.

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Adult Attachment Security Predicts Maternal Brain Responses using Functional MRI, Lane Strathearn, Peter Fonagy, Read Montague, Baylor College of Medicine, Houston, USA; University College London, London, United Kingdom.

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**GENETICS**

MAPPING GENETIC INFLUENCES ON THE LATERAL VENTRICLES USING MULTI-ATLAS FLUID IMAGE ALIGNMENT IN TWINS, Yi-Yu Chou, Natasha Lepore, Marina Barysheva, Ming-Chang Chiang, Katie McMahon, Greig de Zubicaray, Matthew Meredith, Margaret Wright, Arthur Toga, Paul Thompson, Laboratory of Neuro Imaging, Department of Neurology, UCLA, Los Angeles, USA; Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia; Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia.

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Genetic influences over cortical gyration. An across species comparison of heritability of gyration index in extended pedigrees of baboons and humans, Peter Kochunov, David Glahn, Peter Fox, Karl Zilles, Wendy Shelledy, Jack Lancaster, John Blangero, Jeff Rogers, The University of Texas Health Science Center at San Antonio, san antonio, USA; Institut für Medizin (IME), Jülich, USA; Southwest Foundation for Biological Research and Education (SFBR), San Antonio, TX, san antonio, Germany.

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Building Confidence in Single-Cohort Imaging Genetics Results, Thomas Nichols, Becky Inkster, Pierandrea Muglia, Paul Matthews, GlaxoSmithKline, London, United Kingdom; FMRIB Centre, Oxford, United Kingdom; GlaxoSmithKline, Verona, Italy.

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Multiple influences of the androgen receptor polyglutamine polymorphism on the healthy human brain, Geoffrey CY Tan, Weiguang Christopher Ho, Ese E Mackanohlwo, Chia-Yeh Carlton Chu, John Ashburner, Nina Soma, Henrietta Gordon, Mary Davis, Nicholas W Wood, Richard SJ Frackowiak, Wellcome Trust Centre for Neuroimaging, Institute of Neurology, UCL, London, United Kingdom; Dept of Molecular Neuroscience, Institute of Neurology, UCL, London, United Kingdom; Imperial College Medical School, London, United Kingdom; Neurogenetic Laboratory, Institute of Neurology, UCL, London, United Kingdom; Psychology Department, Goldsmiths College, London, United Kingdom; Dept of Anatomy, London, United Kingdom; Ecole Normale Superieure, Paris, United Kingdom.

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IMAGING TECHNIQUES & CONTRAST MECHANISM

EEG

EEG Default Mode Network: 3D Spectral Coherence Topology, Andrew CN Chen*, Huixuan Zhao, Center for Higher Brain Functions, Capital Medical University, Beijing, China 292 T-PM

PHYSIOLOGICALLY CAUSAL ANALYSIS OF THE HUMAN ELECTROENCEPHALOGRAM USING FIXED ORDER AUTOREGRESSIVE MOVING AVERAGE MODELING, Nicholas Sinclair1,2, Bogler Susan1, Delacrestz Louis2, Leslie Kate3, Liley David1,2, 1Brain Dynamics Group, Brain Sciences Institute, Swinburne University of Technology, Hawthorn, Victoria 3122, Australia, 2Cortical Dynamics Pty Ltd, Scoresby, Victoria, Australia, 3Department of Anaesthesia and Pain Management, Royal Melbourne Hospital, Melbourne, Australia 296 T-PM

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Functional MRI

Neural Origin of Low Frequency Synchrony in BOLD fcMRI, Jeffrey Anderson, University of Utah, Salt Lake City, USA 300 T-PM

SENSE Optimized Sixteen Element Receive Array for Cervical Spinal Cord Imaging at 3T, Jerzy Bodurka1, Patrick Ledden1, Peter Bandettini1,2, 1Functional MRI Facility, national Institute of Mental Health, NIH, Bethesda, USA, 2Nova Medical Inc, Wilmington, USA, 3Section on Functional Imaging Method, National Institute of Mental Health, NIH, Bethesda, USA 304 T-PM

High Resolution fMRI of the Medial Temporal Lobe – Is SSFP a Viable Option?, Michael Chappell1, Anders Kristoffersen1, Pål Erik Gro1, Hanne Leh1, Olav Haraldseth1,2, Asta Häberg1, 1Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway, 2St Olavs Hospital, Trondheim, Norway, 1Department of Circulation and Medical Imaging, St Olavs Hospital, Trondheim, Norway 308 T-PM

DEPRESSION VULNERABILITY IS REFLECTED IN SUBGENUAL CINGULATE FUNCTION, Beate Hartinger1, Sharon Russo-Schwarzbaum1, Christian Kasess1, Barbara Kandler1, Christian Scharinger1, Gerald Paie1, Andreas Erfurth1, Harald Esterbauer1, Christian Windschberger1, Siegfried Kasper1, Ewald Moser2, Lukas Pezawas2, 1Division of Biological Psychiatry, Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, 2MR Center of Excellence, Center for Biomedical Engineering and Physics, Medical University of Vienna, Vienna, Austria, 3Clinical Institute of Medical and Chemical Laboratory Diagnostics, Medical University of Vienna, Vienna, Austria 312 T-PM

ROI Based Analysis of fMRI Data to Investigate the Neuronal Pathway after Acupuncture Stimulation, Geon-Ho Jahng1, Kyung Hwan Ryu2, Sun Hee Lee2, Young Jin Kim2, Chang Woo Ryu2, Sabina Lim1, 1Department of Radiology, East-West Neo Medical Center, Kyung-Hee University, Seoul, South Korea, 2Dept. Applied Korean Medicine, Kyung-Hee University, Seoul, South Korea 316 T-PM

Temporal Response and Spatial Specificity in Passband SSFP fMRI, Taek S. Kim1, Jongho Lee1, Gary H. Glover1, John M. Pauly1, 1Electrical Engineering, Stanford University, Stanford, USA, 2Advanced MRI/LFMI/NINDS, National Institute of Health, Bethesda, USA, 3Radiology, Stanford University, Stanford, USA 320 T-PM

Imaging of autonomic activity in forebrain white matter, C. Leith1, J. Rosengarten2,3, M. Rosengarten2, S. Ouyang1, H. Sun1, 1Neurodynamics Research Institute, Chicago, USA, 2Global Medical Imaging, Libertyville, USA, 3Rosalind Franklin University School of Medicine, North Chicago, USA, 4University of California, Los Angeles, USA 324 T-PM

Task-Free Pre-Surgical Mapping Using fMRI Intrinsic Activity, Hesheng Liu1, Randy Buckner1,2,3, Tanveer Talukdar1, Nauro Tanaka1, Joseph Madsen1, Steven Stufflebeam1, 1Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, USA, 2Harvard University Department of Psychology, Center for Brain Science, Boston, USA, 3Howard Hughes Medical Institute, Chevy Chase, USA, 4Children's Hospital Boston, Boston, USA 328 T-PM

Pharmacological fMRI study in Over Active Bladder (OAB) patients, Feroze Mohamed, Shweta Moonat, Steve Lebovitch, Brett Lebed, Scott Faro, Michael Pontari, Temple University, Philadelphia, USA 332 T-PM
FMRI results differ between display devices in visual oddball task, Eini Niskanen1,2,3, Perttu Ranta-aho1, Mika Tarvainen1, Mervi Könönen1,2, Pasit Karjalainen1,1 Department of Physics, University of Kuopio, Kuopio, Finland, 2Department of Clinical Neurophysiology, Kuopio University Hospital, Kuopio, Finland, 3Department of Neurology, Kuopio University Hospital, Kuopio, Finland, 4Department of Radiology, Kuopio University Hospital, Kuopio, Finland

fMRI in Patients with Lumbar Radiculopathy, Harish Sharma1, Raj Gupta2, Bill Olivero3, 1University of Illinois at Urbana-Champaign, Urbana, USA, 2University of Illinois College of Medicine, Urbana, USA, 3Carle Foundation Hospital, Urbana, USA

Reducing variability due to subject positioning in longitudinal structural and functional MRI studies, Adam Thomas1, Sandeep Gupta2, Peter Bandettini1, Sean Marrett1, 1Function MRI Facility, Bethesda, USA, 2GE Global Research Center, Niskayuna, USA

Improved Event-Related Experimental Design when Stimuli have Undefined Event Types, Andrew Vahabzadeh-Haghi1, Julie Yoo2, Oliver Hinds3, John Gabrieli1,2,3, 1Harvard-MIT Division of Health Sciences and Technology, Cambridge, USA, 2McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA, 3Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA

Direct measurement of neuronal magnetic field changes evoked by median nerve stimulation using MRI: Magnitude or Phase?, Yiqun Xue1,2, Thomas Grabowski1, Jinhua Xiong1, 1Biomedical Engineering, University of Iowa, Iowa city, USA, 2Radiology, University of Iowa, Iowa city, USA, 3Neurology, University, Iowa city, USA

Gender Difference in Default Networks Detected by BOLD-based fMRI at 3T, Tzu-Chen Yeh1,2, Sue-Jin Lin1, Wen-Jui Kuo1,2, Chou-Ming Cheng1, Jen-Chuen Hsieh1,2,3, Low-Ton Ho1, 1Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Taiwan, 2Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan, 3Center for Neuroscience, National Yang-Ming University, Taipei, Taiwan

IMAGING TECHNIQUES & CONTRAST MECHANISM MEG

Experimental calculation of magnetic lead fields using MEG simultaneously acquired with intracranial EEG, Sarang Dalal1, Karim Jerbi1,2, Olivier Bertrand1, Line Garnero1, Sylvain Baillet1, Jacques Martinerie1, Jean-Philippe Lachaux1, 1INSERM U821, Lyon, France, 2CNRS UPR640-LENA, Paris, France

LANGUAGE

Language Acquisition

Functional Development and Structural Maturation of Language Areas in the Human Brain, Jens Brauer, Alfred Arwander, Angela Friederici, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

FRONTOSTRIATAL CIRCUITRY IN ARTIFICIAL SYNTACTIC CLASSIFICATION: AN FMRI INVESTIGATION IN HUNTINGTON’S DISEASE, Christian Forkstand1,2, Marieke Dekkers1,2, Nicola Voermans1,2, Berry Kremer2, Guillen Fernández1,2,3, Karl Magnus Petersson1,2,4, 1Cognitive Neurophysiology Research Group, Stockholm Brain Institute, Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden, 2F. C. Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands, 3Department of Neurology, University Medical Center Nijmegen, Nijmegen, Netherlands, 4Centre for Intelligent Systems, University of Algarve, Faro, Portugal

Extensive metabolic connectivity predicts the ability of speech language acquisition after cochlear implantation in prelingual deaf children, Hyejin Kang1,2, Heejung Kim1, Eunjoo Kang1, Jae Sung Lee1, Hyo-Jeong Lee1, Seung-Ha Oh1, Dong Soo Lee1, 1Brain and Neuroscience Major, Seoul, Korea, 2Department of Nuclear Medicine, Seoul, Korea, 3Department of Otolaryngology, Seoul, Korea, 4Department of Psychology, Chonchon, Korea

Using fMRI to study lateralization of cortical language areas in patients with medically intractable temporal lobe epilepsy, Tanu Sharma, Salah Baz, Seyed Mirsattari, Frank Bihari, Andrea Dencev, Brent Hayman-Abello, London Health Sciences Center, London, Canada

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LANGUAGE
Production

Phonological processing in reading Japanese kanji: Does reading heterophonic-homographic characters make any difference?, Chiao-Yi Wu1, Kayako Matsuo2, Epifanio Bagariaoa1, Wen-Yih Issac Tseng3, Toshiharu Nakai2, S.H. Annabel Chen1, 1Department of Psychology, National Taiwan University, Taipei, Taiwan, 2Functional Brain Imaging Laboratory, Department of Gerontechnology, National Center for Geriatrics and Gerontology, Aichi, Japan, 3Grid Technology Research Center, National Institute of Advanced Industrial Science and Technology, Ibaraki, Japan, 4Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan

Language Laterality Determined from High Anisotropy Arcuate Fasciculus Tracts, Timothy Ellmore1, Michael Beauchamp2, Jeremy Slater3, Joshua Breier4, Thomas O’Neill5, Nitin Tandon6, 1Dept of Neurosurgery, UT Medical School at Houston, Houston, USA, 2Dept of Neurology, UT Medical School at Houston, Houston, USA, 3Dept of Pediatrics, UT Medical School at Houston, USA

Neuroanatomical correlates of age-related change in verbal abilities, Adam Jacks1, Peter Kochunov1, Valeria Kochunov1, Donald Robin2, Anita Schlosser2, Peter Fox1, 1The University of Texas Health Science Center, Research Imaging Center, San Antonio, USA, 2Department of Neurology, Sykehuset Østfold Fredrikstad, Fredrikstad, Norway

The neural correlates of Semantic Feature Analysis in a Primary Progressive Aphasia patient: an event-related fMRI study, Karine Marcoutte1, Ana Inés Ansaldo1,2, 1CRJUGM-UNF, Montreal, Canada, 2Faculty of Medicine, University of Montreal, Montreal, Canada, 3Speech-Communication Sciences Department, University of Montreal, Montreal, Canada

Sex differences in handedness, asymmetry of the Planum Temporale and functional language lateralization, Iris Sommer1, Andre Aleman2, Marco Boks2, Metten Somers1, Rene Kahn1, 1University Medical Center Utrecht, Utrecht, Netherlands, 2BCN Neuroimaging Centre, University Medical Centre Groningen, Groningen, Netherlands

MEMORY & LEARNING
Plasticity (normal & following pathology)

Hippocampal correlates of memory dysfunction 10 years after childhood TBI, Miriam Beauchamp1,2,3, Jerome Maller1,2, Cathy Catroppa1,2,4, Celia Godfrey1,4, Michael Ditchfield1,4, Vicki Anderson1,2,3,4, 1Murdock Childrens Research Institute, Melbourne, Australia, 2University of Melbourne, Melbourne, Australia, 3Royal Children's Hospital, Melbourne, Australia, 4Australian Center for Child Neuropsychological Studies, Melbourne, Australia

Non-monotonic changes in the cerebellar cortex during the acquisition of skilled cognitive operations, A. L. Hayter, D. W. Langdon, N. Ramnani, Royal Holloway, University of London, London, United Kingdom

Neurophysiological Correlates of Strategic Verbal Learning in Traumatic Brain Injury, Gary Strangman1,2, Therese O'Neil-Pirozzii1,2, Richard Goldstein1, Christina Supelana1, Kalika Kelkar2, David Burke3, Douglas Katz2, Scott Rauch2, Cary Savage1, Mel Glenn1, 1Massachusetts General Hospital, Harvard Medical School, Boston, USA, 2Spaulding Rehabilitation Hospital, Harvard Medical School, Boston, USA, 3Northeastern University, Boston, USA, 4Emory University, Atlanta, USA, 5Boston University, Boston, USA, 6McLean Hospital, Belmont, USA, 7Kansas University Medical Center, Kansas City, USA

MEMORY & LEARNING
Working Memory

Gender differences in functional activity for working memory, Suz-Chieh Sung1, Jing-Syun Yu1, Wen-Yih Isaac Tseng2, S.H. Annabel Chen1, 1Department of Psychology, National Taiwan University, Taipei, Taiwan, 2Department of Radiology, National Taiwan University College of Medicine, Taipei, Taiwan
Effect of sex and menstrual cycle phase on brain activation for verbal working memory, Jane Joseph, Christine Corbly, Linah Al-Alem, Garretson Epperly, Xun Liu, Thomas Curry, Thomas Kelly, University of Kentucky, Lexington, USA

Effects of transcranial direct current stimulation on verbal working memory in patients with stroke, Yun-Hee Kim1, Jung Mi Jo1, Suk Hoon Ohn1, Myoung-Hwan Ko1, Gyoung Moon Kim1, Woo-Kyoung Yoo1, Peter K.W. Lee1, 1Department of Physical Medicine and Rehabilitation, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 2Department of Physical Medicine and Rehabilitation, Chonbuk National University Medical School, Jeonju, Korea, 3Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

Examing Working Memory Component Processes, Michael Motex1,2,3, Bart Rypma1,2,3, 1Center for BrainHealth, Dallas, USA, 2School of Behavioral & Brain Sciences, Dallas, USA, 3University of Texas southwestern, Dallas, USA

Functional connectivity of updating in working memory and refreshing information, Jennifer Roth1, Marcia Johnson2, R. Todd Constable3, 1Department of Diagnostic Radiology, Magnetic Resonance Research Center, Yale University, New Haven, USA, 2Department of Psychology, Yale University, New Haven, USA

MODELING & ANALYSIS

Bayesian Modeling

Empirical Markov Chain Monte Carlo Bayesian analysis of fMRI data, Francesco de Pasquale1, Cosimo Del Gratta2, Gian Luca Romani2, ITAB, Institute for Advanced Biomedical Technologies, University G. D'Annunzio, Chieti, Chieti, Italy, 2Department of Clinical Sciences and Biomedical Imaging, University of Chieti, Chieti, Italy

Fast Bayesian nonlinear model fitting for analysis of simultaneous BOLD & ASL data, Adrian Groves, Mark Woolrich, FMRIB Centre, Oxford, United Kingdom

Multiple-subjects connectivity-based parcellation using hierarchical infinite mixture models, Saad Jbabdi1, Mark Woolrich2, Timothy Behrens2, 1FMRIB Centre, Oxford, United Kingdom, 2Department of Experimental Psychology, Oxford, United Kingdom

MEG SOURCE CHARACTERIZATION THROUGH CURRENT MULTIPOLE MOMENTS, Sheraz Khan1,2, Benoit Cottereau1, Richard M. Leahy4, John C. Mosher4, Habib Ammar5, Sylvain Baillier1,2, 1Cognitive Neuroscience & Brain Imaging Laboratory, CNRS Hopital de la Salpetriere, Paris, France, 2University Pierre & Marie CURIE, Paris 6, Paris, France, 3ESME-Sudria College of Engineering, Lyon, France, 4University of Southern California, Los Angeles, USA, 5Los Alamos National Laboratory, Los Alamos, USA, 6Laboratoire Ondes et Acoustique, CNRS & ESPCI, Paris, France

MEG source modeling by Bayesian tracking: Validation of the particle filter approach, Lauri Parkkonen1,2, Alberto Sorrentino1, Cristina Campi1, Anna Lisa Pascarella1, Michele Piana1,2, 1Brain Research Unit, Low Temperature Lab, Helsinki Univ. of Technology, Espoo, Finland, 2INFN - CNR Lamia, Genova, Italy, 3Dipartimento di Matematica, Universita di Genova, Genova, Italy, 4Dipartimento di Informatica, Universita di Verona, Verona, Italy, Elekta Neuromag Oy, Helsinki, Finland

MODELING & ANALYSIS

Classification & Predictive Modeling

Assessment of placebo-controlled benzodiazepine sedation by means of indices derived from fMRI auditory responses, Charilaos Alexakis1, Ana Diukova1,2, Quazi Siddiqui2, Carolyn Steward1, Jaroslav Hlinka1, Paul Morgan1, Jonathan Hardman2, Dorothee Auer3, 1Division of Academic Radiology, University of Nottingham, Nottingham, United Kingdom, 2Division of Anaesthetics, University of Nottingham, Nottingham, United Kingdom, 3Division of Psychiatry, University of Nottingham, Nottingham, United Kingdom
A Neural Predictor of Schizophrenia Based on Striatal [18F] Fluorodopa Uptake Measured with PET, Subrata Bose, Federico Turkheimer, Oliver Howes, Mitul Mehta, Rhian Cunliffe, Paul Stokes, Paul Grasby, MRC-Clinical Sciences Centre, Imperial College London, London, United Kingdom, 1 Division of Neuroscience & Mental Health, Imperial College London, London, United Kingdom, 1 Institute of Psychiatry, King's College London, London, United Kingdom

Multiclass classification of fMRI pattern by relevance vector regression, Carlton CHU, Janainah Mourão-Miranda, John Ashburner, Wellcome Trust Centre for Neuroimaging, Institute of Neurology, UCL, London, United Kingdom, 1 Brain Imaging Analysis Unit, Biostatistics Department, Centre for Neuroimaging Sciences (PO 89), Institute of Psychiatry, London, United Kingdom

Combining top-down and bottom-up methods for ERP pattern classification, Gwen Frishkoff, Robert Frank, Jiawe Rong, Deijing Dou, University of Pittsburgh, Pittsburgh, USA, 1 University of Oregon, Eugene, USA

Towards shorter scan times using subject-dependent processing pipelines for clinical tasks in fMRI, Wayne Lee, Richard Mraz, Fred Tam, Simon Graham, Rotman Research Institute, Toronto, Canada, 1 University of Toronto, Toronto, Canada, 1 Sunnybrook Health Sciences Centre, Toronto, Canada

Innovation approach to detect the respiratory related neuronal activity in the brainstem based on optical imaging data, Fumikazu Miwakeichi, Yoshihisa Oka, Yasumasa Okadd, Shigebaru Kawat, Yoshiyasu Tamura, Maktio Ishiguro, Medical System Course, Graduate School of Engineering Chiba University, Chiba, Japan, 1 Department of Physiology, Hyogo College of Medicine, Hyogo, Japan, 1 Department of Medicine, Tsukigase Rehabilitation Center, Keio University, Shizuka, Japan, 1 Department of Statistical Science, The Graduate University for Advanced Studies, Tokyo, Japan, 1 Department of Data Science, The Institute of Statistical Mathematics, Tokyo, Japan, 1 Department of Statistical Modeling, The Institute of Statistical Mathematics, Tokyo, Japan

Multivariate Bayes regression of CRS-R score from FDG-PET images, Christophe Phillips, Melanie Boly, Pierre Maquere, Caroline Schnakers, Marie-Aurélie Brüno, Audrey Vanhaudenhuyse, Roland Hunthinx, Gustave Moonen, Steven Laureys, Cyclotron Research Centre, University of Liège, Liège, Belgium, 1 Neurology Department, CHU Hospital, University of Liège, Liège, Belgium, 1 Nuclear Medicine Department, CHU Hospital, University of Liège, Liège, Belgium

Classification analysis of rapid event-related fMRI studies, Angela Rizk-Jackson, Jeanette Mumford, Russell Foldrack, UCLA Dept. of Psychology, Los Angeles, USA

Threshold-Free Cluster Enhancement – Practical Examples, Stephen Smith, Gwenaelle Douaud, Thomas Nichols, FMRI, Oxford University, Oxford, United Kingdom, 1 GSK CIC, London, United Kingdom

Image Intensity Correction for Detecting White Matter Hyperintensity (WMH) Progression in Longitudinal Fluid Attenuation Inversion Recovery (FLAIR) Whole Brain Scans, Wanlin Zhu, Wei Wen, Aihua Xia, Permindar Sachdev, School of Psychiatry, University of NSW, Sydney, Australia, 1 Department of Mathematics and Statistics, Melbourne University, Melbourne, Australia

MODELING & ANALYSIS
Motion Correction/Spatial Normalization, Atlas Construction

FNIRT - FMRIB's Non-linear Image Registration Tool, Jesper Andersson, Steve Smith, Mark Jenkinson, FMRIB-Centre, Oxford, United Kingdom

Inter-subject Functional Connectivity Alignment, Bryan Conroy, Benjamin Singer, Peter Ramadge, James Haxby, Department of Electrical Engineering, Princeton University, Princeton, USA, 1 Center for the Study of Brain, Mind, and Behavior, Princeton University, Princeton, USA, 1 Department of Psychology, Princeton University, Princeton, USA

Agreement of independent structural and functional methods for locating the human V1 boundary, Oliver Ilms, Jonathan Polimeni, Mukund Balasubramanian, Bruce Fischl, Eric Schwartz, Christina Triantafyllou, McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA, 1 Athinoula A. Martinos Center, Massachusetts General
Hospital, Harvard Medical School, Charlestown, USA, 1Department of Cognitive and Neural Systems, Boston University, Boston, USA, 2Computer Science and Artificial Intelligence Lab, Massachusetts Institute of Technology, Cambridge, USA, 3Department of Electrical and Computer Engineering, Boston University, Boston, USA, 4Department of Anatomy and Neurobiology, Boston University Medical School, Boston, USA

Comparison of Talairach and MNI coordinates in functional neuroimaging data: Validation of the icbm2tal transform, Jennifer Robinson1, Angela Laird2, Kathryn McMillan3, Diana Tordesillas-Gutierrez3, Sarah Thelen4, Kimberly Ray4, David Glahn5, Peter Fox6, Jack Lancaster7, 1Department of Psychiatry, University of Texas Health Science Center, San Antonio, USA, 2Research Imaging Center, University of Texas Health Science Center, San Antonio, USA, 3Department of Radiology, Vanderbilt University, Nashville, USA, 4Department of Physics, Texas Lutheran University, Seguin, USA

MODELING & ANALYSIS
Univariate Modeling, Linear, & Nonlinear

Novel suppression method of spatially correlated noise improves detection of fMRI responses to ultra-short stimuli at 7T, Marta Bianciardi, Masaki Fukunaga, Jeff H. Duyn, Peter van Gelderen, Jacko A. de Zwart, Advanced MRI Section, LFMI, NINDS, NIH, Bethesda, USA

508 T-PM

New Validation Technique for Cortical Data Smoothing, Moo K. Chung, Department of Biostatistics and Medical Informatics, University of Wisconsin, Madison, USA

516 T-PM

Single volume estimates of neural activation computed in real-time, Oliver Hinds1, Todd Thompson1, Susan Gabrieli2, John Gabrieli2, Christina Triantafyllou3, 1McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA, 2Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA, 3Athinoula A. Martinos Center, Department of Radiology, MGH, Harvard Medical School, Charlestown, USA

520 T-PM

Exploring the effectiveness of spatial smoothing in fMRI, Mingwu Jin, Dietmar Cordes, University of Colorado Denver, Denver, USA

524 T-PM

Estimating distributions of onset times and durations from multi-subject fMRI studies, Lucy Robinson, Tor Wager, Martin Lindquist, Columbia University, New York, USA

528 T-PM*

Sample Size Recalculation Using Internal Pilot Studies For Group fMRI, Jeanette Mumford, Department of Psychology, University of California, Los Angeles, Los Angeles, USA

532 T-PM

A Bayesian approach to fMRI data analysis using Stochastic Search Variable Selection, Rajesh Nandy, Brad Mcevoy, University of California, Los Angeles, USA

536 T-PM

The Mann-Whitney-Wilcoxon random field, with applications to brain mapping, Farzan Rohani1, Masoud Asgharian1, Keith Worsley1, 1Department of Mathematics and Statistics, McGill University, Montreal, Canada, 2Montreal Neurological Institute, McGill University, Montreal, Canada

540 T-PM

Change in fractal properties of resting fMRI time series after different tasks, Alle Meije Wink1,2, Anna Barnes2, Ulrich Muller2, Ed Bullmore2, John Suckling2, 1Imaging Sciences Department, Imperial College, MRC Clinical Sciences Centre, Hammersmith Campus, London, United Kingdom, 2Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Addenbrookes Hospital, Hills Road, Cambridge, United Kingdom

544 T-PM

Non-negative least-squares random field theory, Keith Worsley1, Jonathan Taylor2, 1McGill University, Montreal, Canada, 2Stanford University, Palo Alto, USA

548 T-PM

MOVEMENT BEHAVIOR
Brain-machine Interface

Improved Gazed-Dependent Brain Computer Interface by using Onset and Offset Flash Visual Evoked Potential, Chi-Hsun Wu, Po-Lei Lee1,2,3, 1Department of Electrical Engineering, National Central University, Taoyuan, Taiwan, 2Department of Medical Research and Education, Taipei General Veterans Hospital, Taipei, Taiwan, 3Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan

552 T-PM
MOTOR BEHAVIOR

Hand Movements

Can low frequency repetitive transcranial magnetic stimulation to the non-lesioned hemisphere improve paretic arm reach-to-grasp performance after stroke?, Beth Fisher1, Joo Hyun Lee2, Shailesh Kantak3, Allan Wu4, 1Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, USA, 2Physical Therapy and Applied Movement Science, Mahidol University, Bankok, Thailand, 3Department of Neurology, University of California Los Angeles, Los Angeles, USA

Speed-dependent change of intercerebellar coupling during finger movement, Chang-hyun Park1-2, Woo-Kyung Yoo3, Suk Hoon Ohn4, Sung H. You5, Bo Hyun Lee6, Sung Tae Kim7, Yun-Hee Kim8, 1Department of Physical Medicine and Rehabilitation, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, 2Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon, Korea, 3Department of Physical Therapy, Yonsei University, Wonju, Korea, 4Department of Radiology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

Brain activity during voluntary movement and exercise imagery using Near-infrared spectroscopy (NIRS), Noriyuki Oka1, Kayoko Yoshino2, Syun Ishizaki3, Toshinori Kato4, 1Fujita Health University Health Department Rehabilitation Science Major occupational therapy, The 4th grade, Toyoake, Japan, 2Graduate school of Media and Governance, Keio University, Kanagawa, Japan, 3Department of Media and Governance, Keio University, Kanagawa, Japan, 4Department of Brain Environmental Research, KATOBRAIN Co, Ltd, Tokyo, Japan

Longitudinal Evaluation of fMRI Motor Activation Pattern in Multiple Sclerosis using Surface-based Analysis – a 6-month follow-up case study, Jun Wang1, Daniel Hier2, 1State Key lab of Cognitive and Learning, Beijing Normal University, P.R.China, 100875, Beijing, China, 2Department of Neurology and Rehabilitation, University of Illinois at Chicago, Chicago, IL 60612, USA, Chicago, USA

MOTOR BEHAVIOR

Motor-Premotor Cortex/Motor Cortical Functions

Effects of timing and sequencing on pre-movement brain activity, Marta Bortoletto1, Ross Cunnington2, 1Cognitive Neuroscience Unit, IRCCS Centro S. Giovanni di Dio Fatebenefratelli, Brescia, Italy, 2Queensland Brain Institute and School of Psychology, University of Queensland, Brisbane, Australia

Changes in MRS Response Following Activation of Motor Cortex, Nick Hunter1,2, Neva Bull3, Peter Stanwell4, 1Hunter Medical Research Institute, Newcastle, Australia, 2University of Newcastle, Newcastle, Australia, 3John Hunter Hospital, Newcastle, Australia, 4Brigham and Women's Hospital, Boston, USA

The enhancement of cortical activation of the hand motor representation induced by a brief-loudly sound, Mi Young Lee1, Yong Hyun Kwon2, Ji Won Park1, Sang Ho Ahn3, Sang Ho Jang4, 1Department of Rehabilitation Science, Graduate School, Daegu University, Daegu, South Korea, 2Department of Physical Therapy, Yeungnam College of Science & Technology, Daegu, South Korea, 3Dept. of Physical Therapy, College of Health and Medical Science, Catholic University of Daegu, Daegu, South Korea, 4Department of Physical Medicine & Rehabilitation, Yeungnam University College of Medicine, Daegu, South Korea

Direct recording of mirror neurons in human frontal and temporal lobes, Roy Mukamel1,2, Arne Ekstrom3, Jonas Kaplan4,5, Marco Iacoboni6,7,8, Izhak Fried6,9, 1UCLA Ahmanson-Lovelace Brain Mapping Center, David Geffen School of Medicine, Los Angeles, USA, 2UCLA Department of Psychiatry and Biobehavioral Sciences, Semel Institute for Neuroscience and Human Behavior, David Geffen School of Medicine, Los Angeles, USA, 3UCLA Center for Cognitive Neuroscience, Semel Institute for Neuroscience and Human Behavior, David Geffen School of Medicine, Los Angeles, USA, 4UCLA Division of Neurosurgery, David Geffen School of Medicine, Los Angeles, USA, 5Functional Neurosurgery Unit, Tel Aviv Medical Center and Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel, 6UCLA Brain Research Institute, David Geffen School of Medicine, Los Angeles, USA

556 T-PM

560 T-PM

564 T-PM

568 T-PM

572 T-PM

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580 T-PM

584 T-PM
Cortical Adaptations in Patients with Clinically Isolated Syndrome; perspectives for predicting MS, Mohammad Ali Oghabian1, Mohammad Hosain Harirchian2, Ali Reza Rezavand3, Mohammad Fakhr2, 1Research Center for Sciences and Technology in Medicine, Tehran University/Medical Sciences, Tehran, Iran, 2Neurology Research Center, Emam Hospital, Tehran University/Medical Sciences, Tehran, Iran

The Neural Representation of Praxis: The Slicing Gesture, Donald Robin1, 2, Howard Poizner3, Shalini Narayand, Jack Lancaster4, Crystal Franklin5, Wayne Hening4, Peter Fox1, 2, 3Research Imaging Center, University of Texas Health Science Center at San Antonio, San Antonio, USA, 4Honor’s College, University of Texas, San Antonio, San Antonio, USA, 5Institute for Neural Computation, University of California, San Diego., USA, 6Robert Wood Johnson Medical School, Piscataway, USA

Neural Correlates of Motor Sequence Learning, Christopher J. Steele, Virginia B. Penhune, Concordia University, Montreal, Canada

Neural Abnormalities of Synchronized Tapping in Adult ADHD, Eve Valera1, Joseph Biederman1, Thomas Zeffiro1, Amin Rogel1, Megha Patil2, Rebecca Spencer3, Nikos Makris4, Thomas Spencer5, Stephen Faraone6, Larry Seidman7, 1Neuroimaging Program, Clinical and Research Programs in Pediatric Psychopharmacology and Adult ADHD, Psychiatry, Harvard Medical School/Massachusetts General Hospital, Charlestown, USA, 2Clinical and Research Programs in Pediatric Psychopharmacology and Adult ADHD, Psychiatry, Harvard Medical School/Massachusetts General Hospital, Boston, USA, 3Psychiatry, Massachusetts General Hospital, Charlestown, USA, 4Psychology, Brandeis University, Waltham, USA, 5Psychology, University of California at Berkeley, Berkeley, USA, 6Neurology and Radiology, Harvard Medical School/Massachusetts General Hospital, Boston, USA, 7Psychiatry and Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, USA, 8Neuroimaging Program, Clinical and Research Programs in Pediatric Psychopharmacology and Adult ADHD, Psychiatry, Harvard Medical School/Beth Israel Deaconess Medical Center, Boston, USA

NEUROANATOMY
Anatomical Studies

Evolution of the Cerebellar Cortex: Selective expansion of prefrontal-projecting lobules, Joshua Balsters1, Emma Cussans2, Joern Diedrichsen3, Kimberley Phillips4, Todd Preuss4, James Rilling5, Naren Ramnani6, 1Dept Psychology, Royal Holloway University of London, London, United Kingdom, 2Wolfson Centre for Cognitive Neuroscience, School of Psychology, Bangor University, United Kingdom, 3Dept Psychology Hiram College, Hiram, USA, 4Div Neuroscience, Yerkes Natl. Primate Research Ctr, Emory University, Atlanta, USA, 5Dept Anthropology and Dept of Psychiatry and Behavioral Sciences, Emory University, Atlanta, USA

Insular volume Reduction in Williams Syndrome Using Real-Space Morphometry, Jeremy Cohen1, Ursula Bellugi2, Asya Karchensky3, Brian Haas4, Allan Reiss5, 1Neuroimaging Laboratory, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, USA, 2The Salk Institute for Biological Studies, Laboratory for Cognitive Neuroscience, La Jolla, USA

Cerebral change in patients with amnesic Mild Cognitive Impairment single domain and amnesic Mild Cognitive Impairment multiple-domain, Margherita Di Paola1, 2, Serena Mosti3, Augusto Carlesimo4, 5, Lucia Fadda4, 5, Monica Ferraccioli6, Guido Gainotti7, Camillo Marra8, Roberta Perri9, Carlo Calliglione10, 11, 1 Neuroimaging Laboratory, IRCCS Sant’Anna Foundation, Rome, Italy, 2Department of Internal Medicine and Public Health, University of L’Aquila, L’Aquila, Italy, 3Clinical and Behavioural Neurology Laboratory, IRCCS Santa Lucia Foundation, Rome, Italy, 4Department of Neurological Sciences, University of Rome “Tor Vergata”, Rome, Italy, 5Neuropsychology Service - Department of Neurology, Catholic University of Rome, Rome, Italy

Structural brain abnormalities in nonhuman primates exposed to early-life stressors, Andrea Jackowski1, 2, Griselda Garrido3, Andrew Dwork4, Tarique Perera5, Jeremy Coplan6, Joan Kanofman7, 1, 2, 3LIINC, Universidade Federal de Sao Paulo, Sao Paulo, Brazil, 4Child Study, Yale University, New Haven, USA, 5Servicio de Informatica, Instituto do Coracao, Hospital das Clinicas da Faculdade de Medicina da Universidade de Sao Paulo, Sao Paulo, Brazil, 6Department of Neuroscience, New York State Psychiatric Institute, New York, USA, 7Department of Biological Psychiatry, New York State Psychiatric Institute, New York, USA, 8Psychiatry, SUNY-Downstate Medical Center, Brooklyn, USA, 9Psychiatry, Yale University, New Haven, USA

600 T-PM

604 T-PM

608 T-PM

612 T-PM

616 T-PM
Left hemisphere language activation depends on the size of the anterior and posterior corpus callosum., Gouilven Josse, Ferath Kherif, Mohamed Seghier, Cathy Price, Wellcome Trust Center for Neuroimaging, UCL, London, United Kingdom

Does smoking affect brain volume change in schizophrenia and healthy controls?, Cédric Koolschijn, Neeltje van Haren, Wiepke Cahn, Hugo Schnack, Hildeke Hulshoff Pol, René Kahn, Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands

Automated cortical projection of EEG sensors: Anatomical correlation via the international 10-10 system, Laurent KOESSLER1,2, Louis MAILLARD2, Adriane BENHADID3, Jean-Pierre VIGNAL2, Hervé VESPIGNANN1, Marc BRAUN1,2,1INSERM ER13, Nancy University, NANCY, France, 2Neurology Department, University Hospital, NANCY, France, 3Neuroradiology Department, University Hospital, NANCY, France

Hippocampal volumetrics in treatment-resistant schizophrenia and depression: the importance of the tail, Jerome Maller1, Zafiris Daskalakis1, Paul Fitzgerald1,1 Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 2University of Toronto, Toronto, Canada

Brodmann Areas defined in MNI space using a new Tracing Tool in BioImage Suite, Cheryl M. Lacadie1, Robert K. Fulbright2, Jagriti Arora3, R. Todd Constable2,3,4, Xenophon Papademetris1,4,1 Dept of Diagnostic Radiology, Yale School of Medicine, New Haven, USA, 2Dept of Neurosurgery, Yale School of Medicine, New Haven, USA, 3Dept. of Biomedical Engineering, New Haven, USA

Differences in Corpus Callosum Area and Shape in Advanced Aging and Alzheimer’s Disease, Jian Zhong1, Randy Buckner1,2, Bruce Fischl3,4, Michael Miller2, Anqi Qin1,1 Division of Bioengineering, National University of Singapore, Singapore, Singapore, 2Center for Imaging Science, Johns Hopkins University, Baltimore, USA, 3Athens A Martinos Center for Biomedical Imaging at MGH, Boston, USA, 4Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Boston, USA, 5Department of Psychology, Center for Brain Science, Harvard University, Boston, USA

Automated Method to Measure Cortical 3D Gyrification Index Implemented as a BrainVISA Plugin, Bill Rogers1, Peter Kochunov1, Jeff Rogers2, David Glahn1, Peter Fox1, 1University of Texas Health Science Center, San Antonio, USA, 2Southwest Foundation for Biomedical Research, San Antonio, USA

Characterizing Regional Gray Matter Thickness Trends in Normal Aging, Jing Wan1, Aaron Carass1, Susan Resnick2, Jerry Prince1,1 Image Analysis and Communications Laboratory, Electrical and Computer Engineering, the Johns Hopkins University, Baltimore, USA, 2National Institute on Aging, National Institutes of Health, Baltimore, USA

PHYSIOLOGY, METABOLISM, & NEUROTRANSMISSION

The effects of chronic caffeine use on the temporal dynamics of the BOLD signal, Merideth Addicott, Yang Lucie, Casanova Ramon, Peiffer Ann, Malijan Joseph, Burdette Jonathan, Burnett Luke, Laurienti Paul, Department of Radiology, Wake Forest University School of Medicine, Winston Salem, USA

Measuring Hemodynamic Contributions to the BOLD Post-Stimulus Undershoot, J. Jean Chen, G. Bruce Pike, McConnell Brain Imaging Centre, Montreal Neurological Institute, Montreal, Canada

Mismatched cerebral blood flow and metabolic rate of oxygen in healthy aging: A PET study, Joel Auerud1,2, Per Borghammer1,2, Mounoucher Vafaee2, Peter Iversen1, Peter Johansson1, Mahmoud Askarian1, Albert Gjedde1,2, 1PET Center, Aarhus University Hospitals, Aarhus, Denmark, 2Center of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark, 3Dept of Neurology, Rigshospitalet, Copenhagen, Denmark

Are gamma band power increases in the human brain systematically associated with alpha and beta power suppressions?, Karim Jerbi1,2, Sarang Dalal1, Nathan Weiss2, Aurélie Bidet-Caulet1, Julien Jung1, Lorella Minotti1, Philippe Kahn1, Alain Berthoz1, Olivier Bertrand1, Jean-Philippe Lachaux1, 1Physiology of Perception and Action Lab, CNRS, Collège de France, Paris, France, 2INSERM, U821, Brain Dynamics and Cognition and University Lyon 1, Lyon, France, 3Department of Neurology and INSERM U704, Grenoble Hospital, Grenoble, France
Changes in functional connectivity induced by sevoflurane in the human brain, Roberto Martuzzi1, Maolin Qiu1, Nallakkandhi Rajeevan1, Ramachandran Ramani2, R. Todd Constable3,4, 1Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, USA, 2Department of Anesthesiology, Yale University School of Medicine, New Haven, USA, 3Department of Biomedical Engineering, Yale University School of Medicine, New Haven, USA, 4Department of Neurosurgery, Yale University School of Medicine, New Haven, USA 668 T-PM

Gender differences of interregional metabolic connectivity in the resting brain explained by less inter-hemispheric transfer in males, Hyojin Park1,2, Hyejin Kang1, Eunjoo Kang1, Jungsu S. Oh1,2, Jae Sung Lee1, Dong Soo Lee1,2, 1Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul, South Korea, 2Interdisciplinary Program in Cognitive Science, Seoul National University, Seoul, South Korea, 3Programs in Brain and Neuroscience, Seoul National University, Seoul, South Korea, 4Department of Psychology, Kangwon National University, Chuncheon, South Korea, 5Psychiatry Neuroimaging Laboratory, Brigham and Women’s Hospital, Harvard Medical School, Boston, USA 672 T-PM

Changes of neuronal activity after transcranial direct current and photic stimulation are associated with glutamatergic neurotransmission as revealed by functional 1H-MR-spectroscopy, Michael Simitchkin1, Friederike Moeller1, Mascha Sendacki1, Stephan Wolff1, Ulrich Stephan1, 1Pediatric Neurology, Kiel, Germany, 2Neuroradiology, Kiel, Germany 676 T-PM

Opioids modulate the brain activity associated with breath-holding: an fMRI study, K.T. Pattinson1, R.J Governo1, E.C. Russell1, B.J. Macintosh1, I. Ahmad1, S.D. Mayhew1, D.R. Corfield2, I. Tracey1, R. G. Wise1, 1Nuffield Department of Anaesthetics, Oxford University, Oxford, United Kingdom, 2Oxford Centre for Functional Magnetic Resonance Imaging of the Brain (FMRIB), Department of Clinical Neurology, Oxford University, Oxford, United Kingdom, 3Institute of Science and Technology in Medicine. Keele University, Keele, United Kingdom, 4Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, United Kingdom 680 T-PM

Midbrain dopamine autoreceptor availability is inversely associated with novelty seeking traits in humans, David Zald, Ronald Cowan, Patrizia Riccardi, Ronald Baldwin, Ansari M Sib, Rui Li, Evan Shelby, Clarence smith, Robert Kessler, Vanderbilt University, Nashville, USA 684 T-PM

SENSORY SYSTEMS
Multisensory & Crossmodal

Cross-modal plastic changes of effective connectivity in blind subjects: An fMRI study, Takeshi Fujii1, Hiroki Tanabe1, Northiro Sadato1,2,3, 1Division of Cerebral Integration, Department of Cerebral Research, National Institute for Physiological Sciences, Okazaki, Japan, 2Department of Physiological Sciences, The Graduate University for Advanced Studies (Sokendai), Kanagawa, Japan, 3Research Institute of Science and Technology for Society (RISTEX), Japan Science and Technology Agency (JST), Tokyo, Japan, 4Department of Functional Neuroimaging, Faculty of Medical Sciences, University of Fukui, Fukui, Japan 688 T-PM

One sound, two percepts: Predicting future speech perception from brain activation during audiovisual exposure, Niclas Kilian-Hütten1, Jean Vroomen2, Elia Formisano1, 1Dept of Cognitive Neuroscience, Faculty of Psychology, Maastricht University, Maastricht, Netherlands, 2Dept of Psychology, Tilburg, Netherlands 692 T-PM

Functional development of the mirror neuron system does not require visual experience: an fMRI study in sighted and congenitally blind individuals, Emiliano Ricciardi1,2, Daniela Bonino1, Lorenzo San1, Tomaso E. Vecchi1, Mario Giuzzetti1, James V. Haxby1, Luciano Fadiga2, Pietro Pietrini1, 1Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, 2MRI Lab, Institute of Clinical Physiology, CN.R. Research Area, Pisa, Italy, 3Department of Psychology, University of Pavia, Pavia, Italy, 4Psychology Chair, Universityof Pisa, Pisa, Italy, 5Department of Psychology, Princeton University, Princeton, USA, 6Department of Biomedical Sciences and Advanced Therapy – Physiology Section, University of Ferrara, Ferrara, Italy 696 T-PM

Brain activity in colored-hearing synesthetes when listening to music: An fMRI study, Riuna Takahashi1, Mayuka Nishimoto1, Takashi X. Fujisawa1, Noriko Nagata1, Takeshi Sugio2, Seiji Inokuchi3, 1Graduate School of Science and Technology, Kwansei Gakuin University, Hyogo, 700 T-PM
Japan, 2Faculty of Culture and Information Science, Doshisha University, Kyoto, Japan, 3Faculty of Media Contents, Takarazuka University of Art and Design, Hyogo, Japan

**SENSORY SYSTEMS**

**Pain & Autonomic Function**

**3D TOPOGRAPHIC MAPPING OF MAGNETIC BRAIN RESPONSES TO TRAUMATIC PERIPHERAL NEUROPATHIC PAIN**, P.J. Theuvenet1, B.W. van Dijk1, Maria J. Peters1, F.L. Lopes da Silva1, J.M. van Ree1, Andrew C.N. Chen1, 1Dept. of Anesthesiology, Alkmaar Medical Center, Alkmaar, Netherlands, 2Center for Higher Brain Functions, Capital Medical University, Beijing, China

704 T-PM

**Chronic Pain Remodels the Brain’s Salience Network: A Resting-State fMRI Study**, Michael Greicius1, Meredith Barad2, Takefumi Ueno2, Sean Mackey1, 1Stanford University Medical Center, Stanford, USA, 2Kyushu University, Fukuoka, Japan

708 T-PM

**A PET study of wind-up pain in patients with postherniotomy pain**, Rune Christensen1, Eske Aarsvang2, Henrik Kehler3, Ron Kupers1, 1PET Unit, Copenhagen, Denmark, 2Dept. Surgical Pathophysiology, Copenhagen, Denmark

712 T-PM

**Partial least squares analysis of brain responses to experimentally induced rectal discomfort: Greater engagement of an insula-related network in female Irritable Bowel Syndrome (IBS) patients**, Jennifer Labus1, Lisa Kilpatrick1, Bruce Naliboff2, Steve Berman1, Brandall Suyenobu1, Emeran Mayer2, 1Center for Neurobiology of Stress, Brain Research Institute, Deps of Psychiatry and Biobehavioral Science, University of California, Los Angeles, USA, 2VA Greater Los Angeles Healthcare System, Los Angeles, USA

716 T-PM

**Brain correlates of conditioned placebo analgesia**, Luana Colloca1, Fausta Lui2, Davide Duzzi2, Luca Nocetti3, Davide Anghiti2, Francesca Benazzi4, Patrizia Baraldi5, Fabrizio Benedetti2, Carlo Adolfo Porro1, 1Dip. Neurosciences, Univ. Torino, Torino, Italy, 2Dip. Scienze Biomediche, Univ. Modena e Reggio Emilia, Modena, Italy, 3Fisica Sanitaria, Policlinico, Modena, Italy, 4Dip. Neurosciences, Univ. Modena e Reggio Emilia, Modena, Italy

720 T-PM*

**Central Representation of Menstrual Cramping Pain in Primary Dysmenorrhea: a PET Study**, Cheng-Hao Tu1,2,4, David Niddam1,2,4, Ren-Shyan Liu3, Hsiang-Tai Cho4, Ren-Jen Hwang1,4, Jen-Chuen Hsieh1,2,3,4, 1Institute of Neuroscience, National Yang-Ming University, Taipei, Taiwan, 2Institute of Brain of Brain Science, National Yang-Ming University, Taipei, Taiwan, 3Brain Research Center, National Yang-Ming University, Taipei, Taiwan, 4Laboratory of Integrated Brain Research, Taipei Veteran General Hospital, Taipei, Taiwan, 5Department of Nuclear Medicine, Taipei Veteran General Hospital, Taipei, Taiwan

724 T-PM
COGNITION & ATTENTION
Executive Function

MEG analysis of inhibitory process during Go/NoGo task in normal children, Eun Young Kim1, Yeni Kim2, June Sic Kim1, Jae-Won Kim2, Jun Won Hwang2, Boong-Nyun Kim2, Soo Churl Cho1, Chun Kee Chung1, 1Department of Neurosurgery, Seoul National University College of Medicine, MEG Center, Seoul National University Hospital, Seoul, South Korea, 2Department of Neuropsychiatry, Seoul National University College of Medicine, Seoul, South Korea

Functional MRI Deactivations During Working Memory Distinguishes Multiple Sclerosis Patients from Controls, James Paskavitz1, Lawrence Sweert, Jesse Samuel1, Perceptive Informatics, Waltham, USA, 2Brown University, Providence, USA

Errors and the violation of intention: The functional role of the left ventrolateral prefrontal cortex within a neural system for error processing, Zrinka Sosic1, Martin Ruchssow2, Georg Grön1, 1Department of Psychiatry and Psychotherapy III, University of Ulm, Ulm, Germany, 2Clinic for Psychiatry and Psychotherapy, Christophshad, Göppingen, Germany

Neural basis of MPH-induced improvement in working memory differs by DAT genotype in childhood ADHD, Chandan Vaidya1, Devon Shook1, Jennifer Foss-Feig1, Laura Kenealy1, Edwin Cook1, Mark Stein1, 1Georgetown University, Washington, USA, 2Childrens National Medical Center, Washington, USA, 3University of Illinois, Chicago, USA

Paired pulse transcranial magnetic stimulation to investigate cortical inhibition., Paul Fitzgerald1, Jerome Mallier1, Kate Hoy1, Faranak Farzan2, Zafirs Daskalakis1, 1Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 2Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 3Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia, 4Centre for Addiction and Mental Health, Toronto, Canada, 5Centre for Addiction and Mental Health, Toronto, Canada

Expertise leads to a more efficient brain utilization: an fMRI study in professional and naive car drivers during attention and visual-spatial tasks, Lorenzo Sami1,2,3, Emiliano Ricciardi1,2,3, Alessandra Papasogli1, Riccardo Ceccarelli1, Ferdinando Franzon1, Gino Santoro1, Rainer Goebel1, Pietro Pietrini1,2, 1Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Italy, 2NMR Lab, CREA-CNR, Pisa, Italy, 3Department of Laboratory Medicine and Molecular Diagnostics, AOU Pisa, Italy, 4Formula Medicine, Viareggio, Italy, 5Department of Internal Medicine, University of Pisa, Italy, 6Department of Cognitive Neuroscience, Faculty of Psychology, Universiteit Maastricht, The Netherlands,

Parkinson’s disease patients fail to deactivate the default mode brain areas, Thilo van Eimeren1, Oury Monchi1, Benedicte Ballanger1, Antonio P. Strafella1, 1UNH-Toronto Western Hospital, Brain Imaging & Behaviour Systems Toronto Western Research Institute, CAMH-PET Imaging Centre, University of Toronto, Ontario, Canada, Toronto, Canada, 2Centre de Recherche de l’Institut Universitaire de Gériatrie, Université de Montréal, Quebec, Canada, Montreal, Canada

Increased activation in prefrontal and striatal areas during planning as a function of depression severity in a representative medication-free sample of Major Depressive Disorder in the general population: Preliminary results from the NESDA-neuroimaging study., Marie-José van Tol1, Nic van der Wee1, Marjan Nielen1, Andre Aleman1, Ramona Demeneu1, Remco Renken1, Mark van Buchem1, Frans Zitman1, Dick Veltman1, 1Leiden University Medical Center, Department of Psychiatry, Leiden, Netherlands, 2VU medical center, Amsterdam, Netherlands, 3Leiden University Medical Center, Department of Radiology, Leiden, Netherlands, 4University Medical Center Groningen, Groningen, Netherlands

IMAGEN Stop-Signal Task: Validation and Comparison of Brain Networks Subserving Fixed and Adaptive Stop Trials using 3T fMRI, Mira Buehler1,2, Mischa de Rover1, Sanja Abbott1, Luke Clark1, Hugh Garavan1, Katya Rubia1, Gunter Schumann2, Laurence Reed1, Trevor W. Robbins1, 1Behavioral and Clinical Neuroscience Institute, Department of Experimental Psychology, University of Cambridge,
Cambridge, United Kingdom, 2School of Psychology and Trinity College Institute of Neuroscience, Trinity College Dublin, Dublin, Ireland, 3Institute of Psychiatry, King’s College London, London, United Kingdom

Reward expectation in Parkinson’s disease: anterior cingulate cortical activation in response to reward expectation and actual reward during disease progression. James Rowe1,2,3, Laura Hughes1,2, Roger Barker1, Caroline Williams-Gray1, Sean Fallon1, Adrian Owen1,2,3, 1Department of Clinical Neurosciences, Cambridge University, Cambridge, United Kingdom, 2MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, 3MRC Behavioural and Clinical Neurosciences Institute, Cambridge, United Kingdom

A temporal hierarchy of brain dynamics, Stefan Kiebel, Jean Daunizeau, Chris Frith, Karl Friston, Wellcome Trust Centre for Neuroimaging, London, United Kingdom

Action Monitoring in Pediatric Obsessive-Compulsive Disorder, Poyu Chen1,2, Kate Fitzgerald3, Gregory Hanna1, William Gehring1, 1Department of Psychology, University of Michigan, Ann Arbor, USA, 2Department of Psychology, National Chung Cheng University, Chiayi, Taiwan, 3Department of Psychiatry, University of Michigan, Ann Arbor, USA

Anticorrelations between task-positive and task-negative brain areas increase during cognition, Michelle Hampson1, Naomi Driesen1, Jennifer Roth1, John Gore2, Todd Constable1, 1Yale School of Medicine, New Haven, USA, 2Vanderbilt University Institute on Imaging Science, Nashville, USA

Default Mode of brain function in Schizophrenia. An independent component analysis of fMRI data. V Joseph, A Mendrek, PF Liddle (Division of Psychiatry, Queens Medical Centre), Vergese Joseph1, Adrianna Mendrek2, Peter Liddle3, 1University of Nottingham, Nottingham, United Kingdom, 2University of British Columbia, Vancouver, Canada, 3University of Nottingham, Nottingham, United Kingdom

COGNITION & ATTENTION
Perception, Imagery, Awareness

Electrical Brain Imaging of Mental Own Body Transformations, Lars Schwabe, Bigna Lenggenhager, Olafl Blanke, Brain Mind Institute, Lausanne, Switzerland

Recognition of point-light possible and impossible motion: Mu rhythms and mirror neuron activity, Naznin Virji-Babul1,2, Teresa Cheung1,2, Urs Ribary1,2, Faisal Beg1, 1Down Syndrome Research Foundation, Burnaby, Canada, 2Simon Fraser University, Burnaby, Canada

Transient and linearly-graded deactivation of the human default-mode network by a visual detection task, Krish D. Singh1, Ian P. Fawcett1, CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom, 2School of Life and Health Sciences, Aston University, Birmingham, United Kingdom

Neural mechanisms underlying action execution and action observation, Alexander Moiseev1, Naznin Virji-Babul1,2, Teresa Cheung1,2, Douglas Cheyne1, Daniel Weeks1, 1Down Syndrome Research Foundation, Burnaby, Canada, 2Simon Fraser University, Burnaby, Canada, 3Hospital for Sick Children, Toronto, Canada

Neural correlates of ‘feeling of telepresence’ during watching a movie, Jeonghun Ku1, Hyeongrae Lee1, Jinsick Park1, Dan-Bi Choi2, Il Ho Park2, Kiwan Han2, Kang Joon Yoon3, Jae-Jin Kim4, In Young Kim1, Sun I. Kim1, 1Department of Biomedical Engineering, Hanyang University, Seoul, Korea, 2Department of Psychiatry, College of Medicine, Yonsei University, Seoul, Korea, 3St. Peter’s Hospital, Seoul, Korea

How special is the self? Neural basis of self-reflection: an fMRI study., Gemma Modinos1, Hans Ormø1, Lisette van der Meer1, Andre Alemán1, BCN Neuroimaging Center, UMCg, Groningen, Netherlands, 2Universitätsklinik Psychiatrie, UMCg, Groningen, Netherlands

Activation of the insular cortex during anticipation of feedback stimuli about difficult timing performance, Yasunori Kotani1, Yoshimi Ohgami1, Tatsuya Yoshihiro1, Tetsuji Tsukamoto1, Junichiro Araki1, Yusuke Inoue1, Yasutomo Aihara1, Tokyo Institute of Technology, Tokyo, Japan, 2GE-Yokogawa Medical Systems, Tokyo, Japan, 3Daikin Industries, Osaka, Japan, 4The University of Tokyo, Tokyo, Japan, 5Tokyo Metropolitan University, Tokyo, Japan
F0 independency of auditory evoked N1m latency is vocal sound specific?, Tomomi Mizuochi1,2, Masato Yamoto2, Shotaro Karino2, Kenji Itoh3, Tatsuya Yamasoba1,3, 1Department of Sensory and Motor Neuroscience, Graduate School of Medicine, University of Tokyo, Tokyo, Japan, 2Department of Clinical Laboratory, Graduate School of Medicine, University of Tokyo, Tokyo, Japan, 3Department of Otolaryngology-Head and Neck Surgery, Graduate School of Medicine, University of Tokyo, Tokyo, Japan, 4Department of Speech and Cognitive Science, Graduate School of Medicine, University of Tokyo, Tokyo, Japan, 5JSPS Research Fellow, Tokyo, Japan

DISORDERS OF THE NERVOUS SYSTEM

Addiction

Effects of Acute Alcohol Consumption on Complexity and Functional Connectivity of EEGs in Healthy Subjects., Seongkun Kim1, Dai-Jin Kim1, Jaeseung Jeong1,2, 1Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology, Daejeon, South Korea, 2Department of Psychiatry, College of Medicine, The Catholic University of Korea, Seoul, South Korea, 3Department of Psychiatry, Columbia College of Physicians and Surgeons and the New York State Psychiatric Institute, New York, USA

Pharmacological MRI of cigarette and placebo smoking. Kimberly Lindsey1, Blaise Frederick2, Lisa Nickerson1, Robert Ross MacLean1, Scott Lukas1, 1Behav. Psychopharm. Res. Lab. - McLean Hospital, Belmont, USA, 2Brain Imaging Center - McLean Hospital, Belmont, USA

DISORDERS OF THE NERVOUS SYSTEM

Autism

BOLD responses to dynamic facial expressions in autism spectrum disorders, Rahko Jukka1, Paaikki Jyri-Johan1, Ebeling Hanna1, Jussila Kajja1, Jansson-Verkasalo Eira1, Kausikko Sanna1, Kästysi Jari1, Mattila Marja-Leena1, Moilanen Irma1, Nikkinen Juha1, Remes Jukka1, Sams Mikko1, Starck Tuomo2, Tervonen Osmo2, Kiviniemi Vesa, 1Department of Child Psychiatry, Oulu University Hospital, Oulu, Finland, 2Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, 3Faculty of Humanities, Speech and Language Pathology, University of Oulu, Oulu, Finland, 4Laboratory of Computational Engineering, Helsinki University of Technology, Helsinki, Finland

fMRI activation to emotional faces is related to social anxiety in autism spectrum disorders, Natalia Kleinans1,2, Todd Richards2,3, Leonard Johnson1,2, Jessica Greenson3, Geraldine Dawson4, Elizabeth Aylward1,3, 1University of Washington Dept. of Radiology, Seattle, USA, 2University of Washington, Dept. of Psychosocial and Community Health, Seattle, USA, 3Center on Human Development and Disability, Seattle, USA, 4University of Washington, Dept. of Psychology, Seattle, USA

DISORDERS OF THE NERVOUS SYSTEM

Brain & Spinal Cord Trauma

Investigating the long-term effects of preterm birth on brain volume development using voxel-based morphometry of MRI data, Zoltan Nagy1,2, John Ashburner1, Bogdan Draganski2, Hugo Lagercrantz1, 1Neonatology Unit of the Department of Woman and Child Health, Karolinska Institute, Stockholm, Sweden, 2Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom

Magnetic Resonance Diffusion Tensor Imaging in Acute and Chronic Diffuse Axonal Injury, Johan Ljungqvist, Daniel Nilsson, Thomas Skoglund, Department of Neurosurgery, Sahlgrenska University Hospital, Goteborg, Sweden

DISORDERS OF THE NERVOUS SYSTEM

Developmental Disorders

Tourette: Nucleus Accumbens Volume Reduction and Somatosensory Cortical Thinning., Cherine Fahim1,2,3,4, Oliver Lyttleton7, Alan Evans1,2,3, 1Department of Neurology and Neurosurgery, McGill University, Montreal, Canada, 2Department of Biomedical Engineering, McGill University, Montreal, Canada, 3Department of Medical Physics, McGill University, Montreal, Canada, 4Sainte Justine Hospital Research Centre, Montreal, Canada, 5Department of Psychiatry, University of Montreal, Montreal, Canada
T1 Mapping of the Brains of Human Newborns in Control Group and Prenatally Drug-Exposed Groups, Feng Liu, Yunsoo Duan, Zhengchao Dong, Tove Rosen, Ravi Bansal, Dongrong Xu, Satie Shova, Bradley Peterson, Alayat Kangarlou, Columbia University and New York State Psychiatric Institute, New York, USA

Motor activation in developmental stuttering, Amanda Wood1,2, Angela Morgan3, Sheena Reilly3, Vicki Anderson4, David Reutens1, 1Department of Medicine, Southern Clinical School, Monash University, Melbourne, Australia, 2Australian Centre for Child Neuropsychology Studies, Critical Care Neurosciences Theme, Murdoch Childrens Research Institute, Melbourne, Australia, 3Language & Literacy Group, Healthy Development Theme, Murdoch Childrens Research Institute, Melbourne, Australia

Diffusion tensor imaging abnormality in boys with attention deficit hyperactive disorder with or without comorbid tic disorders, Jeewoon Choo1, Bum Seok Jeong2, Myung-Ho Lim2, Se Hun Shim3, Jung Woo Son4, Jun Kyun Park5, Chang Hwa Lee2, 1Dept. of Psychiatry, Daejeong St. Mary, Catholic University, Daejeon, South Korea, 2Dept. of Psychiatry, Eulji University, Daejeon, South Korea, 3Dept. of Psychiatry, Dankuk University, Cheonan, South Korea, 4Dept. of Psychiatry, Suncheon Yang University, Chonnam, South Korea, 5Dept. of Psychiatry, Chungju, South Korea, 6Dept. of Psychiatry, Konyang, Daejeon, South Korea, 7Dept. of Psychiatry, Eulji University, Daejeon, South Korea

DISORDERS OF THE NERVOUS SYSTEM

Epilepsy

Mapping of entorhinal cortex connectivity in temporal lobe epilepsy, Boris Bernhardt, Jason Lerch, Alan Evans, Neda Bernasconi, Andrea Bernasconi, Brain Imaging Center, Montreal Neurological Institute and Hospital, McGill University, Montreal, Canada

Non-invasive presurgical investigation in epileptic patients using simultaneous EEG-NIRS, Anne Gallagher1,2, Dang K. Nguyen4, Phetsamone Vannasing4, Olivia Florea1, Julie Tremblay1, Danielle Bastien1,2, Isabelle Pellettier1,2, Christophe Grova1,4, Frédéric Lesage4, Alain Bouthillier4, Lionel Carmant1,2, Franco Lepore1,2, René Bélanger2, Maryse Lassonde1,2, 1Centre de Recherche de l'Hôpital Sainte-Justine, Hôpital Sainte-Justine, Montréal, Canada, 2Centre de Recherche en Neuropsychologie et Cognition, Université de Montréal, Montréal, Canada, 3Service de Neurologie, Hôpital Notre-Dame du CHUM, Montréal, Canada, 4Montréal Neurological Institute, Montréal, Canada, 5École Polytechnique, Université de Montréal, Montréal, Canada, 6Service de Neurologie, Hôpital Sainte-Justine, Montréal, Canada

Automated hippocampal volume measurement can quantify atrophy associated with hippocampal sclerosis in temporal lobe epilepsy, Heath Pardoe, Gaby Pell, Graeme Jackson, Brain Research Institute, Melbourne, Australia

The impact of anterior temporal lobectomy on linguistic ability of temporal lobe epilepsy patients, Savio Wong1, Seyed Morsattari1,2, Frank Bihari1, Donna Bandura1, 1Brain and Creativity Institute, University of Southern California, Los Angeles, USA, 2Department of Clinical Neurological Sciences, The University of Western Ontario, London, Canada, 3Department of Medical Biophysics, The University of Western Ontario, London, Canada, 4Speech-Language Pathology Services, Psychological Services, London, Canada

Visualization of Electroencephalographic Activity during Epileptic Seizures, Michelle Chong1, Anthony Burkill1,2, David Grayden1,3, Iven Marel1, Karen Fuller1, Levin Kuhlmann1, Mark Cook1,2, 1Department of Electrical and Electronics Engineering, The University of Melbourne, Melbourne, Australia, 2St. Vincent's Hospital, Melbourne, Australia, 3The Bionic Ear Institute, Melbourne, Australia

Single Subject Voxel-Based Relaxometry for Assessment of Temporal Lobe Epilepsy, Robert Kostor1,2, Louis Lazonz3, Richard Frame4,5, Paolo Federico1,5, 1Electrical and Computer Engineering, University of Calgary, Calgary, Canada, 2Seam Family MR Centre, Foothills Med. Ctr., Calgary Health Region, Calgary, Canada, 3Radiology and Clinical Neurosciences, Hotchkiss Brain Institute, University of Calgary, Calgary, Canada

Post temporal lobe epilepsy surgery fMRI language reorganization, Neelan Pillay1,2,3, Anthony Waites1,2,3, David Abbott1,2,3, Graeme Jackson1,2,3, 1Brain Research Institute, Melbourne, Australia, 2University of Melbourne, Melbourne, Australia, 3Austin Health, Melbourne, Australia
DISORDERS OF THE NERVOUS SYSTEM

Stroke & Recovery of Function

A longitudinal fMRI study of cortical sensorimotor reorganisation in stroke recovery, Timothy Budde1, Mark Parsons1–3, Isobelle Hubbard1–2, Lecanee Carey2, Christopher Levi1–2, 1University of Newcastle, Newcastle, Australia, 2John Hunter Hospital, Newcastle, Australia, 3La Trobe University, Melbourne, Australia

Development and Utilization of A New Stroke Registry Containing Quantifiable Imaging Data on A Standard Brain Template, Dong-Eog Kim1, Geon-Hwan Kwan1, Sang-Wook Jeong1, Heung-Kook Choi2, 1MNER (Molecular Imaging and Neurovascular Research) Lab & Department of Neurology, Dongguk University International Hospital, Goyang, South Korea, 2Department of Computer Science, Kimiae, South Korea

Effect of Repetitive Arm Cycling Combined with Botulinum Toxin on Post-Stroke Spasticity: Evidence from Functional Magnetic Resonance Imaging, Rüdiger Seitz1–2, Raimund Kleiser1, Sandrin Hyde1, Nicolas Perret1, Dieter Ruegg1, Philippe Vuadens2, Eleonora Fornari3, Francois Vingerhoets1, Karin Diserens2–3, 1Department of Neurology, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany, 2Brain Imaging Center West, Jülich, Germany, 3Department of Medicine, University Hospital, Fribourg, Switzerland, 4Neurological Center Pfin Ole, Lausanne, Switzerland, 5Climique de Réadaptation Romande, Sion, Switzerland, 6Department of Diagnostic Radiology, University Hospital, Lausanne, Switzerland, 7Department of Neurology, University Hospital, Lausanne, Switzerland, 8Department of Neurorehabilitation and Neuropsychology, University Hospital, Lausanne, Switzerland

A proof-of-concept study on the effects of a robotic-assisted hand rehabilitation programme after stroke on central movement control, Christian Enzinger1–2, Christa Purgschilder1, Sandra Pegritz1, Walter Wirz1, Regina Lindner-Modrutter1, Guido Reiter1, Reinhold Scherer1, Alexander Kollreider1, David Raml1, Stefan Ropelta1, Marisa Loitfelder1–2, Christa Neuper1–2, Franz Fazekas2, Peter Grieshofer2, 1Dept. of Neurology, Medical University Graz, Graz, Austria, 2Rehabilitation Clinic Judendorf-Strassengel, Graz, Austria, 3Technical University Graz, Graz, Austria, 4Tyromotion GmbH, Graz, Austria, 5Institute of Psychology, Karl-Franzens University Graz, Graz, Austria, 6Section of Neuroradiology, Dept. of Radiology, Medical University Graz, Graz, Austria

Motion-processing and visuoconstructive deficits in an occipito-temporal stroke patient, Daniela Bernhardt1, Markus Raabe1, Ralf Lürding1, Ingo Kleiter1, Ulrich Bogdahn1, Mark W. Greenlee1, 1University of Regensburg, Institute for Experimental Psychology, Regensburg, Germany, 2University of Regensburg, Department of Neurology, Regensburg, Germany

EMOTION & MOTIVATION

Decision Making

Brain activity during self-referential processing about colors. -An fMRI study-, Hiroko Konno1, Yuko Sasso2–3, Motoki Sugiaru1, Ruya Kawashima2–3, 1Tohoku University School of Medicine, Sendai, Japan, 2RISTEX, Japan science and technology agency, Sendai, Japan, 3Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan

Distinguishing action values from chosen values in the human brain during reward-based decision making, Klaus Wunderlich1, Antonio Rangel2, John P O’Doherty1–2, 1Computation and Neural Systems Program, Caltech, Pasadena, USA, 2Division of Humanities and Social Sciences, Caltech, Pasadena, USA


EMOTION & MOTIVATION

Emotional Learning

Dissociable roles for the hippocampus and the amygdala in human cued vs. context fear conditioning, Andreas Marschner1, Rafael Kalisch1, Bram Vervliet2, Debora Vansteenwegen2, Christian Büchel1, 1Department of Systems Neuroscience, University of Hamburg, Hamburg, Germany, 2Department of Psychology, Katholieke Universiteit Leuven, Leuven, Netherlands, 3Department of Psychology, University of Amsterdam, Amsterdam, Netherlands
Neural responses in the amygdala and hippocampus relate with extinction of aversive face and voice stimuli., Tetsuya Idaka¹, Daisuke Saito¹, Hidetsugu Kameda², Yoko Mamo², Norio Ozaki³, Norihiro Sadato⁴, Nagoya University, Nagoya, Japan, ²National Institute for Physiological Sciences, Okazaki, Japan

Switching associations between facial identity and emotional expression is more difficult for angry expressions compared to happy expressions: A behavioural and ERP study., Megan Willis¹, Romina Palermo¹, Genevieve McArthur¹, Darren Burke², Carmen Atkinson¹, ³Macquarie Centre for Cognitive Science (MACCS), Macquarie University, Sydney, Australia, ⁴Centre for the Integrative Study of Animal Behaviour (CISAB), Macquarie University, Sydney, Australia

EMOTION & MOTIVATION
Emotional Perception

Neural activation to harsh faces among patients with Intermittent Explosive Disorder, Michael McCloskey¹, Emil Coccaro¹, Mike Angstadt¹, Royce Lee¹, Mitchell Berman¹, K. Luan Phan¹, ²The University of Chicago, Chicago, USA, ³University of Michigan, Ann Arbor, USA, ⁴University of Southern Mississippi, Hattiesburg, USA

The inferior fronto-occipital fasciculus mediates recognition of the facial expression of emotions., Carissa Philippi¹, Sonya Mehta¹, Thomas Grabowski¹,², Ralph Adolphs¹, David Rudrauf¹, ²Laboratory of Computational Neuroimaging, Department of Neurology, Division of Behavioral Neurology and Cognitive Neuroscience, University of Iowa College of Medicine, 200 Hawkins Drive, Iowa City, USA, ³Divisions of Humanities and Social Sciences and Biology, California Institute of Technology, Pasadena, USA, ⁴Department of Radiology, University of Iowa College of Medicine, 200 Hawkins Drive, Iowa City, USA

The cerebral blood flow correlates of Emotional Facial Processing in Mild Alzheimer’s disease., Roger T. Staff¹, Trevor S. Ahern¹, Louise H. Phillips¹, Claire Scott¹, Donald Mowat¹, Lawrence J. Whalley², Claude M. Wischik², Alison D. Murray², ³Aberdeen Royal Infirmary, Aberdeen, Scotland, ²University of Aberdeen, Aberdeen, Scotland

Spatial representation of non-verbal emotional perception along the superior temporal sulcus – fMRI reveals audiovisual integration area between voice- and face-sensitive regions, Benjamin Kreifelts¹, Thomas Ethofer¹,², Wolfgang Grolk³, Thomas Shiozawa¹, Dirk Wildgruber¹, ²Department of Psychiatry, University of Tuebingen, Tuebingen, Germany, ³Section of Experimental MR of the CNS, Department of Neuroradiology, University of Tuebingen, Tuebingen, Germany, ⁴Institute of Anatomy, University of Tuebingen, Tuebingen, Germany

Increased amygdala activation during automatic processing of facial emotion in schizophrenia., Astrid Veronika Ranisch¹,²,³, Mariaike Reker¹, Patricia Ohmann¹, Anya Pedersen¹, Jochen Bauer¹, Udo Dannlowski¹, Liv Harding¹, Katja Köllebeck¹, Carsten Konrad¹,³, Harald Kugel¹, Volkert Arol¹, Walter Heindel¹, Thomas Suslow¹, ²Department of Psychiatry, Muenster, Germany, ³Department of Clinical Radiology, Muenster, Germany, ⁴IZKF-Research Group 4, Muenster, Germany

Human brain represents valence of another's facial expression, Mikko Viinikainen¹, Iiro Jääskeläinen¹, Marja Balk¹, Taina Auти¹, Mikko Sams¹, ²Department of Biomedical Engineering and Computational Science, Espoo, Finland, ³Helsinki University Central Hospital, Helsinki, Finland

Localization Accuracy of Current Functional Neuroimaging of the Human Amygdala: A Meta-Analysis, Tonio Bali¹,²,³, Johanna Dertix²,⁴, Simon Eickhoff⁵, Andreas Schulze-Bonhage⁶,²,³, Isabella Mutschler⁶,²,³,⁴, Epilepsy Center, University of Freiburg, Freiburg, Germany, ²Bernstein Center for Computational Neuroscience, University of Freiburg, Freiburg, Germany, ³Institute for Medicine, Research Center Jülich, Jülich, Germany, ⁴C & O Institute for Brain Research, University of Düsseldorf, Düsseldorf, Germany, ⁵Department of Psychiatry, University of Basel, Basel, Switzerland, ⁶Department of Psychology, University of Basel, Basel, Switzerland, ⁷Freiburg Brain Imaging, University Clinics Freiburg, Freiburg, Germany

Decreased frontal gamma oscillations for different facial expressions of patients with bipolar disorder and major depression disorder: a MEG study, Tai-Ying Liu¹, Li-Fen Chen²,³, Jen-Chuen Hsieh²,³, Tung-Ping Su¹,²,³, ¹Institute of Biomedical Informatics, School of Medicine, National Yang-Ming University, Taipei, Taiwan, ²Institute of Brain Science, School of Medicine, National Yang-Ming University, Taipei, Taiwan, ³Integrated Brain Research Laboratory, Department of Medical Research
and Education, Taipei Veterans General Hospital, Taipei, Taiwan, 4Division of Psychiatry, School of Medicine, National Yang-Ming University, Taipei, Taiwan, 5Psychiatric Department, Taipei Veterans General Hospital, Taipei, Taiwan

Relationships between grey-matter volume and functional brain activity to fearful faces in medial prefrontal and limbic regions in Posttraumatic Stress Disorder., Kim Felmingham1,2, Erin Falconer3, Leanne Williams1, Thomas Whitford4, Anthony Peduto5, Richard Bryan2, 1Brain Dynamics Centre, Westmead Millennium Institute, Westmead Hospital, Sydney, Australia, 2Department of Psychological Medicine, University of Sydney, Sydney, Australia, 3School of Psychology, University of New South Wales, Sydney, Australia, 4MRI Unit, Department of Radiology, Westmead Hospital, Sydney, Australia 245 W-AM

Impact of Arousal on Non-conscious Fear Perception in Posttraumatic Stress Disorder: Enhanced Brainstem – Amygdala – Cortical ‘Alarm’ System in PTSD Patients with Hyperarousal., Andrew Kemp1, Kim Felmingham1, Belinda Liddell1, Erin Falconer2, Richard Bryan2, Leanne Williams1, 1Brain Dynamics Centre, Westmead Hospital and Western Clinical School of University of Sydney, Sydney, Australia, 2School of Psychology, University of New South Wales, Sydney, Australia 249 W-AM

Neurocognitive basis in experiencing compassion: A gender approach, Roberto E. Mercadillo1, Jose Luis Diaz2, Eric H. Pasaye3, Perla M. Salgado1, Fernando A. Barrios1, 1Universidad Nacional Autónoma de México, Instituto de Neurobiología, Querétaro, Mexico, 2Universidad Nacional Autónoma de México, Facultad de Medicina, México DF, Mexico, 3Instituto Nacional de Neurología y Neurocirugía, MVS, México DF, Mexico 253 W-AM

EEG Default Mode Network: Olympic Hymn, Andrew CN Chen*, Huixuan Zhao, Peipei Wang, Center for Higher Brain Functions, Capital Medical University, Beijing, China 257 W-AM

Amygdala involved in response to unexpected musical chords, Thomas Fritz1, Gottfried Schlaug2, Robert Turner1, Stefan Koelsch1, 1Max Planck Institute for Cognitive and Brain Science, Leipzig, Germany, 2Harvard Medical School, Boston, USA 261 W-AM

Attentional disengagement in response to threatening smoking pictures: An event-related brain potential study, Loes Kessels, Sara Moors, Kelly Pauwels, Rob Rutler, Maastricht University, Maastricht, Netherlands 265 W-AM

IMAGING TECHNIQUES & CONTRAST MECHANISM

Anatomical MRI

Whole-Brain Myelen Imaging Through Multi-Component Analysis of Steady-State Imaging Data, Sean Deoni1, Brian Rait2, Tarunya Arun1, Carlo Pierpaoli1, Derek Jones1, 1FMRIB, Oxford, United Kingdom, 2Robarts Research Institute, University of Western Ontario, London, Canada, 3Section of Tissue Biophysics and Biometrics, National Institutes of Health, Bethesda, USA, 4Cardiff University Brain Imaging Research Centre (CUBRIC), Cardiff, Wales 269 W-AM*

3D image reconstruction of depth electrode recording sites in the human Heschl's gyrus, Paul Poont1, LS Chen2, Hirosuki Oya1, Hiroto Kawaitski3, Richard Reale2, Kirill Nourski2, John Brugge3, Matthew Howard III1, 1Dept Physiology, NCKU, Tainan, Taiwan, 2Dept Electrical Engineering, NCKU, Tainan, Taiwan, 3Dept Neurosurgery, Univ of Iowa, Iowa City, USA 273 W-AM

USING ADNI CALIBRATION FOR NON-ADNI STUDIES: How to do it, Berkay Kamberoglu1, Lina Karam1, Josef Debbins2, 1Arizona State University, Tempe, USA, 2St. Joseph's Hospital and Medical Center, Phoenix, USA 277 W-AM

A JPEG 2000 Image Compression Tool for the MIPAV Software Package, Dzung Nguyen1, Nam Nguyen1, Pierre-Louis Bazin1, Trac Tran1, Dzung Pham2, 1Department of Electrical and Computer Engineering, Johns Hopkins University, Baltimore, USA, 2Department of Radiology and Radiological Science, Johns Hopkins University, Baltimore, USA 281 W-AM

Diffusion MRI

Reducing distortions in DW-EPI with a dual-echo blip-reversed sequence, Daniel Gallichan1, Jesper L Andersson1, Mark Jenkinson1, Matthew D Robson2, Karla L Miller1, 1FMRIB Centre, University of Oxford, Oxford, United Kingdom, 2OCMR, University of Oxford, Oxford, United Kingdom 285 W-AM
Probabilistic Tractography Using Steady-State Diffusion Imaging: A Promising Option For Achieving Higher Spatial and Angular Resolution, Jennifer McNab1, Saad Jhabdi2, Sean Deoni1,2, Gwenaëlle Douaud3, Tim Behrens12, Karla Miller1,1 Department of Clinical Neurology, Oxford University, Oxford, United Kingdom, 2Centre for Neuroimaging Sciences, Institute of Psychiatry, King’s College, University of London, London, United Kingdom, 3Department of Experimental Psychology, Oxford University, Oxford, United Kingdom

How Many Gradients are Sufficient in High-Angular Resolution Diffusion Imaging (HARDI)?, Liang Zhan1, Ming-Chang Chiang1, Marina Barysheva1, Arthur W. Toga1, Katie McMahon2, Greig de Zubicaray1, Matthew Meredith1, Margaret Wright1, Paul Thompson1,1 Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, 2Functional MRI Laboratory, Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia, 3Queensland Institute of Medical Research, Brisbane, Australia

In Vivo Study of White Matter Microvasculature Anisotropy Using the IVIM Technique, Dimitrios C. Karampinis1,2, Bradley P. Sutton2,3, John G. Georgiadis1,3,1 Mechanical Science and Engineering Department, University of Illinois at Urbana-Champaign, Urbana, USA, 2Bioengineering Department, University of Illinois at Urbana-Champaign, Urbana, USA, 3Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, USA

Performance of Spatial Normalization in Diffusion Tensor Imaging, Hailing Peng, Konstantinos Arfanakis, Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM

Multi-modal Integration

Real-time Web-scale Image Annotation for Semantic-based Retrieval of Neuropsychiatric Research Images, II Jeremy Bockhold1, Josef Ling1, Mark Scudly1, Adam Scott1, Susan Lane1, Vincent Magnotta2, Tonya White2, Kelvin Lim2, Randy Gollub2, Vince Calhoun1,2,1 The MIND Institute, Albuquerque, USA, 2The University of Iowa, Iowa City, USA, 3The University of Minnesota, Minneapolis, USA, 4Massachusetts General Hospital, Charlestown, USA, 5The University of New Mexico, Albuquerque, USA

DataViewer3D – An open-source, cross-platform multi-modal imaging data visualisation tool, Andre’ Gouws, William Woods, Mark Hymers, Gary Green, York Neuroimaging Centre, The Biocentre, York Science Park, University of York, York, United Kingdom

Imaging artefact removal using moving window PCA in simultaneous EEG/fMRI, Perttu Ranta-aho1, Stefanos Georgiadis1, Eini Niskanen2,3, Mika Tarvainen1, Pasi Karjalainen1,1 Department of Physics, University of Kuopio, Kuopio, Finland, 2Department of clinical neurophysiology, Kuopio University Hospital, Kuopio, Finland, 3Department of Neurology, Kuopio University Hospital, Kuopio, Finland

Simultaneous intracranial EEG-fMRI: A preliminary investigation of RF induced heating, David Carmichael1,2, John Thornton3, Roman Rodionov1,2, Rachel Thornton1,2, Andrew McEvoy1, Philip Allen3, Louis Lemieux1,2,1 Department of Clinical and Experimental Epilepsy, UCL Institute of Neurology, London, United Kingdom, 2MRI Unit, National society for epilepsy, Chalfont St Peter, United Kingdom, 3Lysholm Department of Neuroradiology, National Hospital for Neurology and Neurosurgery, London, United Kingdom, 4Victor Horsley Department of Neurosurgery, National Hospital for Neurology and Neurosurgery, London, United Kingdom, 5Department of Clinical Neurophysiology, National Hospital for Neurology and Neurosurgery, London, United Kingdom

Analysis on micro-structural integrity of the white matter underlying cortical surface, Bang-Bon Koo1, Hua Ning1, Dae-Shik Kim2,3, Jong-Min Lee1,1 Department of Biomedical Engineering, Hanyang University, Seoul, Korea, 2Center for Biomedical Imaging (CBI), Boston University school of Medicine, Boston, USA, 3Department of Anatomy and Neurobiology, Boston University school of Medicine, Boston, USA

Simultaneous measurement of fMRI, TMS and EMG with stepping stone sampling method, Hitoshi Shitara1,2, Takashi Hanakawa3, Tetsuya Shinkozak2, Kenji Takagishi2, Manabu Honda1,1 Department of Cortical Function Disorders, National Institute of Neuroscience, National Center of Neurology and Psychiatry, Tokyo, Japan, 2Department of Orthopedic Surgery, Gunma Graduate University School of Medicine, Gunma, Japan
IMAGING TECHNIQUES & CONTRAST MECHANISM
Optical Imaging/NIRS/MRS (magnetic resonance spectroscopy)

Identification and removal of motion artefact in functional near infrared imaging with the DYNOT system, F.C. Robertson, T.S. Douglas, E.M. Meinjes, Department of Human Biology, University of Cape Town, Cape Town, South Africa

Event-related hemodynamic optical signal during target detection in a Go-NoGo task, Andrei V. Medvedev¹, Jana Kainerstorfer², Sergey V. Borisov³, John VanMeter⁴, ¹Center for Functional and Molecular Imaging, Georgetown University Medical Center, Washington, USA, ²Dept. of Physics, University of Vienna, Vienna, Austria

IMAGING TECHNIQUES & CONTRAST MECHANISM
Perfusion MRI

Tracking blood oxygenation within the cerebral vasculature with pulsed ASL using single-shot 3D GRASE, Carol Docherty¹, Robert Trampel¹, Matthias Guenther², Marcel Weiss³, Enrico Reimer³, David Feinberg⁴, Robert Turner⁴, ¹Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, ²mediri GmbH, Heidelberg, Germany, ³Advanced MRI Technologies, Sebastopol, USA

Dynamic Pseudo Continuous Arterial Spin Labeling, Wen-Ming Lu¹, Afonso Silva², Peter Bandettini³, ¹FMRIF/NMHI, National Institutes of Health, Bethesda, USA, ²CMU/NINDS, National Institutes of Health, Bethesda, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM
PET/SPECT

Automated Standardized Uptake Value Ratio of ¹⁸F-FDG PET analysis in Alzheimer’s disease, Parnesh Raniga¹,², Jürgen Fröpp¹, Pierrick Bourgeat¹, Oscar Acosta¹, Victor Villemagne², Christopher Rowe³, Colin Masters⁴, Olivier Salgado⁴, Sebastien Ourselin¹,², ¹BioMedIA Lab, e-Health Research Center, CSIRO, Brisbane, Australia, ²Department of Electrical and Information Engineering, University of Sydney, Sydney, Australia, ³University College London, London, United Kingdom, ⁴University of Melbourne, Melbourne, Australia, ⁵Department of Nuclear Medicine, center for PET, Austin Hospital, Melbourne, Australia

IMAGING TECHNIQUES & CONTRAST MECHANISM
TMS

Determining the Cortical Area Targeted by Transcranial Magnetic Stimulation (TMS), Axel Thielischer, Kamil Uludag, MPI for biological Cybernetics, Tuebingen, Germany

LANGUAGE
Comprehension

Classification of fMRI during discourse processing in adolescents at ultra high risk for psychosis, Fred w. Sabb¹, Theo van ERP¹, Keng Wu¹, Angela Rizk-Jackson¹, Mirella Dapreto¹, Rochelle Caplan¹, Molly Hardt¹, Russell Poldrack¹,², Tyrone Cannon¹,², Carrie Bearden¹,², ¹Department of Psychiatry, Semel Institute, UCLA, Los Angeles, USA, ²Department of Psychology, UCLA, Los Angeles, USA

Tracing the recovery of aphasia with a joint ICA of functional and structural data, Karsten Specht¹, Roland Zahn¹, Klaus Willmes², Bernd J. Krause³, Hans Herzog³, Walter Huber³, ¹Department of biological and medical psychology, University of Bergen & Department of Medical Engineering, Haukeland University Hospital, Bergen, Norway, ²Neuroscience & Aphasia Research Unit (NARU), University of Manchester, Manchester, United Kingdom, ³Section Neuropsychology at the Neurological Clinic, University Hospital Aachen, RWTH Aachen University, Aachen, Germany, ⁴Department of Nuclear Medicine, Technische Universität München, Munich, Germany, ⁵Institute of Medicine, Research Center Jülich, Jülich, Germany, ⁶Section Neurolinguistics at the Neurological Clinic, University Hospital Aachen, RWTH Aachen University, Aachen, Germany

Neural Efficiency for Sentence Comprehension and Working Memory, Satoru Yokoyam¹, Kei Takahashi²,³, Toshimune Kambara²,³, Tadao Miyamoto⁴, Jorge Riera⁵, Kei Yoshimoto⁵, Ryuta Kawashima⁶, ¹IDAC, Tohoku University, Sendai, Japan, ²GSICS, Tohoku University, Sendai, Japan, ³JSPS, Tokyo, Japan

329 W-AM

333 W-AM

337 W-AM

345 W-AM

349 W-AM

353 W-AM

357 W-AM*

361 W-AM
Hypoglycemia reduces differential BOLD response to voluntary not automatic language processing, Robin J. Schafer, Jagriti Arora, Maolin Qui, Katie Page, Rachna Relwani, Robert Sherwin, R. Todd Constable, Yale University, New Haven, USA

Processing Misspelled Words in Sentence Context: An ERP Study, Lairoe A. Stowe, Joost Rommers, Hanneke Loerts, John C.J. Hoeks, Neuroimaging Center, University Of Groningen, Groningen, Netherlands

Differences of cerebral oxygen exchange (COE) depending on L1 or L2, Kayoko YOSHINO1, Shun ISHIZAKI1, Toshinori KATO1, 1 Graduate school of Media and Governance, Keio University, Kanagawa, Japan, 2Faculty of Computer and Information, Kanagawa, Japan, 3Department of Brain Environmental Research, KATOBRAIN Co., Ltd., Tokyo, Japan

Dynamic ERP Mapping Dictating Concept to Percept: Chinese Olympic Sport Symbols, Andrew CN Chen*, Peipei Wang, Center for Higher Brain Functions, Capital Medical University, Beijing, China

The effect of familiarity in metaphor comprehension: An fMRI study, Claudio Gentili1,3,4, Valentina Bambini5, Emilio Ricciardi1,4,5, Pietro Pietrini1,3,5, 1Chair of Clinical Psychology, University of Pisa, Pisa, Italy, 2Laboratory of Linguistics, Scuola Normale Superiore, Pisa, Italy, 2Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, 4MRI Lab, Institute of Clinical Physiology, C.N.R. Research Area, Pisa, Italy, 5Department of Laboratory Medicine and Molecular Diagnostics, AOU, Pisa, Italy

Differentiating lexical complexity in fronto-temporal language networks, Mirjana Bozic1, Lorraine K Tyler1, William Marslen-Wilson1, 1MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, 2Department of Experimental Psychology, Cambridge, United Kingdom

World knowledge retrieval during text reading: A dynamic causal modelling study, Ho Ming Chow1,2, Barbara Kaup1, Uwe Fricke1, Markus Raabe1, Mark W. Greenlee1, 1Institute of Cognitive Science, University of Osnabrück, Osnabrück, Germany, 2Department of Experimental Psychology, University of Regensburg, Regensburg, Germany, 3Department of Psychology, Technical University of Berlin, Berlin, Germany

An fMRI Study of syntactic information on word recognition, Toshimune Kambara1, Satoru Yokoyama1, Kei Takahashi1,2, Naoki Miura1,3, Tadao Miyamoto2, Daiko Takahashi2, Shigeru Sato2, Ryuta Kawashima2, 1Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan, 2Graduate School of International Cultural Studies, Tohoku University, Sendai, Japan, 3Department of Intelligent Mechanical Systems Engineering, Kochi University of Technology, Kami, Japan

LANGUAGE
Reading/Writing

MEG Applications for Detecting Dyslexia with Real & Nonsense Word Reading, Susan Bowyer1,2,3, Margaret Greenwald1, John Moran1, Norman Teply1,2,3, Renee Lajiness O'Neill1, 1Henry Ford Hospital, Detroit, USA, 2Wayne State University, Detroit, USA, 3Oakland University, Rochester, USA, 4Eastern Michigan University, Ypsilanti, USA

Neural Basis of Resilient Readers in Dyslexia, Joshua Heitzmann, Candy Ho, Fumiko Hseht, Allan Reiss, Center for Interdisciplinary Brain Sciences Research, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Palo Alto, USA

Functional connectivity of reading-related regions in adults, Alecia Vogel1, Jessica Church1, Fran Miezin1,2, Bradley Schlaggar1,2,3,4, Steven Petersen1,2,3, 1Department of Neurology, Washington University School of Medicine, St. Louis, USA, 2Department of Radiology, Washington University School of Medicine, St. Louis, USA, 3Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, USA, 4Department of Pediatrics, Washington University School of Medicine, St. Louis, USA, 5Department of Psychology, Washington University, St. Louis, USA

The Function of Dorsal Visual Pathway in Chinese Character Recognition: a spTMS Study, Yanlin Luo1, Andrew CN Chen1, Jie Yang2, xiujun Li2, Danlin Pen2, 1Center for Higher Brain Functions, Capital Medical University, Beijing, China, 2Beijing normal University, Beijing, China

Abnormal brain responses to sounds in children with language and reading impairments, Genevieve McArthur1, Carmen Atkinson1, Danielle Ellis2, 1Macquarie Centre for Cognitive Science, Sydney, Australia, 2Macquarie University, Sydney, Australia
MEMORY & LEARNING
Learning (explicit & implicit)

The computational values of information from personal and vicarious experiences are processed in parallel in the ACC, Timothy Behrens1,2, Laurence Huth3, Mark Woolrich4, Matthew Rushworth1,2. FMRIB Centre, University of Oxford, Oxford, United Kingdom, 3Dept. Experimental Psychology, University of Oxford, Oxford, United Kingdom, 4Equal contribution 417 W-AM

Transitions of task-related brain activation during acquisition of a novel perceptual-motor mapping, Oliver Hinds1, Susan Gabrieli1,2, Noa Ojen1, Julie Yoo1, Satrajit Ghosh1, Supar Lala1, Daniel Willingham4, Christina Triantafyllou1,2, John Gabrieli1,2, 1McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA, 2Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA, 3Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, USA, 4Department of Psychology, University of Virginia, Charlottesville, USA, 5Athinoula A. Martinos Center, Department of Radiology, MGH, Harvard Medical School, Charlestown, USA 421 W-AM

The bright side of Val - An advantage for the COMT Val genotype in reward-based decision making, Lea Krugel1,2, Guido Biele1,2, Peter Mohr1,2, Shu-Chen Li1,2, Hauke Heekeren1,2, 1Max Planck Institute for Human Development, Berlin, Germany, 2Berlin Neuroimaging Center, Berlin, Germany 425 W-AM*

Consolidation of Motor Memories Encoded by Different Practice Schedules, Satoshi Tanaka1, Manabu Honda2, Takashi Hanakawa2, Leonardo G Cohen1, 1Human Cortical Physiology Section, NINDS, NIH, Bethesda, USA, 2Department of Cortical Function Disorders, National Institute of Neuroscience, Kodaira, Japan 429 W-AM

Visuospatial Working Memory in Adolescents with Dysthymic Disorder: A Functional Magnetic Resonance Imaging (fMRI) Study, Jacqueline Yamada1, Melissa Casey1, Tim Silk2, Ross Cunningham2, Mark Bellgrove2, Alasdair Vance1, 1Academic Child Psychiatry Unit, Royal Children's Hospital, Murdoch Childrens Research Institute, Melbourne, Australia, 2Queensland Brain Institute, Brisbane, Australia 433 W-AM

Learning with emotional context affects brain activation during retrieval: an fMRI study, Wenting Jia1, Satoru Yokoyama2, Motoaki Sugiuara3, Atsushi Sekiguchi2, Ai Fukushima2, Ryuta Kawashima3, 1Tohoku University School of Medicine, Sendai, Japan, 2Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, 3National Institute for Physiological Sciences, Okazaki, Japan 437 W-AM

Hippocampal activation during a paired associative learning of faces and names, Kayako Matsuo1, Tetsuya Iida2, Epifanio Bagarinao3, Chikako Kato4, Akinori Takeda5, Toshiharu Nakai2, 1Dept. Gerontechnology, National Center for Geriatrics and Gerontology, Obu, Japan, 2Department of Psychiatry, Nagoya University, Nagoya, Japan, 3Grid Technology Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 4Department of Life and Career Design, Toyohashi Sozo University, Toyohashi, Japan, 5Department of Advanced Medicine, National Center for Geriatrics and Gerontology, Obu, Japan 441 W-AM

11:30 – 12:30  Corryong Hall (Level 2)

MEMORY & LEARNING
Long-term Memory (episodic, semantic, autobiographical)

Episodic Simulation of Specific and Generic Future Events, Donna Rose Addis1,2, Theresa Cheng1, Daniel L. Schacter1,2, 1Dept. of Psychology, Harvard University, Cambridge, USA, 2Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, USA 451 W-AM

Neural correlates of transmission from lexical-semantic to lexical-phonological stages during name recall: An event-related fMRI study, Sho Yagishita1,2, Takamitsu Watanabe2,3, Hiroshi Ito2, Hiroo Ikehira4, Motoichiro Kato3, Iwao Komol4, Tetsuya Suhara1, Hideyuki Kikyo4, 1National Institute of Radiological Sciences, Chiba, Japan, 2The University of Tokyo, Tokyo, Japan, 3Keio University, Tokyo, Japan 455 W-AM

Dissociated networks mediate retrieval operations via free-recall or recognition, Irit Shapira-Lichter1,2, Tali Siman-Tov1, Daphna Parain3, Dan Caspi1, Eli Vakil1, Talma Hendler3,4, 1Functional Brain Imaging Unit, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical 459 W-AM
Center, Tel-Aviv, Israel, 2Department of Psychology, Tel Aviv University, Tel-Aviv, Israel, 3Department of Rheumatology, Tel-Aviv Sourasky Medical Centre, Tel-Aviv, Israel, 4Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel, 5Department of Psychology and Leslie and Susan Gonda (Goldschmied) Multidisciplinary Brain Research Center, Bar-Ilan University, Ramat-Gan, Israel

Hippocampal activation is associated with encoding distinctiveness of study items, Valerie Carr1, Stephen Engel2, Barbara Knowlton1, 2, Interdepartmental Program in Neuroscience, UCLA, Los Angeles, USA, 2Department of Psychology, UCLA, Los Angeles, USA, 1Department of Psychology, University of Minnesota, Minneapolis, USA

Long-term Motor Training Affected Resting State Brain, Liangsu Ma1, Binquan Wang2, Jinhua Xiong1, 1Department of Radiology, University of Iowa, Iowa City, USA, 2Research Imaging Center, University of Texas Health Science Center, San Antonio, USA

A Neural Mechanism Underlying Memory Failure in Older Adults, W. Dale Stevens1, Lynn Hasher1, 2, Kimberly S. Chiew3, Cheryl L. Grady3, 4, 1Department of Psychology, Harvard University, Cambridge, USA, 2Rotman Research Institute at Baycrest, University of Toronto, Toronto, Canada, 3Department of Psychiatry, University of Toronto, Toronto, Canada, 4Department of Psychology, University of Toronto, Toronto, Canada

MODELING & ANALYSIS
Exploratory Methods, Artifact Removal

Asynchrony of BOLD signal across brain regions, Xia Cui, Allan Reiss, Center for Interdisciplinary Brain Sciences Research, Department of Psychiatry, Stanford University, Stanford, USA

Artificial shifting of fMRI activation detected by surface-based analyses, Hang Joon Jo1, Jong-Min Lee1, Jae-Hun Kim1, Chi-Hoon Choi2, Bon-Mi Gu1, Do-Hyung Kang2, Jun Soo Kwon1, Sun I. Kim1, 1Department of Biomedical Engineering, Hanyang University, Seoul, Korea, 2Department of Diagnostic Radiology, National Medical Center, Seoul, Korea, 1Interdisciplinary Program in Brain Science, Seoul National University, Seoul, Korea, 4Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea

Tradeoffs between signal detection accuracy and filter kernel size in high resolution cortical imaging, Benjamin Ramsden, Department of Neurobiology and Anatomy, and Sensory Neuroscience Research Center, School of Medicine, West Virginia University, Morgantown, USA

Characterization of physiological and neural fluctuations in sensory-evoked fMRI of the primary visual cortex, Kevin Aquino1, 2, 3, 4, Peter Robinson1, 2, 3, 4, Mark Schirra4, Peter Drysdale4, 5, Michael Breakspear1, 2, 3, 4, School of Physics, University of Sydney, Sydney, Australia, 2School of Psychiatry, University of New South Wales, Sydney, Australia, 3The Blackdog Institute, Prince of Wales Hospital, Sydney, Australia, 4School of Psychology, University of New South Wales, Sydney, Australia, 5Brain Dynamics Center, Westmead Millennium Institute, Westmead Hospital and the University of Sydney, Westmead, Sydney, Australia, 4Faculty of Medicine, the University of Sydney, Sydney, Australia

Evaluation of Parameters Used for Retrospective Corrections of the Physiological Noise in fMRI, Arsène Ella, Jochen Rick, Jürgen Hennig, Dept. of Diagnostic Radiology, Medical Physics, University Hospital Freiburg, Freiburg, Germany

MRI Compatible Sleeping-Eye Gaze Tracking System Using Infrared Video Analyzed by ANN based Image Processing, Syoji Kobashi1, Yuri Yahata2, Shigeyuki Kan2, Masaya Misa2, Takahiko Koike2, Satoru Miyachi3, Yutaka Hata4, 1Graduate School of Engineering, University of Hyogo, Himeji, Japan, 2CREST – Brain Function Imaging Team, Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology, Kobe, Japan

Removal of speech-related artifacts in MEG, Mordehay Medvedovsky1, Samu Taalvi2, Rozaliya Bikulina1, Ritsa Paetau1, 2, 3, 4, Antti Ahonen1, 1BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland, 2Elektro Neurromag Oy, Helsinki, Finland, 3Hospital for Children and Adolescents, Department of Child Neurology, Helsinki University Central Hospital, Helsinki, Finland, 4Department of Clinical Neurophysiology, Helsinki University Central Hospital, Helsinki, Finland
MODELING & ANALYSIS
Flattening, Segmentation

Cortical thickness estimation of Alzheimer’s disease patients: Application to the Australian Imaging Biomarkers and Lifestyle (AIBL) study., Pierrick Bourgeat1, Oscar Acosta1, Jurgen Fripp1, Colin Masters1, Christopher Rowe2, Victor Villemagne3, Olivier Slavado4, Sebastien Ourselin5, 1BioMedIA Lab, eHealth Research Centre, CSIRO ICT Centre, Brisbane, Australia, 2Centre for Neurosciences, University of Melbourne, Melbourne, Australia, 3Department of Nuclear Medicine, Centre for PET, Austin Health, Heidelberg, Australia, 4Centre for Medical Image Computing, University College London, London, United Kingdom

Anisotropic Diffusion Properties Near The Cortical Surface of The Human Brain, Xiaojian Kang1,2, Timothy Herron1, And Turken1, David Wood1,2,3, 1Human Cognitive Neurophysiology Lab, VA Research Service, VA-NCHCS, 150 Muir Road, Martinez, USA, 2Department of Neurology and Center for Neuroscience, University of California at Davis, 4860 Y St., Suite 3700, Sacramento, USA, 3UC Davis Center for Mind and Brain, 267 Coursete Place, Davis, USA

Multispectral imaging improves performance of BET skull stripping, Vitali Zagorodnov1, Suresh A. Sadanathan1, Bradley P. Sutton2,3, Michael W.L. Chee4, 1School of Computer Engineering, Nanyang Technological University, Singapore, Singapore, 2Bioengineering, University of Illinois at Urbana-Champaign, Urbana, USA, 3Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, USA, 4Cognitive Neuroscience Laboratory, Duke-NUS Graduate, Singapore, Singapore

Improved Surface Models for FIRST, Brian Patenaude1, Stephen Smith1, David Kennedy2, Mark Jenkinson3, 1FMrib Centre, University of Oxford, Oxford, United Kingdom, 2Center for Morphometric Analysis, MGH, Boston, USA

Brain Surface Conformal Slit Mapping, Yalin Wang1,2, Xianneng Gu1, Tony Chan2, Paul Thompson1, 1Lab. of Neuro Imaging and Brain Research Institute, UCLA School of Medicine, Los Angeles, USA, 2Mathematics Department, UCLA, Los Angeles, USA, 3Computer Science Department, Stony Brook University, Stony Brook, USA

MODELING & ANALYSIS
Functional Connectivity and Structural Equation Modeling

Modular small-world networks and age-related attenuation of a dominant frontal module in human endogenous fMRI, David Meinnier1, Sophie Achard2, Edward Bullmore3, 1Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, 2GIFSA-lab, UMR CNRS 5216, Grenoble, France

Subcortical Network Shape Analysis via Segmentation Denoising and Random Surface Momentum Maps, Anqi Qiu1, Michael Miller1, 1Division of Bioengineering, National University of Singapore, Singapore, Singapore, 2Center for Imaging Science, Johns Hopkins University, Baltimore, USA

A Stimulus-Locked VAR Connectivity Model for Slow Event-Related fMRI Designs, Wesley Thompson, Greg Seigle, University of Pittsburgh Department of Psychiatry, Pittsburgh, USA

Variations in Interhemispheric Correlation Across Development: A Resting-State fMRI Approach, Daniel S Margulies1,2, AM Clare Kelly1, Lucina Q Uddin1, Zarrar Shezad1, Phil Reiss1, F Xavier Castellanos2, Michael P Milham2, 1NYU Child Study Center, New York, USA, 2Berlin School of Mind and Brain, Berlin, Germany

The Impact of Global Signal Regression on Anti-Correlated Networks in Resting State Connectivity Analyses, Kevin Murphy1, Rasmus M. Birn2, Peter A. Bandettini1,2, 1Section on Functional Imaging Methods, National Institute of Mental Health, Bethesda, USA, 2Functional MRI Facility, National Institute of Mental Health, Bethesda, USA

Identifying Stimulus-Induced Functional Connectivity using Partial Directed Coherence, Joao Sato1,2, Edison Aranjo Jr1, Daniel Takahashi1,2, Silvia Arcuri1, Koichi Sameshima1, Pedro Morettin2, Luiz Baccala3, 1NIF-LIM44, Institute of Radiology - University of Sao Paulo, Sao Paulo, Brazil, 2Institute of Mathematics and Statistics - University of Sao Paulo, Sao Paulo, Brazil, 3Institute of Psychiatry - Kings College London, London, United Kingdom, 4Department of Electric Engineering, Escola Politécnica, University of Sao Paulo, Sao Paulo, Brazil

The Effect of Atlas-based Parcellation on Small-World Brain Functional Networks, Jinhui Wang¹, Liang Wang¹, Chaoze Zhu¹, Yufeng Zang¹, Hong Yang¹, Qiyou Gong¹, Yong He¹, ¹State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, ²School of Information Science and Technology, Beijing Institute of Technology, Beijing, China, ³Huaxi MR Research Center, Department of Radiology, West China Hospital of, Chengdu, China, ⁴McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada

A Bayesian Hierarchical Framework for Spatial Modeling of fMRI Data, Brian Caffo¹, DuBois Bowman², Susan Bassett¹, Clinton Kilts³, Johns Hopkins University, Baltimore, USA, ¹Emory University, Atlanta, USA

Motor task performance produces reductions in the amplitude of low frequency oscillations across the brain, driving reductions in functional connectivity within brain networks., Eugene Duff¹, ², Leigh Johnston¹, ², Jinhua Xiong³, Peter T. Fox³, Ivan Mareels³, Gary F. Eglin³, ¹Howard Florey Institute, Centre for Neuroscience, University of Melbourne, Melbourne, Australia, ²Department of Mathematics and Statistics, University of Melbourne, Melbourne, Australia, ³Department of Electrical and Electronic Engineering, University of Melbourne, Melbourne, Australia, ⁴Department of Radiology, University of Iowa, Iowa City, USA, ⁵Research Imaging Centre, University of Texas Health Science Centre, San Antonio, USA

Mutual information based approach for nonlinear functional connectivity, Seung-Hyun Jin, Peter Lin, Mark Hallett, Human Motor Control Section, Medical Neurological Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, USA

Phase Synchrony Analysis of Network Dynamics during Visual Task Performance links EEG and BOLD, Nathan Dees¹, Linda Larsson-Prior², Tracy Nolan², David Pollet², Fred Prior², Bahar Sonya¹, ¹Center for Neurodynamics, University of Missouri, St. Louis, USA, ²Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, USA

Schizophrenia as a Disruption of Functional Connectivity Patterns, B. Thyeau¹, R. Garg², G.A. Cecchi³, M. Plaze³, A.R. Rao³, I. Rish³, M.L. Paillière⁴, A. Galinovskii⁵, F. Bellivier⁶, R. De Beaurepaire⁶, D. Januel⁶, C. Martinelli⁷, J-L. Martinot⁷, J-B. Poline¹, ¹Neurospin, CEA, Gif-sur-Yvette, France, ²IBM Research, Yorktown Heights, USA, ³Unité Inserm-CEA, Neuroimaging and Psychiatry, Orsay, France, ⁴AP-HP Adolescent Medicine Department, Cochin Hospital, Paris, France, ⁵Sainte Anne Hospital, Paris, France, ⁶Henri Mondor Hospital, Créteil, France, ⁷Paul Guiraud Hospital, Villejuif, France, ⁸with CHS Ville-Evrard, Saint-Denis, France, ⁹P. Brousse Hospital, Villejuif, France

Global Signal Regression and Anticorrelations in Resting State fMRI Data, Michael Fox, Abraham Snyder, Marcus Raichle, Washington University in St. Louis, St. Louis, USA

Noise during rest explores the brain ‘s dynamic repertoire, Viktor Jirsala¹, ², Anandamohan Ghosh¹, Rolf Kötter², Randy McIntosh², Young-Ah Rho³, ¹Theoretical Neuroscience Group, UMR6152 Institut de Science du Mouvement CNRS, Marseille, France, ²University Medical Centre St. Radboud, Nijmegen, Netherlands, ³Center for Complex Systems & Brain Sciences, FAU, Boca Raton, USA, ⁴Rotman Research Institute - Baycrest Centre, Toronto, Canada

The patterns of functional connectivity in pediatric brain at rest: FDG-PET study, Heejung Kim¹, ², Hyejin Kang¹, ², Yoon-Kyong Yim², ³, Jae Sung Lee¹, Dong Soo Lee¹, ¹Dept. of Nuclear Medicine, Seoul National University, College of medicine, Seoul, South Korea, ²Interdisciplinary program in cognitive science, Seoul National University, Seoul, South Korea, ³Brain and neuroscience major, Seoul National University, College of Medicine, Seoul, South Korea

MODELING & ANALYSIS
Multivariate Modeling, PCA, & ICA

Modeling the spatial and temporal dependence in fMRI data: An application to a study of inhibitory control in cocaine addiction, F. DuBois Bowman, Gordana Derado, Emory University, Atlanta, USA

Analysis of ictal EEG-fMRI data in focal epilepsy patients using independent component analysis, Pierre LeVan, Louise Tyvaert, Jean Gotman, Montreal Neurological Institute, McGill University, Montreal, Canada

Further Development of the Complex General Linear Model to fMRI - Multiple Input and Output Evoked Response on Single Subject, Daniel Rio¹, Robert Rawlings², Lawrence Wolz³, Jodi Gilman⁴, ¹University of California, San Diego, USA, ²University of California, Los Angeles, USA, ³University of Pennsylvania, Philadelphia, USA, ⁴Brown University, Providence, USA

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Megan Davis, Daniel Hommer, 1 Section of Brain Electrophysiology and Imaging, Laboratory of Clinical Studies, NIH, Bethesda, USA, 2 Synergy Research Inc., Monrovia, USA

Modulation of the fractal properties of low frequency endogenous brain oscillations in functional MRI by a working memory task, Anna Barnes, Christian Habeck, Garry Honey, Alle-Meihe Wink, Edward Bullmore, John Suckling, 1 Cambridge University, Cambridge, United Kingdom, 2 Columbia University, New York, USA, 3 Cambridge University, Cambridge, United Kingdom, Imperial College, London, United Kingdom, 4 Cambridge University, Cambridge, United Kingdom, 5 Cambridge University, Cambridge, United Kingdom

Reliability of multivariate causality measures for neural data, Esther Florin, Joachim Gross, Gereon R. Fink, Lars Timmermann, 1 Institute of Neuroscience and Biophysics - Medicine, Cognitive Neurology, Research Centre Jülich, Juelich, Germany, 2 Department of Neurology, University Hospital Cologne, Cologne, Germany, 3 Centre for Cognitive Neuroimaging (CCNi), Department of Psychology, University of Glasgow, Glasgow, United Kingdom

A frequency domain approach for understanding brain connectivity from EEG data, Laura Marzetti, Cosimo Del Gratta, Guido Notte, 1 Department of Clinical Sciences and Bioimaging, Gabriele D'Annunzio University, Chieti, Italy, 2 Institute for Advanced Biomedical Technologies, Gabriele D'Annunzio University Foundation, Chieti, Italy, 3 Fraunhofer FIRST IDA, Berlin, Germany

Exploring changes in phase of EEG oscillations with tests on complex valued time-frequency representations, Eduardo Martinez-Montes, Pedro A. Valdés-Sosa, Cuban Neuroscience Center, Havana, Cuba

MOTOR BEHAVIOR

Basal Ganglia/Brainstem/Spinal Cord

‘REAL-TIME’ IMAGING OF CARDIOVASCULAR CONTROL IN HUMAN SUBJECTS: CONCURRENT RECORDING OF SPONTANEOUS MUSCLE SYMPATHETIC NERVE ACTIVITY AND SPONTANEOUS FLUCTUATIONS IN BRAINSTEM fMRI SIGNAL INTENSITY, Vaughan Macefield, Luke Henderson, 1 School of Medicine, University of Western Sydney, Sydney, Australia, 2 Prince of Wales Medical Research Institute, Sydney, Australia, 3 Department of Anatomy & Histology, University of Sydney, Sydney, Australia

MOTOR BEHAVIOR

Eye Movements/Visuomotor Processing

Cerebral Representations of Space and Time, Martijn Beudel, Remko Renken, Klaus Leenders, Bauke de Jong, 1 dept. Neurology, University Medical Center Groningen, Groningen, Netherlands
2 BCN Neuroimaging Center, University of Groningen, Groningen, Netherlands

Modulation of BOLD activations of the Smooth Pursuit Eye Movement network as a function of the amount of background dots, Sabine Ohlendorf, Andreas Sprenger, Oliver Speck, Volkmar Glauche, Sven Halfer, Hubert Kimmig, 1 Neurologische Universitätsklinik Freiburg, Freiburg, Germany, 2 Klinik für Neurologie, Universitätshospital Schleswig Holstein, Campus Lübeck, Lübeck, Germany, 3 Abteilung Röntgendiagnostik, Medizin Physik, Universitätsklinikum Freiburg, Freiburg, Germany, 4 Abteilung Biomedizinische Magnetresonanz, Institut für Experimentelle Physik, Universität Magdeburg, Magdeburg, Germany, 5 Abteilung für Neuroradiologie, Universitätsklinik Basle, Basel, Switzerland

Differential Frontal Controls during Eye Tracking of Visible and Occluded Moving Targets: Simultaneous fMRI and Eye-Movement Recording, Jinhong Ding, David Powell, Yang Jiang, 1 Psychology Dept., Capital Normal University, Beijing, China, 2 Behavioral Science Dept., University of Kentucky, Lexington, USA, 3 Magnetic Resonance Imaging and Spectroscopy Center, University of Kentucky, Lexington, USA

NEUROANATOMY

DTI Studies, Application

Using multimodal imaging to investigate the structure-function relationship of a sensorimotor cortical U-fiber, Kristi Clark, Kenichi Oishi, Roger Woods, Susan Mori, Arthur Toga, 1 Laboratory of Neuro Imaging, UCLA, Los Angeles, USA, 2 Laboratory of Brain Anatomical
MRI, Johns Hopkins University, Baltimore, USA, 3Brain Mapping Center, UCLA, Los Angeles, USA

Remediation-related neuroplasticity of left hemisphere white matter among poor readers: A longitudinal diffusion tensor imaging study, Timothy A. Keller, Ann Meyler, Vladimir L. Cherkassky, Marcel Adam Just, Center for Cognitive Brain Imaging, Department of Psychology, Carnegie Mellon University, Pittsburgh, USA
635 W-AM

Frontal-Limbic White Matter Pathway Differences Associated with Genetic Risk for Major Depressive Disorder, Jennifer Pacheco1,2, Christopher Beevers1, Cristina Benavides1, John McGearry1,4, Mithra Sathikumar2, David M. Schnyer1,2, 1Department of Psychology, The University of Texas at Austin, Austin, USA, 2Imaging Research Center, The University of Texas at Austin, Austin, USA, 3Research Service, Providence VA Medical Center, Providence, USA, 4Center for Alcohol and Addiction Studies, Brown University, Providence, USA
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Relating connectional architecture to grey matter function in the human lateral premotor cortex using functional and diffusion imaging, Valentina Tomassini1, Saad Jbabdi1, Jan Scholz1, Tim Behrens1,2, Paul M Matthews1, Matthew Rushworth1,2, Heidi Johansen-Berg1, 1FMRIB Centre, University of Oxford, Oxford, United Kingdom, 2Dept of Experimental Psychology, University of Oxford, Oxford, United Kingdom
643 W-AM*

Correlation of White Matter Integrity measured by DTI with Intelligence, Personality, and Creativity in Healthy Subjects., Arvind Caprivan, Ranee Barrow, Robert Chavez, H. Jeremy Bocholt, Rex E. Jung, MIND Research Network, Albuquerque, USA
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Cortical Connections of Human Inferior Parietal Area PF: Probabilistic Cytoarchitectonic Mapping and Diffusion Tensor Tractography Show a Similar Structural Organization as Compared to Macaques, Stefan Geyer1,2, Simon B. Eichkoff1, Karl Zilles1,2, C. and O. Vogt Brain Research Institute, Univ. Duesseldorf, Duesseldorf, Germany, 1Institute of Neurosciences and Biophysics – Medicine, Research Center, Juelich, Germany, 3Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
651 W-AM

Whole-Brain Analysis of Fractional Anisotropy in Fetal Alcohol Syndrome Using Tract-based Spatial Statistics, Longchuan Li1, Claire Coles1, Mary Ellen1, Zhihao Li1, Mingguo Qu1, Xiaoping Hu1, 1Biomedical Imaging Technology Center, Emory University/Georgia Institute of Technology, Atlanta, USA, 2Department of Psychiatry and Behavioral Sciences, Emory University, Atlanta, USA
655 W-AM

Mapping the Structural Core of Human Cerebral Cortex, Olaf Sporns1, Leila Cammoun2, Xavier Gigandet3, Reto Meuli4, Christopher Honey5, Patric Hagmann5, 1Department of Psychological and Brain Sciences, Indiana University, Bloomington, USA, 2Signal Processing Institute, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, 3Department of Radiology, University Hospital Center and University of Lausanne, Lausanne, Switzerland
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Age Related Changes of Human Brains using Magnetic Resonance Hybrid Diffusion Imaging, Yu-Chien Wu1,2, Frances B. Haeberti2, Yi-Min Huang2, Aaron S. Field1, Andrew L. Alexander1,2, 1Department of Radiology, University of Wisconsin-Madison, Madison, USA, 2Waisman Laboratory for Brain Imaging and Behavior, University of Wisconsin-Madison, Madison, USA, 3Department of Biomedical Engineering, University of Wisconsin-Madison, Madison, USA, 4Department of Medical Physics, University of Wisconsin-Madison, Madison, USA, 5Department of Psychiatry, University of Wisconsin-Madison, Madison, USA, 6Department of Physics, Madison, USA
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SENSORY SYSTEMS
Auditory/Vestibular

Patterns of local gamma activity over the human superior temporal gyrus suggested the presence of FM-selective processing areas, Paul Poon1,2, John Brugge3, Hirokumi Oya1, Richard Reale3, Hiroto Kawasaki1, Kirill Nourski1, Matthew Howard III1, 1Dept Physiology, NCKU, Tainan, Taiwan, 2Dept Neurosurgery, Univ of Iowa, Iowa City, USA
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Sound-induced activation of vestibular cortex: Electrical neuroimaging during vestibular evoked myogenic potentials, Pär Halje, Christophe Lopez, Olaf Blanke, Laboratory of Cognitive Neuroscience, Brain Mind Institute, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
671 W-AM
Multimodal Functional Imaging of Loss of Consciousness Under Propofol Anesthesia with Simultaneous EEG, fMRI, and 40-Hz ASSR, Patrick Purdon1,2,3, Eric Pierce1, Giorgio Bonmassar4,1, John Walsh1, Grace Harrell1, Jean Kwok1, Daniel Descler1, Catherine Mullally1, Margaret Barlow1, Rebecca Merhar1, Camilo Lamus5, Sharon Maginnis5, Debra Skoniecki5, Mary Sullivan5, Helen-Anne Higgins5, Emery Brown1,6,7, 1Mass Gen Hospital Dept Anesthesia & Critical Care, Boston, USA, 2Martinos Ctr. Biomed. Imaging, Charlestown, USA, 3Mass Gen Hospital Dept Radiology, Boston, USA, 4Mass Gen Hospital Dept Neurology, Boston, USA, 5Mass Gen Hospital GCRC, Boston, USA, 6MIT Dept Brain Cog Sci, Cambridge, USA, 7Harvard/MIT Division Health Sci & Technology, Cambridge, USA, 8Mass Eye Ear Infirmary, Boston, USA

SENSORY SYSTEMS
Tactile/Somatosensory

Brain white matter differences in lower limb amputees, a Diffusion Tensor Imaging study, Sarael Alcauter2,3, Erick H Pasayo2,1, Perla M Salgado4, Maria del Refugio Pacheco5, Maria De Iturbe4, Fernando A Barrios5, 1Instituto Nacional de Psiquiatria INPRF, Mexico DF, Mexico, 2Postgraduate Courses on Biomedical Sciences, UNAM, Mexico DF, Mexico, 3Instituto Nacional de Neurologia y Neurocirugia MV’s, Mexico DF, Mexico, 4Instituto Nacional de Rehabilitacion, Mexico DF, Mexico, 5Instituto de Neurobiologia, Universidad Nacional Autónoma de México, Queretaro, Mexico

An fMRI Study of Head Massage Reveals Activity in the Brain’s Reward Centres, Lisan Ho1, Laura M Parkes1, Richard L Evans2, Neil Roberts1, Francis McGlone2, 1The Magnetic Resonance and Image Analysis Research Centre (MARIARC), University of Liverpool, Liverpool, United Kingdom, 2Unilever Research Ltd, Wirral, United Kingdom

A somatotopical relationship between cortical activity and reflexological stimulation: an fMRI study, Tomomi Nakamura3, Naoki Miura3, Ai Fukushima3, Ryuta Kawashima3, 1Tohoku University School of Medicine, 4-I Seiryo-cho, Aoba-ku, Sendai, Miyagi, Japan, 2Department of Functional Brain Imaging, Institute of Development, Aging and Cancer (IDAC), Tohoku University, 4-I Seiryo-cho, Aoba-ku, Sendai, Miyagi, Japan, 3Institute of Medical and Dental Engineering Systems Engineering, Kochi University of Technology, 85 Miyamokuchi, Kami, Kochi, Japan

Behavioral correlates of negative BOLD signal changes in the primary somatosensory cortex, Jürgen Baudefweg1, Andreas Kastrup3, Sonja Schnaudege3, Lars Becker1, Jan Martin Sohns2, Peter Dechent1, 1MR-Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 2Department of Neurology, University Medical Center, Göttingen, Germany

Multimodal neuroimaging of somatosensory cortex during somatotopic air-puff stimulation, Ruey-Song Huang1,2,3, Tyzy-Ping Jung1, Rey Ramirez2, Zeynep Akalin-Acar3, Martin Sereno2, Scott Makeig1, 1Swarz Center for Computational Neuroscience, Institute for Neural Computation, University of California, San Diego, La Jolla, USA, 2Department of Cognitive Science, University of California, San Diego, La Jolla, USA

Finger representations in areas 3b and 1 of human primary somatosensory cortex as revealed by functional MRI of tactile stimulation, Renate Schweizer, Jens Frahm, Biomedizinische NMR Forschungs GmbH am Max–Planck-Institut für biophysikalische Chemie, Goettingen, Germany

SENSORY SYSTEMS
Vision

Evidence of two alpha rhythm systems in the human brain: a combined EEG/fMRI study, Eti Ben Simon1,2, Ilana Podlipsky1, Andrey Zhidanov1, Talma Hendler1,2,3, 1Functional Brain Center, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, 2Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, 3Psychology department, Tel Aviv University, Tel Aviv, Israel

fMRI of chromatic and achromatic responses in human visual areas: Specializations for spatial & temporal frequency, Dany V. M’Souza1, Barry B. Lee2, Jens Frahm1, 1Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Goettingen, Germany, 2State University of New York, School of Optometry, New York, USA

Cortical Network for Coherent Stereomotion in the Human Brain, Lora Likova, The Smith-Kettlewell Eye Research Institute, San Francisco, USA
COGNITION & ATTENTION
Executive Function

Transiently disrupting right prefrontal cortex interferes with updating of working memory, Neir Eshel, Joseph Luka, Agatha Lenartowicz, Leigh E. Nystrom, Jonathan D. Cohen, Princeton University, Princeton, USA

How positive and negative smells influence cognitive interference processes, Martina Reske1,2, Thilo Krellermann2, Andreas Finkemeyer2, Thomas Niessen2, Michael Schwenzer3, Klaus Mathiak2,3, 1University of California San Diego, Laboratory of Biological Dynamics and Theoretical Medicine, La Jolla, USA, 2RWTH Aachen University, Department of Psychiatry, Aachen, Germany, 3King's College Institute of Psychiatry, London, United Kingdom

Modafinil modulates activity in brain regions underlying attentional control in healthy subjects, Beth Stankevich, Roberta Rasetti, Fabio Sambataro, Giuseppe Blasi, Kelsey Skjet, Giulia Alce, Jose Apud, Daniel Weinberger, Venkata Mattay, Clinical Brain Disorders Branch: Genes, Cognition, and Psychosis Program, NIMH, NIH, Bethesda, USA

Comparison of putative default macaque and human cerebral cortex, David Van Essen1, Justin Vincent1, Avi Snyder1, Marcus Raichle1, 1Washington University, St. Louis, USA, 2Harvard University, Cambridge, USA

Activation of self-knowledge reduces conflict during occupational choice: An ERP study., Takashi Nakao, Makoto Miyatani, Akane Okamoto, Kaori Katayama, Mayo Mitsumoto, Yu Watanabe, Hiroshima Universit, Higashi-Hiroshima, Japan
CNV resolution does not cause the N2 and P3 Go/NoGo effects, Janette Smith1,2, Robert Barry2, Stuart Johnstone3, 1University of Newcastle, Newcastle, Australia, 2University of Wollongong, Wollongong, Australia

Brain network dynamics during working memory task events in relation to COMT Val(158)Met, Hao-Yang Tan, Qiang Chen, Rachel Higier, Laura Libby, Morgan Prust, Venkata Mattay, Daniel Weinberger, Joseph Callicott, Clinical Brain Disorders Branch, NIMH, NIH, Bethesda, USA

Multi-voxel coding of stimulus-response mapping rules in human frontal and parietal cortex, Alexandra Woolgar, John Duncan, Medical Research Council - Cognition and Developmental Sciences Unit, Cambridge, United Kingdom

Transient modulation of intrinsic network connectivity during working memory, Catie Chang1, Gary H. Glover1,2,3, Moriah E. Thomason2, Michael D. Greicius3, Yinod Menon3, 1Dept. of Electrical Engineering, Stanford University, Stanford, USA, 2Dept. of Radiology, Stanford University, Stanford, USA, 3Dept. of Psychology, Stanford University, Stanford, USA, 4Dept. of Neurology, Stanford University School of Medicine, Stanford, USA, 5Dept. of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, USA, 6Program in Neuroscience, Stanford, USA

A Longitudinal Investigation of Developmental Changes in Response Inhibition in Early Adolescence, Frances Haebert1,2, John Ollinger1,2, Dan Kelley1,2, Tom Johnstone1, Andrew Alexander1,2, 1University of Wisconsin - Madison, Madison, USA, 2Wisconsin Center: Lab for Brain Imaging and Behavior, Madison, USA, 3Bristol University, Bristol, United Kingdom

Tracing the neural correlates of the N200 in a tactile stop-signal task: predominance of the dACC?, Rene Huster1,2, Rene Westerhausen2, Arne Witting1, Werner Witting1, Elisabeth Schweiger1, Christo Pantev1, 1Center for Neuropsychological Research, Trier, Germany, 2Institute for Biomedical and Biosignalanalysis, Münster, Germany, 3Department of Psychiatry and Psychotherapy and Interdisciplinary Center for Clinical Research (IZKF), Münster, Germany, 4Cognitive Neuroscience Group, Department of Biological and Medical Psychology, Bergen, Norway

Freely Generating Task Goals and Delayed Intention, Sara L Bengtsson1, John-Dylan Haynes2, Katsuyuki Sakai3, Richard E Passingham4, 1Wellcome Centre for Neuroimaging, London, United Kingdom, 2Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 3Department of Cognitive Neuroscience, Univ of Tokyo, Tokyo, Japan, 4Department of Experimental Psychology, Oxford, United Kingdom

Changes of EEG Spectra from Alertness to Drowsiness in a Driving Simulator, Sheng-Fu Liang1, Chin-Teng Lin2,3, Jong-Liang Jeng1, Tsai-Wen Chu1, Li-Wei Ko2, Ruey-Song Huang1,4, Tsy-Ping Jung1,4, Jing-Ren Duang1,4, 1Department of Computer Science and Information Engineering, National Cheng-Kung University, Tainan, Taiwan, 2Brain Research Center, University System of Taiwan, Hsinchu, Taiwan, 3Department of Electrical and Control Engineering, National Chiao-Tung University, Hsinchu, Taiwan, 4Institute for Neural Computation, University of California, San Diego, USA

Performance monitoring dysfunction in cannabis users: evidence of anterior cingulate and prefrontal hypoactivation associated with reduced error awareness, Robert Hester1, Liam Nestor2, Hugh Garavan3, 1Queensland Brain Institute and School of Psychology, University of Queensland, St Lucia, Australia, 2School of Psychology and Trinity College Institute for Neuroscience, Trinity College Dublin, Dublin, Ireland

Identifying components of task-set reconfiguration using ERP and BESA, Elise Mansfield1, Frini Karayiannidis1,2,3, Kasey Galloway1, Janette Smith1,3, 1Functional Neuroimaging Laboratory, Newcastle, Australia, 2Schizophrenia Research Institute, Sydney, Australia, 3Hunter Medical Research Institute, Newcastle, Australia

COGNITION & ATTENTION
Perception, Imagery, Awareness

Dopaminergic neurotransmission plays a causal role in conscious awareness, Joshua Skewes1, Hans Lod1, Pedro Rosa1, Hakwan Lau2, Troels Kjaer3, Svend Jensen1, Kim Mouridsen1, Andreas Roepstorff, Albert Gjedde1, 1Center for Functionally Integrative Neuroscience, Aarhus University Hospitals, Aarhus, Denmark, 2Department of Psychology, Columbia University, Manhatten, USA, 3Department of Clinical Neurophysiology, Copenhagen University Hospital, Copenhagen, Denmark

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Neural correlates of change detection: how do we tell when a face is different?, Eva Loth¹, Rik Henson¹, Andy Calder¹, Jason Taylor¹, Sonia Bishop¹,² ¹University of Cambridge, Cambridge, United Kingdom, ²MRC CBU, Cambridge, United Kingdom
66 W-PM

Local activity patterns in high-level visual cortex reliably encode the category of invisible objects, Philipp Sterzer¹,², John-Dylan Haynes³, Geraint Rees³, ¹Charité, Dept. of Psychiatry, Berlin, Germany, ²University College London, London, London, United Kingdom, ³Bernstein Center for Computational Neuroscience, Berlin, Germany
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Location-Invariant Object Information in Foveal Retinotopic Cortex, Mark Williams¹,², Chris Baker³, Hans Op de Beeck⁴, Sabin Dang⁵, Christina Triantafyllou⁷, Nancy Kanwisher⁷, ¹MIT, Cambridge, USA, ²Macquarie University, Sydney, Australia, ³National Institute of Mental Health, Bethesda, USA, ⁴University of Leuven, Leuven, Belgium
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Input-specific potentiation in sensory-induced cortical plasticity, Nicolas McNair⁵, Wes Clapp⁵, Jeff Hamm¹, Tim Teyler³,⁴, Michael Corballis¹, Ian Kirk¹, ¹University of Auckland, Auckland, New Zealand, ²University of California, San Francisco, San Francisco, USA, ³University of Idaho, Moscow, USA, ⁴Washington State University, Pullman, USA
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EEG activity relating to expertise; rapid, knowledge-guided perception of shogi (a Japanese version of chess) piece positions, Hironori Nakatanai, Yoko Yamaguchi, Laboratory for Dynamics of Emergent Intelligence, RIKEN Brain Science Institute, Wako, Japan
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Different brain activation during perceptual transitions in ambiguous figure associates with perception of binocular rivalry, Chia-Li Liu, National Taiwan University, Taipei, Taiwan
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‘Brain Reading’ with Real-Time fMRI: Communication via detection of brain states in the absence of motor response, Martin Monti¹, Martin Coleman¹, Adrian Owen¹, ¹MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, ²Wolfson Brain Imaging Center, Addenbrookes Hospital, Cambridge, United Kingdom
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DISORDERS OF THE NERVOUS SYSTEM
Addiction

Investigating white matter microstructure in opiate addiction, obsessive compulsive disorder and healthy controls, Murat Yücel¹,², Emre Bora¹, Alex Fornito¹, Ben Harrison¹,³, Marc Seal¹, Christos Pantelis¹, Dan Lubman², ¹Melbourne Neuropsychiatry Centre, Department of Psychiatry, University of Melbourne, Melbourne, Australia, ²ORYGEN Research Centre, Department of Psychiatry, University of Melbourne, Melbourne, Australia, ³Institut d’Alta Tecnologia-PRBB, CRC Corporació Sanitària, Barcelona, Spain
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DISORDERS OF THE NERVOUS SYSTEM
Autism

Power Spectral Changes of Resting-State BOLD Signal in Children with Autism Spectrum Disorder, Jukka Remes¹,², Tuomo Starck¹, Jyri-Johan PaaKki¹, Juha Nikkinen¹, Sanna Kuusikko¹, Hanna Ebeling¹, Jukka Rahko³, Katja Jussila³, Marja-Leena Mattila³, Marianne Haapea³, Koen van Leemput²,³, Irma Moilanen¹, Osmo Tervonen¹, Olli Silven², Vesa Kiviniemi³, ¹Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, ²Department of Electrical and Information Engineering, University of Oulu, Oulu, Finland, ³Department of Child Psychiatry, Oulu University Hospital, Oulu, Finland, ⁴Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Charlestown, USA, ⁵Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, USA
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DISORDERS OF THE NERVOUS SYSTEM
Brain & Spinal Cord Trauma

The role of resting state fMRI in Persistent Vegetative State treated with cerebral cortical stimulation, Barbara Massa Micon¹,², Franco Cauda³,², Katiuscia Sacco³,², Elisa Montanaro², Federico D’Aldaro², Sergio Duca², Giuliano Geminiani³, Antonio Melcarne², Sergio Canavero¹, ¹Turin Advanced Neuromodulation Group, Torino, Italy, ²Department of Psychology, University of Turin, Torino, Italy, ³Department of Neurosurgery, CTO Hospital, Torino, Italy, ⁴CCS fMRI, Koelikker Hospital, Torino, Italy
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Diffuse Axonal Injury due to Traumatic Brain Injury Alters Inhibition of Imitative Response Tendencies, Barbara Eitrich¹, Rainer Scheid²,³, D. Yves von Cramon¹,², Matthias Schroeder²,³
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5Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2Day Clinic of Cognitive Neurology, University of Leipzig, Leipzig, Germany

Impaired Functional Connectivity in Traumatic Brain Injury: An MEG Study, Pratik Mukherjee1, Anne Findlay2, Hanna Lee2, Adrian Guggisberg2, Susanne Homma2, Michele Meker3, Geoffrey Manley2, Srikanth Nagarajan3, 4Radiology, UCSF, San Francisco, USA, 5Neurosurgery, UCSF, San Francisco, USA

DISORDERS OF THE NERVOUS SYSTEM
Developmental Disorders

Connectivity analysis of brain function in control children and children with fetal alcohol spectrum disorder (FASD) during number processing, Robyn Herron1, Ernesta Meintjes2, Sandra Jacobson2, Christopher Molteno1, Eric Murphy1, Vaibhav Diwadkar2, John Gore5, Joseph Jacobson5, Baxter Rogers1, 1Department of Human Biology, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa, 2Department of Psychiatry and Behavioural Neurosciences, Wayne State University School of Medicine, Detroit, USA, 3Department of Psychiatry, Faculty of Health Sciences, University of Cape Town, Cape Town, South Africa, 4Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, USA

Right Inferior Prefrontal Cortex is activated during Response Inhibition in Healthy Controls but not in Children with Fetal Alcohol Spectrum Disorder (FASD), Ernesta Meintjes2, Sandra Jacobson2, Christopher Molteno1, J Christopher Gatenby3, Christopher Warton1, Christopher Cannistraci1, John Gore5, Joseph Jacobson5, 1University of Cape Town, Cape Town, South Africa, 2Wayne State University, Detroit, USA, 3Vanderbilt University Institute of Imaging Science, Vanderbilt University, Nashville, USA

Volumetric reduction of normal appearing cortex in patients with polymicrogyria detected by cortical surface analysis, Pedro P M Oliveira, Claudia C Leite, Edson Amaro, NIF - LIM-44 - InRad - Faculdade de Medicina - Universidade de São Paulo, São Paulo, Brazil

Functional integrity of malformed cortex: an fMRI study, Florian Koppelstaetter1,2, Giorgi Kuchukhidze1, Iris Unterberger1, Judith Dobesberger1, Norbert Embacher1, Gerald Walser1, Thaddaeus Gotwald1, Christian Siedentopf2,3, Stephan Felber1, Anja Ischebeck2,3, Werner Jaschke1, Eugen Trinka1, 1Department of Radiology, Medical University Innsbruck, Innsbruck, Austria, 2MRI-Lab, Department of Psychiatry, Medical University Innsbruck, Innsbruck, Austria, 3Department of Neurology, Medical University Innsbruck, Innsbruck, Austria, 4Stiftungsklinikum Mittelrhein St.Martin, Koblenz, Germany

Disruption of right-lateralized fronto-striatal functional circuitry in Fragile X syndrome, Elizabeth Walter, Fumiko Hoeft, Allan Reiss, Department of Psychiatry, Stanford, USA

DISORDERS OF THE NERVOUS SYSTEM
Epilepsy

How different brain pathologies influence language plasticity in the brain: fMRI study., Massimo Caulo, Carlo Sestieri, Chiara Briganti, Francesco De Pasquale, Armando Tartaro, Gian Luca Romani, University of Chieti-Pescara, Chieti, Italy

Spatiotemporal propagation pattern of ictal scalp EEG in mesial temporal lobe epilepsy associated with hippocampal sclerosis, Ki-Young Jung1, Soyoung Kwon1, Joong-Koo Kang1, Ji Hyun Kim1, 1Department of Neurology, Korea University Medical Center, Korea University College of Medicine, Seoul, South Korea, 2Department of Neurology, Asan Medical Center, Ulsan University College of Medicine, Seoul, South Korea

The Neurodynamics of seizure propagation in focal epilepsy, Andre Peterson1,2,3, Anthony Burkitt1,2, Iven Mareels1, David Grayden1,2, Mark Cook1, Levin Kuhlmann1, 1Department of Electrical & Electronic Engineering, Melbourne University, Melbourne, Australia, 2Bionic Ear Institute, Melbourne, Australia, 3St. Vincent's Hospital, Melbourne, Australia

Low Frequency Oscillation Inhibition in BOLD Deactivation Regions Caused by Ictal Epileptic Discharges, Zhiqiang Zhang1, Guangming Lu1, Lei Tian1, Yijun Liu1, 1Department of Medical Imaging, Clinical School of Nanjing University, Nanjing, China, 2Department of Neurosurgery, Clinical School of Nanjing University, Nanjing, China, 3Department of Psychiatry and Neuroscience, University of Florida, Gainesville, USA
Reorganization of semantic noun processing in right temporal lobe epilepsy, Elizabeth Jensen1,2, Daniel Pittman1, Kamal Salihi1, Bradley Goodyear1,2,3, Paolo Federico1,2,1, Hotchkiss Brain Institute, Calgary, Canada, 2Department of Clinical Neurosciences, Calgary, Canada, 3Department of Radiology, Calgary, Canada

Ictal SPECT using Attachable Automatic Injector: Prediction of Ictal Onset Zone, Sang Kun Lee1, Jong Ju Lee1, Jang-Wik Choi1, Kon Chu1, Chun-Kee Chung2, Dong Sook Lee1, Neurology, Seoul, Korea, 2Neurosurgery, Seoul, Korea, 3Nuclear Medicine, Seoul, Korea

Simultaneous EEG-fMRI and Functional Connectivity Analysis for Epilepsy Research and Surgical Planning, Nallakandhi Rajeevan1, Michira Negishi1, E. Fertig2, L. Huh2, E. Novotney2, H. Blumenfeld2, Dennis Spencer2, Susan Spencer2, Todd Constable2,1, Diagnostic Radiology, Yale University, New Haven, USA, 2Neurosurgery, Yale University, New Haven, USA, 3Neurology, Yale University, New Haven, USA

DISORDERS OF THE NERVOUS SYSTEM

Stroke & Recovery of Function

Post-stroke somatosensory impairment inversely correlates with touch discrimination related BOLD signal in contralesional thalamus, Lecanne Carey3,4, David Abbott1, Matt Harvey1,2, Aina Puce1,4, Rudiger Seitz1,2, National Stroke Research Institute, Melbourne, Australia, 2La Trobe University, Melbourne, Australia, 3Brain Research Institute, Melbourne, Australia, 4Center for Advanced Imaging, Morgantown, USA, 5University Hospital, Duesseldorf, Germany

Proprioceptive perception in stroke participants with proprioceptive deficits: an fMRI study, Ettie Ben-Shabat1,2, Amy Brodmann3, Thomas A Matyas1,2, Lecanne M Carey1,2, La Trobe University, Melbourne, Australia, 2National Stroke Research Institute, Melbourne, Australia

Functional MRI in comatose survivors of cardiac arrest demonstrates decreased BOLD signal in patients with unfavourable outcome, Tenelle Gofton, Bryan Young, Philippe Choinard, Andrea Denchev, Frank Bihari, Michael Nicolle, Donald Lee, Michael Sharpe, Seyed Mirxattari, University of Western Ontario, London, Canada

Effects of Blood Pressure, Cholesterol and Glucose Levels on White Matter Tissue Structure: Diffusion Tensor Imaging Based Spatial Statistics (TBSS), David Salat1,4, Elizabeth Leritz2,5,4, Regina McGlinchey2,5,4, Caroline Chapman1,2, James Rudolph1,5,4, William Milberg2,3,4, 1MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Boston, USA, 2Geriatric Research, Education and Clinical Center (GRECC), Boston VA Healthcare System, Boston, USA, 3Division of Aging, Brigham & Women's Hospital, Boston, USA, 4Harvard Medical School, Boston, USA

EMOTION & MOTIVATION

Decision Making

Neural Substrates underlying Decision-Making in Adolescents, Uma Rao1, Anup Bideshi1, Monique Ernst2, 1UT Southwestern Medical Center, Dallas, USA, 2National Institute of Mental Health, Bethesda, USA

Tracking the unchosen option during stochastic choice in a dynamic world, Eric Boorman1,2, Timothy Behrens1,2, Mark Woolrich2, Matthew Rushworth1,2, 1Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom, 2Centre for Functional MRI of the Brain, University of Oxford, Oxford, United Kingdom

Neural Mechanism of Intertemporal Choice: From Discounting Future Gains to Future Losses, Lijuan Xu1, Zhu-Yuan Liang2, Kun Wang3, Shu Li3, Tianzi Jiang1, 1National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Center for Social and Economic Behavior, Institute of Psychology, Chinese Academy of Sciences, Beijing, China

EMOTION & MOTIVATION

Emotional Learning

Recruitment of Frontolimbic Circuitry in Reversal and Extinction Learning, Fatima Soliman1, Liat Levita1, Alex Miller1, Dina Amso1, Henning Voss1, Gary Glover1, BJ Casey1, 1Sackler Institute for Developmental Psychobiology, Weill Cornell Medical College, New York, USA, 2Citygroup Biomedical Imaging Center, Weill Cornell Medical College, New York, USA, 3Lucas Magnetic Resonance Image Center, Stanford University, Palo Alto, USA
UCS expectancies modulate the diminution of unconditioned fMRI signal responses during Pavlovian fear conditioning, David Knight, Najah Waters, Peter Bandettini, NIMH, Bethesda, USA

EMOTION & MOTIVATION

Emotional Perception

Association of trait emotional intelligence and individual fMRI-activation patterns during emotional perception, Benjamin Kreifelts*, Thomas Ethofer**, Wolfgang Grodd*, Elisabeth Huberle*, Dirk Wildgruber*, 1Department of Psychiatry, University of Tuebingen, Tuebingen, Germany, 2Section of Experimental MR of the CNS, Department of Neuroradiology, University of Tuebingen, Tuebingen, Germany, 3Department of Cognitive Neurology, Hertie Institute for Clinical Brain Research, University of Tuebingen, Tuebingen, Germany

The effect of body structure of humanoid robot for emotional empathy: an fMRI study, Naoki Mura, Motoaki Sugihara, Tomohisa Moridaira, Atsushi Miyamoto, Yoshihiro Kuroki, Ryuta Kawashima, 1Department of Intelligence Mechanical Systems Engineering, Kochi University of Technology, Kami, Japan, 2Department of Functional Brain Imaging, Institute of Development, Aging and Cancer (IDAC), Tohoku University, Sendai, Japan, 3Department of Cerebral Research, National Institute for Physiological Sciences, Okazaki, Japan, 4Graduate School of Engineering, Tohoku University, Sendai, Japan, 5Information Technologies Laboratories, Sony Corporation, Shinagawa, Japan

Neural correlates of volitional facilitation, Sina Radke, Corinna Nüsse, Susanne Erk, Julius Kuhl, Henrik Walter, 1Dept. of Psychiatry, Div. of Medical Psychology, University of Bonn, Bonn, Germany, 2Dept. of Differential Psychology and Personality Research, University of Osnabrueck, Osnabrueck, Germany

Neural mechanisms underlying cognition-affect interaction and psychological well-being, Carien M. van Reekum, Tom Johnstone, Catherine J. Norris, Stacey M. Schaefer, Regina C. Lapate, David Bachhuber, Nicole M. Rute, Richard J. Davidson, 1University of Wisconsin-Madison, Madison, USA, 2University of Reading, Reading, United Kingdom

Is there a relationship between 5HT1A receptor binding and fMRI activation during emotion processing?, Scott Langenecker, Susan Kennedy, David Scott, Douglas Noll, Jon-Kar Zubieta, 1University of Michigan Medical School, Psychiatry Department, Ann Arbor, USA, 2University of Michigan, Molecular and Behavioral Neuroscience Institute, Ann Arbor, USA, 3University of Michigan, Department of Engineering, Ann Arbor, USA

Skin temperature change in response to threatening stimuli in monkeys, Katsuki Nakamura, Koji Kuraoka, 1National Institute of Neuroscience, NCNP, Kodaira, Japan, 2CREST, JST, Kawaguchi, Japan

Do fearful eyes capture attention?, Pia Rothstein, Joy Geng, Glyn Humphreys, 1School of Psychology, University of Birmingham, Birmingham, United Kingdom, 2Center for Mind and Brain, University California Davis, Davis, USA

The Amygdalar Resting State Network, Christian Windschberger, Andreas Weissenbacher, Florian Gerstl, Rupert Lanzengerger, Ewald Moser, 1MR Center of Excellence, Medical University, Vienna, Austria, 2Center for Biomedical Engineering and Physics, Medical University, Vienna, Austria, 3Department of Psychiatry and Psychotherapy, Medical University, Vienna, Austria

Covert visual brand recognition results in a distinct modulation of emotional neuronal networks according to the individual preference: a fMRI study, Silvia Casarotto, Emiliano Ricciardi, Matteo Corciolani, Simona Romani, Daniele Dalil, Pietro Pietrini, Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, 2Department of Laboratory Medicine and Molecular Diagnostics, AOU Pisa, Pisa, Italy, 3Department of Business Administration, University of Pisa, Pisa, Italy, 4Department of Economics, Business, and Regulation, University of Sassari, Sassari, Italy

EEG source localization analysis for empathy of Iconic and Realistic Cartoon Characters, Yeojong Choi, Takhwan Kim, Jaeseung Jeong, 1Graduate School of Culture Technology, Korea Advanced Institute of Science and Technology(KAIST), Daejeon, South Korea, 2Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea

Valence - dependent modulation of hypothalamic activity, Martin Fürsatz, Christian Windschberger, Karl Agir Karlsson, Winfried Mayr, Ewald Moser, 1MR Centre of Excellence,
Inhibiting responses to faces and complex objects: Concurrent empathy, developmental aggression, and neural response, Jessica Kirkland, Marilyn Essex, Jeffrey Armstrong, Richard Davidson, University of Wisconsin Madison, Psychology Department, Madison, USA, University of Wisconsin Madison, Department of Psychiatry, Madison, USA

Conscious but not nonconscious perception of social emotions alters the “default mode” brain activity, Franco Cavada, Katuscia Sacco, Sergio Duca, Federico D’Agata, Barbara Massa Micon, Giuliano Geminiani, Marco Tamietto, Turin Advanced Neuromodulation Group, Turin, Italy, Department of Psychology, University of Turin, TF Psychology, University of Turinorino, Italy, Department of Neuroscience, Molinette Hospital, Turin, Italy, Cognitive and Affective Neuroscience Laboratory, Tilburg University, Tilburg, Netherlands, Department of Neurosurgery, CTO hospital, Torino, Italy, CCS fMRI, Koelliker Hospital, Torino, Italy

Brain connectivity changes during cognitive-emotional processing in alexithymia, Branišlava Čurčić-B, Marte Swart, André Aleman, Neuroimaging Centrum, University Medical Centre Groningen, Groningen, Netherlands

Fright and Screams: Supra-additive neural responses to perceptually incongruous audio-visual cues of fear, Cindy C. Hagan, Sam Johnson, Will Woods, Andrew J. Calder, Gary R. Green, Andrew W. Young, Department of Psychology and York Neuroimaging Centre, University of York, York, United Kingdom, MRC Cognition and Brain Sciences Unit, Cambridge University, Cambridge, United Kingdom

Nicotine negatively influences the neural processing of visual emotional stimuli in non-smokers, Andrea Kobiella, Dorothea E. Ushófér, Christian Vollmer, Sabine Klein, Derik Hermann, Karl Mann, Michael N. Smolka, Department of Addictive Behavior and Addiction Medicine, Central Institute of Mental Health, Mannheim, Germany, Section of Systems Neuroscience, Department of Psychiatry and Psychotherapy, Technische Universität Dresden, Dresden, Germany

Hartmut Bache, Medical University of Vienna, Vienna, Austria, Center for Biomedical Engineering and Physics, Medical University of Vienna, Vienna, Austria, Department for Biomedical Engineering, School of Science and Engineering, Reykjavik University, Reykjavik, Iceland


IMAGING TECHNIQUES & CONTRAST MECHANISM

Voxel-Guided Morphometry in MS: individual assessment of chronic structural brain tissue changes in MRI – the role of focal lesions for brain atrophy development, Matthias Kraemer, Thorsten Schormann, Andreas Darbringhaus, Jochen Hirsch, Klaus-Martin Stephan, Volker Hoemberg, Achim Gass, St. Mauritius TherapieKlinik, Muenchen, Germany, Institut für Anatomie 1, Heinrich-Heine Universität, Düsseldorf, Germany, Universitätsspital Basel, Neuroradiologie, Basel, Switzerland

A Comparison of Three Different Tractography Software Tools and Their Ease of Application, Brian Snyder, Jerry Chen, Moijgan Hodaei, Department of Surgery, Division of Neurosurgery, Toronto Western Hospital, University of Toronto, Toronto, Canada, University of Toronto, Toronto, Canada

High resolution R2* maps reveal laminar structure of human visual cortex in vivo., Masaki Fukunaga, Marta Bianciardi, Peter van Gelderen, Jacco de Zwart, Jeff Duyrn, Advanced MRI, LFMI, NINDS, National Institutes of Health, Bethesda, USA

MRI Phase-based Magnetic Susceptibility Mapping of the Human Brain at High Resolution, Karin Shmuely, Peter van Gelderen, Tie-Qiang Li, Jeff Duyrn, Advanced MRI Section, Laboratory of Functional and Molecular Imaging, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, USA

Can residual bootstrap reliably estimate uncertainty in fiber orientation obtained by spherical deconvolution from diffusion-weighted MRI?, Ben Jeurissen, Alexander Leemans, Jacques-Donald Tournier, Jan Sijbers, Visionlab, Dept. of Physics, University of Antwerp, Antwerp, Belgium, CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom, Brain Research Institute, Melbourne, Australia, Dept. of Medicine, University of Melbourne, Melbourne, Australia

IMAGING TECHNIQUES & CONTRAST MECHANISM

Diffusion MRI
Employing Bootstrapping Methods to Examine the Need for Pulse Triggering In Diffusion-Weighted Imaging, Zoltan Nagy1, Chloe Hutton1, Daniel Alexander2, Ralf Deichmann1,3, Nikolaus Weiskopf1, 1Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, 2Centre for Medical Image Computing, Department of Computer Science, University College London, London, United Kingdom, 3University Hospital Brain Imaging Centre, University of Frankfurt, Frankfurt, Germany 290 W-PM

Structural and Functional Correlations in Subjects with Long-Term Occupational Solvent Exposure: A Combined DTI-fMRI Study, David Carpenter1, Cheuk Tang1, Gudrun Lang2, Eric Leung3, Emily Eaves1, Nancy Fiedler1, 1Mount Sinai School of Medicine, New York, USA, 2UMDNJ-Robert Wood Johnson Medical School, New Jersey, 294 W-PM

Automated localization of White Matter Hyperintensities (WMH) on DTI white matter tract atlas., Nayoung Lee1, Susumu Mori2, Kenichi Oishi3, Andrea Faria3, J. Tilak Ramamohan4, Wei Wen5, Trollor Julian6, Permindeh Sachdev7, 1Center for Imaging Science, Johns Hopkins University, Baltimore, USA, 2School of Psychiatry, University of New South Wales, Sydney, Australia, 3Department of Radiology, Johns Hopkins University, Baltimore, USA 298 W-PM

Sub-millimeter Voxel Diffusion Tensor Imaging of the Optic Chiasma, Joelle Sarlis, Carlo Pierpaoli, National Institutes of Health, Bethesda, USA 302 W-PM*

**IMAGING TECHNIQUES & CONTRAST MECHANISM**

Multi-modal Integration

Registration of a NIRS Functional Time Series Dataset in fMRI Space, Paul Campion1,2, Sean Marrett2, Eric Wassermann1, 1Brain Stimulation Section, National Institute of Neurological Disease and Stroke, National Institutes of Health, Bethesda, USA, 2Functional MRI Facility, National Institute of Mental Health, National Institutes of Health, Bethesda, USA, 3NYU School of Medicine, New York, USA 306 W-PM

Development of an fMRI-MEG integrative neuroimaging technique: Improvements of its accuracy by suppression of fMRI-invisible coherent activities, Tetsuo Kobayashi, Yusuke Okada, Kyoto University, Kyoto, Japan 310 W-PM

Electrophysiological and hemodynamic correspondence of neuroelectric detection in fMRI data in focal epilepsy, Roman Rodionov1,2, Michael Siniatchkin3, Christoph Michel4, David Carmichael1,2, Rachel Thornton1,2, Adam Liston1, Louis Lemieux2, 1Department of Clinical and Experimental Epilepsy, Institute of Neurology, London, United Kingdom, 2MRI Unit, The National Society for Epilepsy, Chalfont St Peter, Buckinghamshire, United Kingdom, 3Christian-Albrechts-University, University Hospital of Pediatric Neurology, Kiel, Germany, 4Neurology Clinic, University Hospital, Geneva, Switzerland 314 W-PM

Assessing fMRI noise in EEG under simultaneous fMRI-EEG recording: a phantom study, Makoto Miyakoshi1,2, Kayako Matsuo1, Shigeyuki Kan1, Takahiko Koike1, Satoru Miyachi1, Toshiharu Nakai1, 1Graduate School of Environmental Studies, Nagoya University, Nagoya, Japan, 2Functional Brain Imaging Laboratory, Department of Gerontology, National Center for Geriatrics and Gerontology, Obu, Japan, 3Kobe Advanced ICT Research Center, National Institute of Information and Communications Technology, Kobe, Japan, 4Japan Society for the Promotion of Science, Tokyo, Japan 322 W-PM

Optical Imaging (NIRS/MRS (magnetic resonance spectroscopy))

Simultaneous measurement of prefrontal hemodynamic changes in multiple subjects by wearable optical topography, Hirokazu Assumori, Masashi Kiguchi, Akiko Obata, Takasige Katura, Hiroki Sato, Tsukasa Funane, Atsushi Maki, Advanced Research Laboratory, Hitachi, Ltd., Hatoyama, Japan 326 W-PM

Blind ICA discrimination of evoked cortical responses in humans with DOT, Joanne Markham1, Brian White2, Benjamin Zeff3, Joseph Culver4, 1Department of Radiology, Washington University School of Medicine, St. Louis, USA, 2Department of Physics and School of Medicine, Washington University, St. Louis, USA 330 W-PM

Single Trial Analysis of EROS Data with Linear Discriminant Function, Chun-Yu Tse, Monica Fabiani, Gabriele Gratton, Beckman Institute & Department of Psychology, University of Illinois at Urbana-Champaign, Urbana, USA 334 W-PM
IMAGING TECHNIQUES & CONTRAST MECHANISM
Perfusion MRI

Comparison of Pulsed Arterial Spin Labeling (PASL) With and Without Parallel Imaging at 3T.
Yang Wang, Chen Lin, Andrew Kalnin, Kristine Moster, John West, Andrew Saykin, IU Center for Neuroimaging, Dept. of Radiology, Indiana University School of Medicine, Indianapolis, USA

Venous outflow effect in arterial spin labeling magnetic resonance imaging: A demonstration in healthy children and children with sickle cell disease, Wen-Chau Wu1, Hengyi Rao2, Mikolaj Pawlak3, Kim Cecili4, John VanMeter4, Thomas Zeffiro4, John Detre4, Elias Melhem4, Jianguiong Wang4, 1Department of Radiology, University of Pennsylvania, Philadelphia, USA, 2Department of Neurology, University of Pennsylvania, Philadelphia, USA, 3Department of Radiology, Cincinnati Children's Hospital, Cincinnati, USA, 4Department of Neurology, Georgetown University Medical Center, Washington, USA, 5Neural system group, Massachusetts General Hospital, Boston, USA

338 W-PM

IMAGING TECHNIQUES & CONTRAST MECHANISM
PET/SPECT

Functional compensation in incipient Alzheimer's disease, Anna Caroli1, Cristina Geroldi1,2, Flavio Nobili1, Leighton R Barndon1, Ugo P Guerra1, Matteo Bonetti1, Giovanni B Frisoni1,2,1, LENITEM Laboratory of Epidemiology, Neuroimaging, & Telemedicine - IRCCS S. Giovanni di Dio-FBF, Brescia, Italy, 2Psychogeriatrics Unit - IRCCS S. Giovanni di Dio-FBF, Brescia, Italy, 3Division of Clinical Neurophysiology, Department of Endocrinological and Metabolic Sciences, University of Genoa, Genoa, Italy, 4Department of Nuclear Medicine, The Queen Elizabeth Hospital, Adelaide, Australia, 5Department of Nuclear Medicine, Ospedali Riuniti, Bergamo, Italy, 6Neuroradiology Service, Clinical Institute Città di Brescia, Brescia, Italy, 7AFaR Associazione Fatebenefratelli per la Ricerca, Rome, Italy

346 W-PM

IMAGING TECHNIQUES & CONTRAST MECHANISM
TMS

Investigation of the role of S1 and PFC in tactile working memory: a navigated TMS, tractography and EEG study, Tuomas Neuvonen1,2,6, Henri Hannula1,2,6, Petri Savolainen1, Jaana Hiltunen1, Olli Salonen1, Synnöve Carlson1, Antti Pertovaara1, 1Neuroscience Unit, Institute of Biomedicine/Physiology, University of Helsinki, Helsinki, Finland, 2Nexstim Ltd, Helsinki, Finland, 3Advanced Magnetic Imaging Centre, Helsinki University of Technology, Espoo, Finland, 4HUS Helsinki Medical Imaging Centre, Helsinki University of Technology, Helsinki, Finland, 5Medical School, University of Tampere, Tampere, Finland, 6these authors had an equal contribution to the study

350 W-PM*

LANGUAGE
Comprehension

The cortical dynamics of intelligible speech, Thomas Schofield, Alex Leff, Klaas Stephan, Jenny Crinion, Karl Friston, Cathy Price, Wellcome Trust Centre for Neuroimaging, 12 Queen Square, University College London, London, United Kingdom

354 W-PM*

The Stages of Syntactic Processing measured with ERP: Effects of Word Frequency, Laurie A. Stowe, Hanneke Loerts, John C.J. Hoeks, NeuroimagingCenter, University of Groningen, Groningen, Netherlands

358 W-PM

Functional networks for semantic and phonological processing assessed with directed partial correlation analysis, Wolfgang Mader1,2, David Feest3,1, Rudiger Lange1, Cornelius Weiller1,2, Jens Timmer1,2, Björn Schelter1,2, Dorothee Saur1,2, FDM, Center for Data Analysis and Modeling, University of Freiburg, Freiburg, Germany, 3BCCN, Bernstein Center for Computational Neuroscience, University of Freiburg, Freiburg, Germany, 4Department of Neurology, University Hospital Freiburg, Freiburg, Germany

362 W-PM

Meta-analysis of Neural Representation of First Language and Second Language, Rajani Sebastian1, Swathi Kiran1,2, 1Department of Communication Sciences and Disorders, University of Texas at Austin, Austin, USA, 2Institute of Neuroscience, University of Texas at Austin, Austin, USA

366 W-PM
Neural mechanism of information retrieval unique to sentence processing, Kei Takahashi1,2, Satoru Yokoyama1, Toshimune Kambara1,2,3, Kei Yoshimoto4, Ryuta Kawashima1,3, JSPS, Tokyo, Japan, 2IDAC, Tohoku U., Sendai, Japan, 3GSICS, Tohoku U., Sendai, Japan

Spatio-temporal patterns of metaphor comprehension: The effect of context, Valentina Bambini1, Chiara Bertin1, Alessandra Stella1, Francesco Di Russo1,2,3, Laboratory of Linguistics, Scuola Normale Superiore, Pisa, Italy, 2Department of Education for Motor Activity and Sport, University Institute of Motor Sciences, Rome, Italy, 3Foundation Santa Lucia, Rome, Italy

Dynamic ERP Mapping in Perception of Chinese Pin-Yin Vowels, Andrew CN Chen2, Yanling Yin, Peipei Wang, WeiJia Feng, Center for Higher Brain Functions, Capital Medical University, Beijing, China

Language reorganization of patients with auditory deficiencies observed by functional magnetic resonance imaging, Mara Rita Pereira-Jorge1, Marcio Sturzbecher1, Antonio Carlos Santos1, Draulio Barros de Araujo1,2, Universidade de Sao Paulo, Ribeirao Preto, Brazil, 2Universidade de Sao Paulo, Ribeirao Preto, Brazil

Language dual-tasking: listening to two people makes your brain work twice as hard?, Augusto Buchweitz, Ann Meyler, Marcel Just, Center for Cognitive Brain Imaging, Carnegie Mellon University, Pittsburgh, USA

Sentence Processing and Grammatical Complexity., Anne-Dominique Devauchelle1,2,3, Y-Lan Bourcaud1,2,3, Stanislas Dehaene1,2,3,4, Christophe Pallier1,2,3, INSEMM, U562, Cognitive Neuroimaging unit, Gif sur Yvette, France, 2CEA, DSV/IBM, NeuroSpin center, Gif sur Yvette, France, 3Univ Paris-sud, IFR49, Gif sur Yvette, France, 4Collège de France, Paris, France

Cortical networks underlying benefits of audio-visual speech integration, Sungeun Kim1, Thomas M. Talavage1,2,3, Rachel Lenhart1, Angela Hoff1, Donald Wong2, David B. Pisoni2, School of Electrical and Computer Engineering, Purdue University, West Lafayette, USA, 2Weldon School of Biomedical Engineering, Purdue University, West Lafayette, USA, 3Department of Radiology, Indiana University School of Medicine, Indianapolis, USA, 4Department of Mechanical, Aerospace, and Biomedical Engineering, University of Tennessee, Knoxville, USA, 5Department of Neuroscience and Clinical Neurology, Indiana University School of Medicine, Indianapolis, USA, 6Department of Psychological and Brain Sciences, Indiana University, Bloomington, USA

LANGUAGE
Reading/Writing

Left Posterior Parietal Cortex is Involved in the Spatial Processing of Chinese Character Recognition, Yanlin Luo1, Andrew CN Chen1, xiujun Li1, Danlin Peng1, Capital Medical University, Beijing, China, 2Beijing normal University, Beijing, China

Unbiased classification of developmental dyslexic subtypes using fMRI activation during reading., Ferath kherfi, Caroline Ellis, Clare Shakeshaft, Hwee-Ling Lee, Mohamed Seghier, Cathy Price, Wellcome Trust Centre for Neuroimaging, UCL, London, United Kingdom

The Influence of Phonological Transparency on Reading, Atira Bick1, Ram Frost2, Gadi Goelman1, 1ICNC, Hebrew University, Jerusalem, Israel, 2Psychology Department, Hebrew University, Jerusalem, Israel, 3Medical Biophysics, Hadassah Hebrew University Hospital, Jerusalem, Israel

Early Neural Response to Expectancy In Reading Sentences: Convergent ERP and fMRI Findings, Joseph Dien, Aminda O'Hare, University of Kansas, Lawrence, USA

MEMORY & LEARNING
Learning (explicit & implicit)

Visuospatial Working Memory in Children with Dysthymic Disorder: A Functional Magnetic Resonance Imaging (fMRI) Study., Karissa Searle1, Melissa Casey1, Ross Cunningham1, Alasdair Vance1, 1Academic Child Psychiatry Unit, Royal Children's Hospital, Murdoch Childrens Research Institute, Melbourne, Australia, 2Queensland Brain Institute, Brisbane, Australia

Transfer effects from multiplication to division: An fMRI study on training arithmetic, Anja Ischebeck1, Laura Zamarin1,2, Michael Schocke3, Margarete Delazer2, Medical University Innsbruck, Austria

370 W-PM
374 W-PM
378 W-PM
386 W-PM
390 W-PM
394 W-PM
398 W-PM
402 W-PM*
406 W-PM
410 W-PM
418 W-PM
422 W-PM
An Investigation of Motor Plasticity using Resting State fMRI and Structural Equation Modeling. 
Lianguo Ma1, Binquan Wang2, Donald Robin3, Peter Fox4, Junhu Xiong5, 1Department of Radiology, University of Iowa, Iowa City, USA, 2Research Imaging Center, University of Texas Health Science Center, San Antonio, USA

Visuospatial Memory (VSM) in Children with Attention Deficit Hyperactivity Disorder, Combined Type (ADHD-CT): A Functional Magnetic Resonance Imaging (fMRI) Study., Melissa Casey1, Maree Farrow6, Ross Cunningham1, Alasdair Vance3, 1Academic Child Psychiatry Unit, Royal Children's Hospital, Murdoch Childrens Research Institute, Melbourne, Australia, 2Queensland Brain Institute, Brisbane, Australia, 3Howard Florey Institute, Melbourne, Australia

Repetition enhancement in perceptual priming: influence of word processing on cortical sharpening. 
Lebreton Karine1, Villain Nicolas1, Chèrelat Gaël1, Landee Brigitte1, Seghier Mohammed L2,3, Lazeuras François1, Eustache Franscis1, Ibanez Vincent4, 1Inserm - EPHE - Université de Caen Basse/Normandie, Unité U923, GIP Ceyeron, CHU Côte de Nacre, Caen, France, 2Department of Radiology, University Hospitals of Geneva, Geneva, Switzerland, 3Wellcome Trust Centre for Neuroimaging, Institute of Neurology, UCL, London, United Kingdom, 4Psychiatric Neuroimaging Unit, Division of Neuropsychiatry, Department of Psychiatry, University Hospitals of Geneva, Geneva, Switzerland

Functional association of brain and somatic activities accompanying reverse learning, Hideki Ohira1, Michio Nomura2, Masahiro Matsunaga1,3, Tokiko Isowa4, Kenta Kimura1, Noriaki Kanayama5, Hiroki Murakami1, Takahiro Osumi1, 1Nagoya University, Nagoya, Japan, 2Tokai Gakuin University, Kakamigahara, Japan, 3Aichi Medical University, Nagakute, Japan, 4Mie Prefectural College of Nursing, Tsu, Japan

11:30 – 12:30 Corryong Hall (Level 2)

MEMORY & LEARNING
Long-term Memory (episodic, semantic, autobiographical)

The neurocognitive benefits of donepezil on episodic memory in young, healthy individuals following 24 h of sleep deprivation, Lisa Chuah1, Chong Delisse1, Jiat-Chow Tan1, William Rekshan2, Annette Chen1, Martin Pan1, Robert La1, Vincenza Libri1, Michael Chee3, 1Cognitive Neuroscience Lab, Duke-NUS Graduate Medical School, Singapore, Singapore, 2Neurology Centre of Excellence of Drug Discovery, GlaxoSmithKline, Harlow, United Kingdom

Autobiographical Retrieval Evoke and Induces Medial Temporal Lobe Theta Oscillatory Activity, Taufik A. Valiante1,2, Mary Pat McAndrews1,2, 1University Health Network, Toronto, Canada, 2University of Toronto, Toronto, Canada

Cortical Representations of Famous and Personally-Familiar Places, Motoaki Sugiuara1,2, Yoko Mano1,2, Akiko Sasaki2,1, Norihiro Sadato1,2, 1Department of Cerebral Research, National Institute for Physiological Sciences, Okazaki, Japan, 2Division of Physiological Sciences, Graduate University for Advanced Investigations (SOKENDAI), Okazaki, Japan

Memory performance related to hippocampal activation in non-demented older adults, Amy DeLucia1, Peter LaViolette2, Kelly O'Keefe2, Jacqueline O'Brien1, Reisa A. Sperling1, 1Brigham and Women's Hospital, Boston, USA, 2Massachusetts General Hospital, Boston, USA

EEG theta-gamma coupling during explicit memory retention, Hiroaki Mizuhara1,2, Yoko Yamaguchi1, 1Graduate School of Informatics, Kyoto University, Kyoto, Japan, 2Lab. For Dynamics of Emergent Intelligence, RIKEN Brain Science Institute, Wako, Japan

Memory consolidation leads to decreased posterior hippocampal activity during retrieval of face-location associations while anterior hippocampal activity is increased, Atsuko Takashima1, Ingrid Nieuwenhuis1, Ole Jensen1, Lucia Tataminti1, Mark Rijpkema2, Guillaume Fernandez1, 1FC Donders Centre, Radboud University Nijmegen, Nijmegen, Netherlands, 2Dept. of Psychology, University of Amsterdam, Amsterdam, Netherlands, 3Dept. of Neurology, Radboud University Nijmegen, Nijmegen, Netherlands
MODELING & ANALYSIS
Exploratory Methods, Artifact Removal

Enabling the Sharing of Functional MRI Datasets with BAXSQL, Epifanio Bagarin1, Yoshio Tanaka1, Kayako Matsuo1, Toshiharu Nakai1, 1Grid Technology Research Center, National Institute of Advanced Industrial Science and Technology, Tsukuba City, Japan, 2Department of Gerontology, National Center for Geriatrics and Gerontology, Obihiro, Japan 476 W-PM

Effect of regressing blink and saccade artefacts out of MEG signals, Pierre Fonlupt1,2, Dimitri Bayle1,2, Marie-Anne Henaff1,2, INSERM U821, LYON, France, 2Université Lyon1, LYON, France 480 W-PM

Intersubjects correlation wavelet analysis: a time-scale data driven analysis., Patricia Lessa1,2, João Sato1,2, Carlos Griese Neto1,2, Elisson Cardoso2, Edson Amaro Jr1,2, 1IEEP - Instituto Israelita de Ensino e Pesquisa Albert Einstein, São Paulo, Brazil, 2NIF - Instituto de Radiologia do Hospital das Clínicas – Universidade de São Paulo, São Paulo, Brazil, 3Instituto de Matemática e Estatística – Universidade de São Paulo, São Paulo, Brazil 484 W-PM

Evaluating Latent Functional Cortical Regions Interactions with Structural Equation Modeling, Chih-Chien Yang, Liang-Ting Tsai, Graduate School of Educational Measurement & Statistics, National Taichung University, Taichung, Taiwan 488 W-PM

Unsupervised Clustering Identifies Structured Variability in Single Trial EEG Responses, Andrew Bagshaw1,2, Tracy Warbrick1,2, 1School of Psychology, University of Birmingham, Birmingham, United Kingdom, 2Birmingham University Imaging Centre, University of Birmingham, Birmingham, United Kingdom 492 W-PM

fMRI noise properties as a function of structure and tissue type: a multi-site study, Douglas Greve1, Bryan Mueller1, Thomas Liu1, Gary Glover2, F. BIRN,1, MGH Athinoula A. Martins Center for Biomedical Imaging, Boston, USA, 2Center for Magnetic Resonance Research, Minneapolis, USA, 1UCSD Center for Functional MRI, San Diego, USA, 2Stanford Radiological Sciences Lab, Stanford, USA, 3www.nbirn.net, Irvine, USA 496 W-PM

Splines on the Sphere Q-Ball Imaging with Generalized Cross Validated smoothing (GCV-SQB), Nader Metwalli1,2, Xiaoping Hu1, John Carew1,2, 1Biomedical Engineering, Georgia Institute of Technology / Emory University, Atlanta, USA, 2Biomedical Engineering, Cairo University, Cairo, Egypt, 1Radiology and Biostatistics, Emory University, Atlanta, USA, 2Bioengineering, Georgia Institute of Technology, Atlanta, USA 500 W-PM

HEEG virtual electrodes for synchrony measures, Francois-B. Vialatte1, Monique Maurice1, Danwels Justin3,4, Andrzej Cichocki1, 1Riken BSI, Lab. ABSP, Wako-Shi, Japan, 2MIT, Boston, USA, 3Riken BSI, Amari Research Unit, Wako-Shi, Japan 504 W-PM

MODELING & ANALYSIS
Flattening, Segmentation

Unsupervised Hippocampus Segmentation: Tools, Validation and Clinical Perspectives., Andrea Chincarini1, Gianluca Gennari1, Piero Calvini1,2, Sandro Squarcia1,2, Stefania Donadio1,2, Luca Relli,1, Elisabetta Molinaro1, Giovanni Frisoni2, Flavio Mariano Nobili1, Guido Rodriguez1, INFN, sezione di Genova, Genova, Italy, 1Laboratorio di Fisica e Statistica Medica, Università di Genova, Genova, Italy, 2Neurofisiologia Clinica - DTC e DISEM, Azienda Ospedaliera San Martino, Genova, Italy, 3IRCCS San Giovanni di Dio, Brescia, Italy 508 W-PM

MAPS: A Free Medical Image Processing Pipeline, Blake Lucas1, Bennett Landman1, Jerry Prince1, Dzung Pham1, 1Image Analysis and Communications Laboratory (IACL), The Johns Hopkins University, Baltimore, USA, 2Laboratory of Medical Image Computing (MedIC), The Johns Hopkins University, Baltimore, USA 512 W-PM

Comparison of FSL-FIRST with Manual Segmentation of Subcortical Brain Volumes., Janis Breeze1,2, Brian Patenaude3, Jean Frazier1,2, Mark Jenkinson1, Stephen Smith1, David Kennedy3,4, 1Cambridge Health Alliance, Cambridge, USA, 2Harvard Medical School, Boston, USA, 3Oxford University, Oxford, United Kingdom, 4Massachusetts General Hospital, Boston, USA 516 W-PM

Cerebral Surface Extraction with Sub-voxel accuracy from Neonatal MR Images using Thick Rubber Model, Takuma Oshiba1, Syoji Kobashi1, Kumiko Ando2, Masayo Ogawa2, Reichi Ishikura1, 1Aichi Gakuin University, Japan, 2Aichi Gakuin University, Japan 520 W-PM
MODELING & ANALYSIS

Functional Connectivity and Structural Equation Modeling

Characterizing the Specific Behavior of Dynamic Causal Modeling Applied to fMRI Signals, Björn Schelter1,3, David Feess3,2, Wolfgang Mader1,3, Rüdiger Lange1, Dorothee Saur1, Volkmar Glueck1, Cornélis Weiller2,4, Jens Timmer2,3, 1FDM, Center for Data Analysis and Modeling, University of Freiburg, Freiburg, Germany, 2BCCN, Bernstein Center for Computational Neuroscience, University of Freiburg, Freiburg, Germany, 3Department of Neurology, University Hospital Freiburg, Freiburg, Germany

Impact of missing responses on fMRI DCM analysis, Michal Mikl1,2, Petr Hlušík3,4, Radek Mareček1, Martin Havlíček2, Milan Brázdil4, 1Department of Neurology, St. Anne's University Hospital and Masaryk Unive, Brno, Czech Republic, 2Department of Biomedical Engineering, FEEC, Brno University of Technology, Brno, Czech Republic, 3Departments of Neurology and Radiology, School of Medicine, Palacký University and University Hospital, Olomouc, Czech Republic

Modeling the symbiotic relationship between neuronal structure and dynamics., Mika Rubinov1, Kelton Temby1, Olaf Sporns2, Cees van Leeuwen1, Michael Breakspear1, 1University of New South Wales, Sydney, Australia, 2Indiana University, Bloomington, USA, 3RIKEN Brain Science Institute, Saitama, Japan

Functional pathway discovery using mediation analysis: Approach and application to pain. Tor Wager, Lauren Atlas, Martin Lindquist, Kate Hard, Matthew Davidson, Columbia University, New York, USA

Mutual Information Analysis with Optimized Gaussian Kernel Can Detect Weak Functional Connectivity from MEG Tomographic Estimates. Masaki Maruyama, Andreas Ioannides, RIKEN Brain Science Institute, Wako, Japan

Independent components of EEG signals are associated with widespread networks of simultaneously-measured fMRI activity in the resting state, Rami Niazy, John Evans, Richard Wise, Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, United Kingdom

Spurious Causality in fMRI, Victor Solo1,2, Fa-Hsuan Lin1, Mark Vangel1, Matti Hamalainen3, 1MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Harvard Medical School, Charlestown, USA, 2School of Electrical Engineering, University of New South Wales, Sydney, Australia

Each Brain region is organized into both positive and negative connectivity as revealed by resting-state fMRI, Xiang-Yu Long1, Xian-Nian Zuo1, Qi-Hong Zuo1, Chao-Zhe Zhu1, Liang Wang1, Vesa Kiviniemi1, Yong He1, Yu-Feng Zang1, 1State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 2National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 1Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, 3McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, Canada

Resting state functional connectivity estimation in ASL data, Maria Gavrilescu1,2, Michael Farrell1,2, Linda Verhoeven3, Derek Denton3,4, Gary Egan1,2, 1Howard Florey Institute, Florey Neuroscience Institutes, Melbourne, Australia, 2Centre for Neuroscience, University of Melbourne, Melbourne, Australia, 3Biomedical Engineering, Technische Universiteit Eindhoven, Eindhoven, Netherlands, 4Office of the Dean, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Melbourne, Australia, 3Baker Heart Research Institute, Alfred Hospital, Melbourne, Australia

On the applicability of autoregressive models and Granger causality theory in fMRI analyses, Catherine Davey1, David Greyden1, Maria Gavrilescu1, Michael Farrell2,3, Gary Egan1,2, Leigh Johnston1,2, 1Department of Electrical and Electronic Engineering, University of Melbourne & NICTA Victorian Research Laboratory, Melbourne, Australia, 2Howard Florey Institute, Florey Neuroscience Institutes, Melbourne, Australia, 3Centre for Neuroscience, University of Melbourne, Melbourne, Australia
BrainSPANS: An Open Toolbox for Analyzing Brain Spontaneous Activity and Networks, Tianzi Jiang, Yong Liu, Kun Wang, Ming Song, Yuan Zhou, National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China

A neural code of motor programmes during hand gripping tasks, CC Chen, James Kilner, Nick Ward, Karl Friston, Wellcome Trust Centre for Neuroimaging, London, United Kingdom

Online Resting Connectivity with Inline Image Reconstruction, Christopher Glieml, Keith Heberlein, Xiaoping Hu, Georgia Institute of Technology / Emory University, Atlanta, USA, Siemens Medical Solutions, Erlangen, Germany

Possible sources of functional connectivity and under-connectivity in adolescents with autism spectrum disorders, Tyler Jones, Lauren Kenworthy, Laura Case, Shawn Milville, Peter Bandettini, Alex Martin, Rasmus Birn, Laboratory of Brain and Cognition, Bethesda, USA, Center for Autism Spectrum Disorders Children's National Medical Center, Washington, USA

MODELING & ANALYSIS
Multivariate Modeling, PCA, & ICA

Improving results from polarized light imaging by means of independent component analysis, Jürgen Dammer, Markus Axer, David Größel, Karl Zilles, Katrin Amunts, Uwe Pietrzyk, Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Center Jülich, Jülich, Germany, C. Vogt Institute for Brain Research, University of Düsseldorf, Düsseldorf, Germany, Department of Psychiatry and Psychotherapy, Aachen University Hospital, Aachen, Germany, Department of Physics, University of Wuppertal, Wuppertal, Germany

Cross-Modal Classification in Human Right Premotor Cortex, Josef Etzel, Valeria Gazzola, Christian Keysers, University Medical Center Groningen/University of Groningen, Groningen, Netherlands

Modulation of ongoing cerebral activity during finger-tapping: A new MEG method for capturing spatio-temporal dynamics, Dante Mantini, Stefania Della Penna, Laura Marzetti, Francesco De Pasquale, Paolo Belardinelli, Luca Ciancetta, Christofer Levis, Abraham Z. Snyder, Vittorio Pizzella, Gian Luca Romani, Maurizio Corbetta, Institute for Advanced Biomedical Technologies, University Foundation “G. D’Annunzio”, Chieti, Italy, Department of Clinical Sciences and Bio-imaging, University “G. D’Annunzio”, Chieti, Italy, Department of Neurology, Washington University, St. Louis, USA, Department of Radiology, Washington University, St. Louis, USA

Multifractal refraction of resting state fMRI time series by age and drug, John Suckling, Alle-Meije Wink, Frederic Bernard, Anna Barnes, Ed Bullmore, Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, Imaging Sciences Division, Imperial College, Hammersmith Hospital, London, United Kingdom, Département d’Etudes Cognitives, Ecole Normale Supérieure, Paris, France

Multivariate Deformation-Based Morphometry Statistics of Cortical Surfaces Reveals Changes in Folding Frequency Correlated with Alzheimer’s Disease, Maxime Boucher, Oliver Lyttelton, Sue Whitesides, Alan Evans, Montreal Neurological Institute, Montreal, Canada, School of Computer Science, McGill University, Montreal, Canada

Event-related Functional Near-infrared Spectroscopy (fNIRS) Analysis by Independent Component Analysis, Yun Jiao, Zhenyu Zhou, Hongyu Yang, Zongcui Ruan, Hui Gong, Z流畅 Lu, Key Laboratory of Child Development and Learning Science (Southeast University), Ministry of Education, Nanjing, China, School of Biological Science and Medical Engineering, Southeast University, Nanjing, China, Key Laboratory of Biomedical Photonics of Ministry of Education, Huazhong University of Science and Technology, Wuhan, China, Dept. of Psychiatry, University of Florida, Gainesville, USA

Voxel selection for fMRI data based on sparse representation, Yuanning Li, Prameeth Namburi, Cuntai Guan, Jianfeng Feng, Institute for Infocomm Research, Singapore, Nanyang Technological University, Singapore, Warwick University, United Kingdom

Source Based Morphometry: Using Independent Component Analysis to Identify Gray and White Matter Differences with Application to Schizophrenia, Lai Xi, Godfrey Pearson, The MIND Institute, Albuquerque, USA, Dept. of ECE, University of New Mexico, Albuquerque, USA, Olm Neupyschiatry Research Center, Institute of Living, Hartford, USA, Dept. of Psychiatry, Yale University School of Medicine, New Haven, USA
MOTOR BEHAVIOR
Basal Ganglia/Brainstem/Spinal Cord

Neural synchronisation of distributed spinal activity as a sign of motor binding, Tjeerd Boonstra1,2, Andreas Daffertshofer1, Peter Beek2, 1University of New South Wales, Randwick, Australia, 2VU University, Amsterdam, Netherlands

Pure observational vs. imitation practice of hand actions: Correlation between behavioural outcome and neural activations, Satomi Higuchi1,2, Neil Roberts2, Simon B. Eickhoff1, Stefan Vogt1,2, 1Department of Psychology, University of Lancaster, Lancaster, United Kingdom, 2Magnetic Resonance and Image Analysis Research Centre, University of Liverpool, Liverpool, United Kingdom, 3Institut for Medicine, Research Center, Jülich, Germany

Secondary sensory area SII is crucially involved in the preparation of familiar movements compared to movements never made before, Martijn Beudel1,2, Sjouke Zijlstra2,3, Theo Mulder2, Inge Zijdewind4, Bauke de Jong1, 1dept. Neurology, University Medical Center Groningen, Groningen, Netherlands, 2dept. Human Movement Sciences, University of Groningen, Groningen, Netherlands, 3dept. Medical Physiology, University of Groningen, Groningen, Netherlands, 4BCN Neuroimaging Center, University of Groningen, Groningen, Netherlands

Influence of sensory and motor properties on the Parietal Cortex, Karin Nading1, Lutz Jäncke1, Roger Lüchinger2, Kai Lutz2, 1Department of Neuropsychology, University of Zurich, Zurich, Switzerland, 2Institute for Biomedical Engineering, Swiss Federal Institute of Technology (ETH) Zurich, Zurich, Switzerland

NEUROANATOMY
DTI Studies, Application

Effects of regular alcohol use during adolescence on white matter integrity, Francesca Filbey, Arvind Caprihan, Kent Hutchison, The MIND Research Network, Albuquerque, USA

Asymmetry of the arcuate fasciculus of the human brain studied by in- and ex-vivo DTI, as well as post-mortem microdissection, Kovacs Silvia1, Sage Caroline1, De Jong Lars2, Van Loon Johannes2, Sunaert Stefan1, 1University Hospitals of the Catholic University Leuven, department of Radiology, Herestraat 49, Leuven, Belgium, 2University Hospitals of the Catholic University Leuven, Department of Neurosurgery, Herestraat 49, Leuven, Belgium

Probabilistic maps and reproducibility of the pyramidal tract by diffusion tensor imaging, ningguo qiu1, Qiya Li1, Guangjiu Liu1, Bing Xie1, Jian Wang2, Shaoxiang Zhang1, 1Department of Anatomy, Third Military Medical University, Chongqing, China, 2Department of Anatomy, Third Military Medical University, Chongqing, China, 3Department of Anatomy, Third Military Medical University, Chongqing, China, 4Department of Radiology, Southwest Hospital, Third Military Medical University, Chongqing, China, 5Department of Radiology, Southwest Hospital, Third Military Medical University, Chongqing, China, 6Department of Anatomy, Third Military Medical University, Chongqing, China

DTI Spatial Unbiased Infratentorial Template based on MPRAGE SUIT, Goran Fucurevic1, Paulo Dellani1, Andrea Kronfeld2, Andreas Konrad3, Peter Stoeters1, 1Institute of Neuroradiology, Mainz, Germany, 2University Clinic, Department of Neurology, Mainz, Germany, 3University Clinic, Department of Psychiatry, Mainz, Germany

Evaluation of DTI fiber tracking strategy for clinical use, Perrine Clarisse1,2, Jean-Albert Loterie2,3, Matthieu Delion1, Kader Boulanouar2,3, Florent Aubry1,2,3, Pierre Celsius1,2,3, Isabelle Berry1,2,3, 1INSERM U825, Toulouse, France, 2Université Toulouse III Paul Sabatier, Toulouse, France, 3CHU de Toulouse, Toulouse, France

Kernohan’s Notch Phenomenon demonstrated by Diffusion Tensor Imaging and Transcranial Magnetic Stimulation, Ji heon Hong1, Sung Ho Jang2, Sang Ho Ahn1, Dong Seok Yang2, 1Department of Physical Therapy, Graduate School of Rehabilitation Science Daegu University, Daegu, South Korea, 2Department of Physical Medicine and Rehabilitation, School of Medicine, Yeungnam University, Daegu, South Korea
In vivo tract tracing of cortico-cortical connections in humans: a combined study of CCEP and Probabilistic Diffusion Tractography, Riki Matsumoto1, Nobukatsu Sawamoto2, Shin-ichi Urayama3, Nobuhiro Mikuni1, Takashi Hanakawa2, Timothy Behrens5, Akio Ikeda2, Ryosuke Takahash1, Hidenao Fukuyama4, 1Department of Neurology, Kyoto University Graduate School of Medicine, Kyoto, Japan, 2Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan, 3Department of Neurosurgery, Kyoto University Graduate School of Medicine, Kyoto, Japan, 4Dept. Cortical Functional Disorder, National Institute of Neuroscience, National Center of Neurology, Kodaira, Japan, 5FMRIB, Oxford University, Oxford, United Kingdom

Connectivity characteristics of eloquent cortical language sites, Stephen Dreyer3, Timothy Ellmore4, Thomas O'Neill6, Giridhar Kalamangalam6, Nitin Tandon6, 1Department of Neurosurgery, The University of Texas Medical School, Houston, USA, 2Department of Neurology, The University of Texas Medical School, Houston, USA

SENSORY SYSTEMS

Auditory/Vestibular

The ability of absolute pitch and the cortical structure, Nobuko Harada1, Kimihiro Nakamura2, Chihiro Kuroki3, Yoshihiro Takayama4, Seiji Ogawa5, 1Department of Speech Physiology, The University of Tokyo, Tokyo, Japan, 2Ogawa Laboratories for Brain Function Research, Tokyo, Japan

Regional specialization for processing auditory complexity: ALE meta-analysis and fMRI validation, Fabienne Samson6, Pascal Belin7, Alain Toussaint8, Laurent Mottron1, Thomas A. Zeffiro9, 1Hôpital Rivière-des-Prairies, University of Montréal, Montréal, Canada, 2Centre for Cognitive Neuroimaging & Department of Psychology, University of Glasgow, Glasgow, United Kingdom, 3Neural Systems Group, Massachusetts General Hospital, Boston, USA

Involvement of Limbic Brain Centers in Sound Perception in Humans, Dave Langers1, Jennifer Melcher2, 1Eatoni-Peabody Laboratory, Massachusetts Eye and Ear Infirmary, Boston, USA, 2University Medical Center Groningen, Groningen, Netherlands, 3Tinnitus Research Initiative, Regensburg, Germany

Absolute pitch perception depends on morphology of the right Heschl's gyrus, Peter Schneider1, Martina Wengenroth1, Maria Blatow1, Konstantin Bodamer1, Christoph Stippič1, Doris Geller2, Andre Rupp3, 1Dept. of Neurology, University Hospital Heidelberg, Heidelberg, Germany, 2Div. of Neuroradiology, University Hospital Heidelberg, Heidelberg, Germany, 3University of Music and Performing Arts, Mannheim, Germany

SENSORY SYSTEMS

Tactile/Somatosensory

Neurophysiological basis of localization and delocalization of fMRI activation patterns, Natasja J.G. Maandag1, 2, Daniel Coman1, Basavaraju G. Sanganahalli1, Peter Herman1, Arien J. Smith3, 4, Hal Blumenfeld5, Robert G. Shulman1, Fahmee Hyder1, 2, Diagnostic Radiology, Yale University, New Haven, USA, 1Anaesthesiology, University Medical Centre, Nijmegen, Netherlands, 2Neurosurgery, Mount Sinai Hospital, New York, USA, 3Neurology, Yale University, New Haven, USA, 4Biomedical Engineering, Yale University, New Haven, USA

Neural correlates of phantom limb perception in lower limb amputee patients during a sensations task, Erick H Pasaye1, 2, Sarael Alcauter1, 2, Maria del Refugio Pacheco1, Jorge Paz2, Roberto Mercadillo2, Erika Aguilar1, Maria De Inurbe1, Perla M. Salgado2, Fernando A. Barrios2, 1Instituto Nacional de Neurología y Neurocirugía MYS, Mexico DF, Mexico, 2Instituto de Neurobiología, Universidad Nacional Autónoma de México, Queretaro, Mexico, 3Instituto Nacional de la Rehabilitación, Mexico DF, Mexico, 4 Instituto Nacional de Psiquiatría Ramón de la Fuente, Mexico DF, Mexico, 5Pogrado en Ciencias Biomedicas UNAM, Mexico DF, Mexico

Dynamic texture perception for dominant and non-dominant hands within individuals: an fMRI study in adult healthy volunteers, Leeanne Carey1, 2, David Abbott1, Matt Harvey1, 2, Aina Puce3, 4, Rudiger Seitz1, 3, 1National Stroke Research Institute, Melbourne, Australia, 2LaTrobe University, Melbourne, Australia, 3Brain Research Institute, Melbourne, Australia, 4Center for Advanced Imaging, Morgantown, USA, 5University Hospital, Duesseldorf, Germany

Variability of somatosensory cortex localization over different fMRI centers – a multicenter patient study, Roland Beisteiner1, Nicolaus Klingen2, Markus Aichhorn2, Thomas Fokl2, Alexander Geißler1, Martin Kronbichler1, Janpeter Nickel1, Jakob Rath1, Christian Siedentop2, Wolfgang Staffen2, 1Institute of Human Physiology and Fundamentals of Medicine, Medical University of Innsbruck, Innsbruck, Austria, 2Institute of Human Physiology and Fundamentals of Medicine, Medical University of Innsbruck, Innsbruck, Austria, 3Department of Diagnostic and Interventional Radiology, Medical University of Innsbruck, Innsbruck, Austria
EEG source imaging and single-trial statistical analysis of distributed inverse solutions reveals late activation of insular cortex during light mechanical stimulation of the human hairy skin. 700 W-PM

Functional MRI and DTI tractography in visual pathology. 704 W-PM

Topography of responses to colour and luminance in human subcortical visual pathways as revealed by high-resolution fMRI at 7T. 708 W-PM

Fixation Based Event Related (FIBER) fMRI: Using individual fixations as events to reveal cortical processing. 712 W-PM

The coding of colour, motion and their conjunction: revisited using pattern classifier analysis. 716 W-PM

Electrical Stimulation, Recording and BOLD fMRI of the Human Anterior Color Center. 720 W-PM*

Positive and negative changes in motion coherence from adapted state always elicit positive BOLD responses in hV4. 724 W-PM

Inhibition of single word identification with TMS over dorsal area V5/MT+. 728 W-PM*

Resonance properties of human occipital, parietal and frontal cortical areas studied by Transcranial Magnetic Stimulation (TMS) combined with high density EEG (hd-EEG), 732 W-PM

Invariance of P250m to visual stimulation categories. 736 W-PM
Schedule of Poster Presentations and List of Posters

Thursday, June 19, 2008

11:30 – 12:30 You Yangs Hall (Level 3)

COGNITION & ATTENTION
Executive Function

Neural correlates of response inhibition deficits in schizophrenia – an fMRI and ERP study.,
Matthew Hughes1,2, William Fulham1,2, Janette Smith1, Johanna Badcock2,3,4, Patricia Michael1,2,
1University of Newcastle, Callaghan, Australia, 2Schizophrenia Research Institute, Sydney, Australia,
3Centre for Clinical Research in Neuropsychiatry, Perth, Australia, 4University of Western Australia,
Perth, Australia

Differential Prefrontal and Parietal Function in Spatial Working Memory, Tim Silk1,2,3, Cattram
Nguyen1, Maree Farrow1, Alasdair Vance1, Ross Cunningham1,2, 1School of Psychology and Queensland
Brain Institute, University of Queensland, Brisbane, Australia, Australia, 2Academic Child Psychiatry
Unit, Department of Paediatrics, University of Melbourne, Royal Children’s Hospital, Murdoch
Children’s Research Institute, Melbourne, Australia, Australia, 3Howard Florey Institute, University of
Melbourne, Melbourne, Australia, Australia

CTBS impairs dorsolateral prefrontal cortex function during sorting task and affects striatal
dopamine: a TMS-PET study, Ji Hyun Ko1, Oury Monchi1, Alain Pito1, Antonio P. Strafella1,2,3,4,
1Montreal Neurological Institute, McGill University, Montréal, Canada, Montreal, 2Functional
Neuroimaging Unit, Geriatric’s Institute, University of Montréal, Canada, Montreal, 3Toronto Western
Research Institute and Hospital, University of Toronto, Canada, Toronto, 4PET Imaging Centre, Centre
for Addiction and Mental Health, University of Toronto, Canada, Toronto,

Activity in anterior cingulate and parietal cortex predicts activity in prefrontal cortex, Justin
Vincent1,2,3,4,5,4, Lawrence Cabusorda1, Michael Fox1, Randy Buckner1,4, Marcus Raichle1,2,5,
1Harvard University, Cambridge, USA, 2Washington University, St. Louis, USA, 3Howard Hughes
Medical Institute, Cambridge, USA

Extracting Consistent Activated Patterns of Eyes Open and Eyes Closed Resting State fMRI Data
by Independent Component Analysis, Mohammad Ali Oghabian1, Ameneh Boroumand1, Hajir
Sikaroodi1, Ali Reza Ahmadian1, 1Research Center for Sciences and Technology in Medicine, Tehran
University/Medical Sciences, Tehran, Iran, 2Neurology Group, Shariati Hospital, Tehran University/
Medical Sciences, Tehran, Iran

COGNITION & ATTENTION
Cognitive Development

Neural encoding of perceptual decision making without awareness: Challenges for signal detection
models of perception, Stefan Bode1,2, John-Dylan Haynes1,2, 1Max Planck Institute for Human Cognitive
and Brain Sciences, Leipzig, Germany, 2Bernstein Center for Computational Neuroscience Berlin,
Charité – Universitätsmedizin, Berlin, Germany

COGNITION & ATTENTION
Executive Function

Post-error performance optimization by modulation of goal-relevant sensory processing, Joseph A.
King1,2, D. Yves von Cranen1,2, Markus Ullsperger1,2,3, MPI for neurological research, Cologne,
Germany, 2MPI for Human Cognitive and Brain Sciences, Leipzig, Germany

Effective Connectivity during Task Set Reconfiguration, Rei Akaishi, Yosuke Morishima, Vivian
Rajeswaran, Katsuyaki Sakai, Grad. Sch. of Medicine, Univ. of Tokyo, Tokyo, Japan

Segregation of Posterior Inferior Frontal Gyrus and Inferior Frontal Junction Revealed by
Modified Go/No-Go Task, Junichi Chikazoe, Koji Jimura, Tomoki Asari, Ken-ichiro Yamashita, Hiroki
Morimoto, Satoshi Hirose, Yasushi Miyashita, Seiki Konishi, The Univ of Tokyo Sch of Med, Tokyo,
Japan
A functional magnetic resonance imaging study in the patients with obsessive-compulsive disorder during task-switching paradigm before and after 4-month treatment, Ji Yeon Han1, Do-Hyung Kang2, Bon-Mi Gu1, Wi Hoon Jung1, Ji-Young Park1, Jung-Seok Choi2, Chi-Hoon Choi1, Jong-Min Lee3, Jun Soo Kwon1,2,1Interdisciplinary Program in Brain Science and in Cognitive Science, Seoul National University, Seoul, South Korea, 2Department of Psychiatry, Seoul National University College of Medicine, Seoul, South Korea, 3Department of Biomedical Engineering, Hanyang University, Seoul, South Korea

Optimizing anticipatory task-set reconfiguration., Frini Karayianidis1,2,3, Dearne Sanday1, Sharna Jamadar2,3, Robyn Loder1,1Functional Neuroimaging Laboratory, Newcastle, Australia, 2Schizophrenia Research Institute, Sydney, Australia, 3Hunter Medical Research Institute, Newcastle, Australia

Context determines neural correlates of deviant detection, Andreja Babic1,2, D. Yves von Cramon1,4, Thomas Jacobsen2, Erich Schröger2, Ricarda I. Schubotz2,4,1Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2BioCog-Cognitive and Biological Psychology, Institute of Psychology I, University of Leipzig, Leipzig, Germany, 3University of Leipzig, Leipzig, Germany, 4Max Planck Institute for Neurological Research, Cologne, Germany

The great mistake: brain responses to own and observed errors during cooperation and competition, Ellen R.A. de Bruin1,2, D. Yves von Cramon1, Markus Ullsperger1,1Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 2Nijmegen Institute for Cognition and Information (NICI), Radboud University, Nijmegen, Netherlands

Rule-Selection and action-selection have a shared neuroanatomical basis in the human prefrontal and parietal cortex., James Rowe1,2,3, Laura Hughes1,2, Doris Eckstein1,2, Adrian Owen1,2,3,1Department of Clinical Neurosciences, Cambridge University, Cambridge, United Kingdom, 2MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, 3MRC Behavioural and Clinical Neurosciences Institute, Cambridge, United Kingdom

Strategic changes in cognitive control across the adult lifespan., Lisa Whitson1, Frini Karayianidis1,2,3, Pat Michie1,2,3,1Functional Neuroimaging Laboratory, Newcastle, Australia, 2Schizophrenia Research Institute, Sydney, Australia, 3Hunter Medical Research Institute, Newcastle, Australia

COGNITION & ATTENTION

Face representation in the categorical level, Yulwan Sung, Seiji Ogawa, Yoshiaki Someya, Masayuki Kamba, Ogasawa Laboratories For Brain Function Research, Tokyo, Japan

The distinct neural network involved in pitch labelling of absolute pitch musicians, Carolyn Wu, Ian Kirk, Jeff Hamm, Vanessa Lim, Research Centre for Cognitive Neuroscience, Department of Psychology, University of Auckland, Auckland, New Zealand

FMRI study on risk perception for driving task presented as video images, Makoto Takahashi1, Tomomi Aboshi1, Naoki Miura1, Hiroshi Ota1, Ryuta Kawashima1, Toshiro Wakabayashi1,1Department of Quantum Science and Energy Engineering, Tohoku University, Sendai, Japan, 2Department of Intelligence Mechanical Systems Engineering, Kochi University of Technology, Kochi, Japan, 3Faculty of Engineering, Tohoku Institute of Technology, Sendai, Japan, 4Department of Functional Brain Imaging, Institute of Development, Aging and Cancer (IDAC), Tohoku University, Sendai, Japan

Cortical mechanism of reality monitoring (monitoring of perceptual knowledge congruency &Agency), Yukihito Yomogida1, Motoaki Sugiura1,2, Yoko Sassa1,2, Keisuke Wukasawa1,4, Atsushi Sekiguchi1, Atsuki Takeuchi1, Kaoru Horie1, Shigeru Sato3, Ryuta Kawashima1,3,1Department of Functional Brain Imaging, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan, 2Department of Cerebral Research, National Institute for Physiological Sciences, Okazaki, Japan, 3Research Institute of Science and Technology for Society, Japan Science and Technology Corporation, Kagawachi, Japan, 4Department of Pediatrics, Tohoku University Graduate School of Medicine, Sendai, Japan, 5SIBG, Tohoku University, Sendai, Japan

Activation of visual cortex using crossmodal retinotopic mapping, Lothi Merabet1, Dorothe Poggel2, William Stern1, Ela Bhat2, Christopher Henson3, Sara Maguire4, Peter Meijer5, Alvaro Pascual-Leone4, 1Berenson-Allen Center for Noninvasive Brain Stimulation, Dept. of Neurology, BIDMC, Harvard Medical School., Boston, USA, 2Center for Biomedical Imaging, Boston University Medical Center, Boston, USA, 3Developer of The vOICe., Netherlands
The prefrontal cortex accumulates object evidence through differential connectivity to the visual and auditory cortices, Uta Noppeney, Dirk Ostwald, Mario Kleiner, Sebastian Werner, Max Planck Institute for biological Cybernetics, Tuebingen, Germany.

Large scale neural synchrony correlates with visibility, local gamma oscillation with top-down representations during perceptual hysteresis, Lucia Melloni1,2, Notger Miller1,2, Wolf Singer3,4, Eugenio Rodriguez5,6, Cognitive Neurology Unit, Johann Wolfgang Goethe-University, Frankfurt am Main, Germany, 1Brain Imaging Center, Frankfurt am Main, Germany, 2Department of Neurophysiology, Max Planck Institute for Brain Research, Frankfurt am Main, Germany, 3Frankfurt Institute for Advanced Studies, Johann Wolfgang Goethe University, Frankfurt am Main, Germany, 5Laboratorio de Neurociencias, Escuela de Psicologia, Pontificia Universidad Católica de Chile, Santiago, Chile.

Self-Identification and empathy modulate error related brain activity during the observation of penalty shots between friend and foe, Roger Newman-Norlund1,2, Shanti Ganesh1, Hein van Schie1, Ellen de Bruijn1, Harold Bekkering1,2, 1Nijmegen Institute for Cognition and Information, Nijmegen, Netherlands, 2F. C. Donders Center for Cognitive Neuroimaging, Nijmegen, Netherlands.

DISORDERS OF THE NERVOUS SYSTEM
Addiction

Subdivisions of Corpus Callosum by Cortico-Cortical Connectivity with Diffusion Spectrum Imaging (DSI) in Alcoholism, Chih-Jui Chen1, I-Chao Liu2, Hsiao-Lan Wang3, Wen-Yang Chiang1, Wen-Yih Isaac Tseng4,5, 1Center for Optoelectronic Biomedicine, National Taiwan University Hospital, Taipei, Taiwan, 2School of Medicine, Fu Jen Catholic University, Taipei, Taiwan, Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan.

DISORDERS OF THE NERVOUS SYSTEM
Autism

Visuo-motor integration in autism: implication of mirror and canonical neurons, Joëlle MARTINEAU, Nadia HERNANDEZ, Jean-Philippe COTTIER, Christophe DESTRIEUX, Inserm U 619, TOURS, France.

DISORDERS OF THE NERVOUS SYSTEM
Brain & Spinal Cord Trauma

Evolution of Diffusion Tensor Imaging Findings After Mild Traumatic Brain Injury: Implications for Treatment of a Major Public Health Problem, Michael Lipton1,2,3, Erik Geller4, Tamar Gold5, Sophia Rodriguez1, Kelvin Shiffrin1, 1Department of Radiology, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, USA, 2Department of Psychiatry and Behavioral Sciences, Albert Einstein College of Medicine, Bronx, USA, 3The Center for Advanced Brain Imaging, The Nathan S. Kline Institute for Psychiatric Research, Orangeburg, USA.

Diffusion Tensor Tractography-Based Quantification in Detecting Traumatic Axonal Injury and Predicting Long-term Outcome, Jun Wang1, Hervé Abd1, Khamid Bakhadirov2, Michael Devous3, Roddy McColl2, Carlos Marquez de la Plata3, Carol Moore3, Ramon Diaz-Arrastia3, 1University of Texas at Dallas, Richardson, USA, 2University of Texas Southwestern Medical Center, Dallas, USA.

Longer tracts may be preferentially damaged in traumatic brain injury., Virginia Newcombe1, Doris Chatfield1, Joanne Outtrim1, Jonathan Coles1, M.Giulia Abate2, Sally Harding3, John Pickard3, Peter Hutchinson3, T.Adrian Carpenter3, Guy Williams3, David Menon1,2, 1Division of Anaesthesia, Cambridge University, Cambridge, United Kingdom, 2Wolfson Brain Imaging Centre, Cambridge University, Cambridge, United Kingdom, 3Academic Department of Neurosurgery, Cambridge University, Cambridge, United Kingdom.

DISORDERS OF THE NERVOUS SYSTEM
Developmental Disorders

Graded Degeneration of White Matter Fiber Tracts in Hereditary Spastic Paraplegia with Thin Corpus Callosum: A voxel-wise comparison based on diffusion spectrum imaging, Su-Chun Huang1, Wen-Yang Chiang2, Ming-Kai Pan3, Yu-Chun Lo4, Li-Wei Kuo2, Ming-Jen Lee5, Wen-Yih Isaac Tseng4,5, 1Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan, 2Department of Neurology, National Taiwan University Hospital, Taipei, Taiwan.
**BOLD Response to Visual Stimulus in Pediatric Medulloblastoma Patients during Treatment and Follow-up.** Ping Zou, Thomas E. Merchant, Amar Gajjar, Robert J. Ogg. St. Jude Children's Research Hospital, Memphis, USA

**Cingulate-Fronto-Insular Cortical Thinning and Decreased Gray Matter Density in 8 Year-old Children with Disruptive Behavior Disorders.** Cherieh Fahnin, Ucheal Yoon, Alan Evans, Daniel Perusse. Department of Neurology and Neurosurgery, McGill University, Montreal, Canada, Department of Biomedical Engineering, McGill University, Montreal, Canada, Department of Medical Physics, McGill University, Montreal, Canada, Saint Justine Hospital Research Centre, Montreal, Canada.

**Decreased Corpus Callosum Thickness in Attention Deficit / Hyperactivity Disorder (ADHD).** Eileen Luders, Katherine L. Narr, Liberty S. Hamilton, Owen R. Phillips, Paul M. Thompson, Jessica S. Valle, Melissa Del'Homme, Tony Strickland, Arthur W. Toga, James T. Craddock, Jennifer G. Levitt. Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, Argosy University, Orange County, USA, Departments of Psychiatry and Neurology, UCLA Semel Institute for Neuroscience and Human Behavior, Los Angeles, USA, David Geffen School of Medicine at UCLA, Los Angeles, USA

**Longitudinal fMRI Study of Neural Systems for Reading in Pediatric Medulloblastoma Patients.** Ping Zou, Gayatri Patel, Fred Lantingh, Heather Conklin, Thomas Merchant, Amar Gajjar, Robert Ogg. St. Jude Children's Research Hospital, Memphis, USA, Rhodes College, Memphis, USA

**DISORDERS OF THE NERVOUS SYSTEM**

**Epilepsy**

**Functional Asymmetry Based on Spatial Correspondence: Application to Presurgical Memory Lateralization in Epilepsy.** Sandhisut Dus, Dawn Mechanic-Hamilton, Marc Korczykowski, Brian Avants, John Detre, James Gee, Paul Yushkevich, Penn Image Computing and Science Laboratory (PICSL), Department of Radiology, University of Pennsylvania, Philadelphia, USA, Center for Functional Neuroimaging, Department of Neurology, University of Pennsylvania, Philadelphia, USA

**Analysis of synchrony for seizure prediction.** Levin Kuhlmann, Anthony Burkitt, Mark Cook, Karen Fuller, David Grayden, Iven Mareels. Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia, St. Vincent's Hospital of Melbourne, Melbourne, Australia, The Bionic Ear Institute, Melbourne, Australia

**Functional epilepsy networks: EEG-fMRI in secondary generalized epilepsy with tonic seizures.** Neelam Pillay, Danny Flanagan, David Abbott, Graeme Jackson. Brain Research Institute, Melbourne, Australia, University of Melbourne, Melbourne, Australia, Austin Health, Melbourne, Australia

**TEMPORAL DYNAMICS OF THALAMIC ACTIVITY IN BILATERAL SYNCRONOUS POLYSPIKES DISCHARGES.** Francesca Benazzi, Stefano Meletti, Francesca Antonelli, Valentina Farinelli, Matteo Pugnaghi, Fausta Lai, Paolo Nichelli, Dip. Neuroscienze, Università di Modena e Reggio Emilia, Modena, Italy, Dip. Scienze Biomediche, Università di Modena e Reggio Emilia, Modena, Italy

**Spatiotemporal patterns of high frequency oscillation from intracranial electroencephalography before and during seizure.** Karen Fuller, Dean Freeston, Simon Vogrin, Alan Lai, Levin Kuhlmann, David Grayden, Anthony Burkitt, Iven Mareels, Mark Cook. Department of Neurology, St Vincents Hospital, Melbourne, Australia, Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia, The Bionic Ear Institute, Melbourne, Australia

**Regional Increase of the adenosine A1 receptor binding in patients with intractable temporal lobe epilepsy. – A positron emission tomography study.** Tadashi Narita, Kiichi Ishiwata, Yuichi Kimura, Kenji Ishii, Chihiro Hosoda, Motoki Inaji, Taketoshi Machida, Kikuo Ohno. Department of Neurosurgery, Tokyo Medical and Dental University, Tokyo, Japan, Positron Medical Center, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan
EEG-fMRI of temporal lobe epilepsy: correspondence between BOLD responses and EEG source localization using ICA, Mauricio Serchel1, Elizabeth Bilevicius2, Helka Ozelo1, Andrea Alessio2, Fabricio Pereira2, Jane Rondina2, Fernando Cendes2, Roberto Covolan1, 1Neurophysics Group, Instituto de Física “Gleb Wataghin”, Unicamp, Campinas, Brazil, 2Neuroimaging Laboratory, Faculdade de Ciências Médicas, Unicamp, Campinas, Brazil

DISORDERS OF THE NERVOUS SYSTEM
Strobe & Recovery of Function

Alien hand syndrome: fMRI characteristics of a single case, Michael Dreyer, Gerald McInerney, Royal Hobart Hospital, Hobart, Australia

Using DTI to map the pathoanatomical basis in diagnostic dyspraxia, Mareike M. Menz, Kathrin Reetz, Rolf Verleger, Christian Erdmann, Detlef Kömpf, Ferdinand Binkofski, Department of Neurology and NeuroImage Nord, University of Luebeck, Luebeck, Germany

A functional MRI study of working memory in Obstructive-Sleep-Apnea (OSA) patients before and after PAP treatment, Stefano Cappa1,2,3, Nicola Canessa1,4, Vincenza Castronovo1, Daniela Perani1,2, Andrea Falini1,2, Monica Consomni1,2, Sara Marelli1, Alice Bruschi1, Alessandro Oldani1, Antonella Iadanza1, Mark Aloia1, Luigi Ferini-Strambi1,2, 1Center for Cognitive Neuroscience, San Raffaele Scientific Institute, Milan, Italy, 2CRESA, Vita-Salute San Raffaele, Milan, 3Faculty of Psychology, Vita-Salute San Raffaele, Milan, Italy, 4CERMAC, Vita-Salute San Raffaele, Milan, Italy, 5Sleep-Disorders Center, San Raffaele Scientific Institute, Milan, Italy, 6Neuroradiology Unit, Milan, Italy, 7Department of Medicine, National Jewish Medical and Research Center, Denver, USA

EFFECTS OF TRANSCRANIAL ANODAL DIRECT CURRENT BRAIN POLARIZATION OF PRIMARY MOTOR CORTEX ON HAND FUNCTION IN STROKE PATIENTS, Myoung-Hwan Ko1, Sang-Hyoun Han2, Sung-Hee Park1, Jeong-Hwan Seo1, Yun-Hee Kim2, 1Chonbuk National University Medical School & Hospital, Jeonju, South Korea, 2Sungkyunkwan University School of Medicine & Samsung Medical Center, Seoul, South Korea

Mapping activated microglia along the corticospinal tract in subcortical stroke, Basia Radlinska2, Sasan Ghinani1,2, Ilana Leppert1,2, Michael Sidel1,2, Dean Jolly3, Jean-Paul Soucy1,2, Alexander Thiel1,2, 1McGill University, Montreal, Canada, 2Lady Davis Institute for medical research, Montreal, Canada, 3Montreal Neurological Institute, Montreal, Canada

EMOTION & MOTIVATION
Decision Making

Dissociable neural mechanisms underlying delay discounting of financial gain and loss, Hansem Sohn1, Jaeseung Jeong1,2, 1Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, 2Department of Psychiatry, College of Physicians and Surgeons, Columbia University and New York State Psychiatric Institute, New York, USA

Put Your Money Where Your Heart Is: Affective Influences on Investment Behavior, Julie L. Hall, Oliver C. Schultzheiss1,2, 1University of Michigan, Ann Arbor, USA, 2Friedrich-Alexander University, Erlangen, Germany

Identifying emotional prosody while ignoring emotional semantic content: an fMRI study, Matthias Wittfoth1, Sonja A. Kotz1, Hans-Jochen Heinz1, Reinhard Dengler1, Christine Schroeder1, 1Department of Neurology, Medical School Hannover, Hannover, Germany, 2Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, 3Department of Neurology II, Magdeburg, Germany

EMOTION & MOTIVATION
Emotional Learning

How is the medial prefrontal cortex involved in advanced emotion learning, Satoshi Umeda1,2, Chihiro Kuroki1, Motoichiro Kato1,2, Yu-ri Terasawa1, Seiji Ogawa2, 1Keio University, Tokyo, Japan, 2Ogawa Laboratories for Brain Function Research, Hamano Life Science Research Foundation, Tokyo, Japan, 3Oita University Faculty of Medicine, Oita, Japan

The effects of positive and negative emotions on insight problem solving, Kazuhisa NIK1,2, Michiko Sakaki1,2, 1National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, 2Japan Society for the Promotion of Science, Tokyo, Japan
EMOTION & MOTIVATION

Emotional Perception

Subregional Investigation of Brain Responses During Music Perception using Functional MRI Combined with Probabilistic Anatomical Maps, Isabella Mutschler1,2,3,4, Andreas Schulze-Bonhage3,5,6, Jürgen Hennig3,6, Oliver Speck7, Tonio Ball1,2,3,4, 1Department of Psychology, University of Basel, Basel, Switzerland, 2Department of Psychiatry, University Hospital Basel, Basel, Switzerland, 3Epilepsy Center, University Hospital Freiburg, Freiburg, Germany, 4Freiburg Brain Imaging, University Hospital Freiburg, Freiburg, Germany, 5Bernstein Center for Computational Neuroscience, Freiburg, Germany, 6MR-Physics, University Hospital Freiburg, Freiburg, Germany, 7MR-Physics, University Hospital Magdeburg, Magdeburg, Germany

Neural Correlates of Emotion regulation in MDMA users, Gloria Roberts1, Hugh Garavan2, 1TCD, Dublin, Ireland, 2TCD, Dublin, Ireland

Habitation of Brain Responses During Music Perception in an Amygdalo-Cortical Network, Birgit Wieckhorst1,2, Isabella Mutschler1,2,3,4, Jürgen Hennig3,6, Oliver Speck7, Andreas Schulze-Bonhage3,5,6, Erich Seifritz2, Tonio Ball1,2,3,4, 1Department of Psychiatry, University of Basel, Basel, Switzerland, 2Department of Psychology, University, Basel, Switzerland, 3Epilepsy-Center, University Hospital, Freiburg, Germany, 4Freiburg Brain Imaging, University Hospital, Freiburg, Germany, 5MR-Physics, University Hospital, Freiburg, Germany, 6MR-Physics, University Hospital, Magdeburg, Magdeburg, Germany, 7Bernstein Center for Computational Neuroscience, Freiburg, Germany, 8University Hospital of Psychiatry, Bern, Switzerland

Neural activation to harsh faces among patients with Borderline Personality Disorder as a function of suicide history, Michael McCloskey1, K. Luan Phan2, Rose McCarron1, Eunice Chen1, Emil Coccaro1, 1University of Chicago, Chicago, USA, 2University of Michigan, Ann Arbor, USA

Maturational changes in facial emotion ERPs from 6 to 30 years: conscious versus nonconscious perception., Donna M Palmer1,2, Evian Gordon3,4, Leanne M Williams1,3, 1The Brain Dynamics Centre, Westmead Millennium Institute, Westmead Hospital, Westmead, Sydney, Australia, 2School of Psychology, University of Sydney, Camperdown, Sydney, Australia, 3Psychological Medicine, Western Clinical School, University of Sydney, Westmead, Sydney, Australia, 4Brain Resource International Database, Brain Resource Company, Ultimo, Sydney, Australia

Cognitive emotion regulation and the serotonin transporter, Dina Scharba1, Susanne Erk1, Corinna Nuessser2, Markus Nothen2,3, Marcella Rietschel4, Per Hoffmann1,2, Markus Skowronek4, Sven Cichon1,3, Kerstin Ludwig1,2, Thomas Goschke2, Henrik Walter1, 1Division of Medical Psychology, Department of Psychiatry, University Bonn, Bonn, Germany, 2Department of Genomics, Life & Brain Center, University Bonn, Bonn, Germany, 3Institute of Human Genetics, University Bonn, Bonn, Germany, 4Central Institute for Mental Health, Division of Genetic Epidemiology in Psychiatry, Mannheim, Germany, 5Institute of Psychology II, Technische Universitaet Dresden, Dresden, Germany

The role of emotional arousal in the automatic processing of emotional stimuli under unattended condition: an ERP study, Renlai Zhou1,2, Xin Li3, 1State Key Laboratory of Cognitive Neurosciences and Learning, Beijing Normal University, Beijing, China, 2Research Center for Learning Science, Southeast China University, Nanjing, China

EEG Default Mode Network: Music Modulation from Post Painful Stress, Wei jia Feng, Andrew CN Chen*, Center for Higher Brain Functions, Capital Medical University, Beijing, China

Ghrelin has stress hormone-like effects on brain function., Alain Dagher1, Diane Bedrossian1, Saima Malik1, Francis McGlone2, 1Montreal Neurological Institute, Montreal, Canada, 2Unilever R&D, Wirral, United Kingdom

Emotion processing in adolescent anorexia nervosa: An Event Related Potential Study, Ainslie Hatch1,2, Sloane Madden1, Michael Kohn3, Simon Clarke3, Tony Stephen4, Lea Williams1, 1The Brain Dynamics Centre, Westmead Millennium Institute, Westmead Hospital, Sydney, Australia, 2School of Psychology, University of Sydney, Camperdown, Sydney, Australia, 3Centre for Research into Adolescent's Health (CRASH), Adolescent Medicine, Children's Hospital at Westmead & Westmead Hospital, Sydney, Australia, 4Psychological Medicine, University of Sydney, Westmead
Hospital, Sydney, Australia, 2Psychological Medicine, Children’s Hospital at Westmead, Westmead, Sydney, Australia

Using fMRI to differentiate neural activity in depressed adolescents in response to personally-relevant emotional phrases, Nancy Adlemann1, 2, Kiki Chang1, 2, Amy Garret1, Naama Barnea-Goraly1, Meghan How2, Allain Reis1, 2Center for Interdisciplinary Brain Sciences Research, Stanford University School of Medicine, Stanford, USA, 2Interdisciplinary Program in Neurosciences, Stanford University School of Medicine, Stanford, USA, 2Pediatric Bipolar Disorders Program, Stanford University School of Medicine, Stanford, USA

EEG Default Mode Network: Gamma Activity enhanced from Reversed Perception, Wei jia Feng, Andrew CN Chen*, Center for Higher Brain Functions, Capital Medical University,. Beijing, China

Does valence of emotional pictures affect cortico-limbic functional connectivity in healthy subjects? A feasibility fcMRI study at 3T, Naranjargal Dashdorj, Dorothee Auer, Academic Radiology, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom

Dissociable Neural Responses to Tasting and Swallowing of Pleasant and Disgusting Beverages during fMRI, Mbemba Jabbi1, Christian Keyser2, 1Section on integrative Neuroimaging, Cognitive Brain Disorders Branch, Genes, Cognition and Psychosis Lab, National Institutes of Mental Health, 9000 Rockville Pike, Bethesda, 20892 MD, USA, 2Social Brain Lab, BCN Neuroimaging Center, University Medical Center Groningen, Antonius Deusinglaan 2, 9713 AW, Groningen, Netherlands

IMAGING TECHNIQUES & CONTRAST MECHANISM
Anatomical MRI

Optimization of Accuracy and Efficiency in Measuring T1 in the brain using Simulated Inversion Recovery MRI, Maryam Abar1, Paul Morgan2, Dorothee Auer1, Christopher Tench2, 1Division of Academic Radiology, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom, 2Division of Clinical Neurology, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom

Optimal image contrast to noise ratio and SPM5 parameters for Voxel-Based Morphometry, Herve Lemaire, Alan Barnett, Fabio Sambataro, Heike Tost, Beth Verchinski, Vankata Mattay, CBDB/NIMH, Bethesda, USA

Multi-parameter mapping of the human brain at 1mm resolution in less than 20 minutes, Nikolaus Weiskopf1, Gunther Helms2, 1Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, 2MR-Research in Neurology and Psychiatry, Goettingen University, Goettingen, Germany

A phantom based method for the outer cortical surface reconstruction of pediatric brain, Junki Lee, Alan C. Evans, McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada

Combined Brain Morphometry and Skull Imaging with FLUSTER, André van der Kouwe, Thomas Benner, Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM
Diffusion MRI

A Comparative Study Between Constrained Spherical Deconvolution and Deconvolution
Sharpening Transformation on High Angular-Resolution Diffusion Imaging, Shiao-Ping Lee1, Jacques-Donald Tournier1, Christopher P. Hess1, Li-Wei Kuo1, Chung-Ming Chen1, Wen-Yih Tseng1, 1Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, 2Brain Research Institute, Melbourne, Austria, 3Department of Radiology, University of California-San Francisco, San Francisco, USA, 4Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan, 5Center for Optoelectronic Biomedicine, National Taiwan University Medical College, Taipei, Taiwan

Simulated diffusion dataset for multi-tensor fiber tractography, Arish Qazi1, 2, Gordon Kindlmann2, Carl-Fredrik Westin2, 1University of Copenhagen, Copenhagen, Denmark, 2Laboratory of Mathematics in Imaging, Harvard Medical School, Boston, USA
DIFFUSION KURTOSIS IMAGING USING TURBOPROP DWI, Chu-Yu Lee¹, Dongli Hoi², Lina Karam¹, Josef Debbins¹, Arizona State University, Tempe, USA, ²St. Joseph's Hospital and Medical Center, Phoenix, USA

High Resolution DTI in Whole, Fixed, Human Brain Reveals Cortical Fibre Patterns That Correspond Well with Histological Stains, Jennifer McNab¹, Natalie Voets¹, Steven Chance¹, Gwenaelle Douaud¹, Ned Jenkins¹, Tim Ariz¹,², Karla Miller¹, Department of Clinical Neurology, Oxford University, Oxford, United Kingdom, ²Department of Physiology Anatomy and Genetics, Oxford University, Oxford, United Kingdom, ³Department of Neurosurgery, Oxford University, Oxford, United Kingdom

In vivo localisation of fibre tracts: Optimisation of fibre tracking to reduce voxel misclassification, Jacques-Donald Tournier¹,², Fernando Calamante¹,², Alan Connelly¹,², Brain Research Institute, Melbourne, Australia, ²Department of Medicine, University of Melbourne, Melbourne, Australia

IMAGING TECHNIQUES & CONTRAST MECHANISM

Multi-modal Integration

Transient and Steady-State Components of fMRI BOLD and MEG Signals from Somatosensory Cortex, Michael Marzen¹,², Tara L. Dawson¹, Tim Bardouille¹,², Bernhard Ross¹,², Fred Tann¹, Simon J. Graham¹,²,³, Rotman Research Institute, Baycrest Centre for Geriatric Care, Toronto, Canada, ²Heart & Stroke Foundation Centre for Stroke Recovery, Toronto, Canada, ³Department of Medical Biophysics, University of Toronto, Toronto, Canada, ²Sunnybrook Health Sciences Centre, Toronto, Canada

Low-frequency artifacts in concurrent transcranial magnetic stimulation (TMS) and fMRI caused by leakage currents, Nikolaus Weiskopf¹, Oliver Josephs¹, Christian Ruff¹, Felix Blankenburg¹, Eric Featherstone¹, Anthony Thomas¹, Sven Bestmann¹, Jon Driver¹, Ralf Deichmann¹, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, ²Institute of Cognitive Neuroscience, University College London, London, United Kingdom, ³The Magstim Company Limited, Whitland, United Kingdom, ⁴University Hospital, Brain Imaging Center, Frankfurt, Germany

Validation of calibrated MRI using continuous-wave and time-domain near-infrared spectroscopic imaging, Claudine Gauthier¹,², Louis Gagnon¹,³, Juliette Selb¹, David Boas¹, Frédéric Lesage¹,², Richard Hoge¹,², Université de Montréal, Montréal, Canada, ²Institut de gériatrie de Montréal, Montréal, Canada, ³École Polytechnique de Montréal, Montréal, Canada, ²Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, USA

Realignment parameter informed artifact correction for simultaneous EEG-fMRI recordings, Matthias Moosmann¹, Vinzenz Schönfelder¹, Tom Eichele¹, Helge Nordby¹, Kenneth Hugdahl¹, ²¹Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway, ²Division of Psychiatry, Haukeland University Hospital, Bergen, Norway

IMAGING TECHNIQUES & CONTRAST MECHANISM

Optical Imaging/NIRS/MRS (magnetic resonance spectroscopy)

Measurement of brain activation using near-infrared spectroscopy: comparison of principal components for signal changes between short and long source-detector spacings, Makoto Kato¹,³, Sachiko Takahama²,³, ¹Biol. ICT Grp., Kobe Adv. ICT Res. Ctr., NICT, Kobe, Japan, ²Sch. of Frontier Biosci., Osaka Univ., Osaka, Japan, ³CREST, JST, Kawaguchi, Japan

Functional connectivity in adult humans revealed with diffuse optical tomography of oxy-, deoxy-, and total hemoglobin, Brian White¹, Joseph Culver¹, Department of Physics and School of Medicine, Washington University, St. Louis, USA, ²Department of Radiology, Washington University School of Medicine, St. Louis, USA

IMAGING TECHNIQUES & CONTRAST MECHANISM

Perfusion MRI

Simulation of Adaptive Sequential Design for Optimal Scheduling of Continuous ASL Samples, Jingyi Xie¹, Daniel Gallicchi¹, Roger Grim¹, Peter Jezzard¹, ¹FMRIB Centre, University of Oxford, Oxford, United Kingdom, ²Clinical Imaging Centre, GlaxoSmithKline, London, United Kingdom
IMAGING TECHNIQUES & CONTRAST MECHANISM
PET/SPECT

Assessment of $^{18}$F-FET PET uptake kinetics using Independent Component Analysis and SVM (Support Vector Machine) signal approximation., Kader BOULANOUAR$^{1,2,3}$, Pierre POUYX$^{1,2,3}$, Alexandra BENOUCHE-AIMID$^{1}$, Mathieu TAFAN$^{1,3}$, Emmanuel GRAS$^{1,2,3}$, Jean-Paul ESQUIERRE$^{1,2,3}$, Pierre CELIS$^{1,2,3}$, INSERM Unit825, Toulouse, France, University of Toulouse, Toulouse, France, Nuclear Medicine Dept, CHU Purpan, Toulouse, France, Neurology Dept, CHU Pitie-Salpetriere, Paris, France

A Comparison of Visual Assessment and NeuroStat analysis of PiB and FDG in the Differential Diagnosis of Alzheimer's disease., Gareth Jones$^{1}$, Victor L Villeneuve$^{1,2}$, Graeme O'Keefe$^{1}$, Sze-Ting Lee$^{1}$, Colin Masters$^{1}$, Chris Rowe$^{1}$, Dept of Nuclear Medicine and Centre for PET, Austin Health, Melbourne, Australia, Dept of Medicine and Pathology, Melbourne, Australia, The Mental Health Research Institute of Victoria, Melbourne, Australia

LANGUAGE
Comprehension

The components of a Theory-of-Mind cortical network during narrative comprehension., Robert Mason, Chantel Prat, Marcel Just, Carnegie Mellon University, Pittsburgh, USA

Semantic processing in Hindi-English bilinguals using functional neuroimaging., Rajani Sebastian$^{1}$, Swathi Kiran$^{1,2,3}$, Department of Communication Sciences and Disorders, University of Texas at Austin, Austin, USA, Institute of Neuroscience, University of Texas at Austin, Austin, USA

Processing negative polarity items in the absence of directed attention: Evidence from Magnetoencephalography., Graciela Texan, Stephen Crain, Macquarie University, Sydney, Australia

Differential Brain Activation during Language Processing in Children Prenatally Exposed to Methamphetamine., S. Christopher Nunez$^{1}$, Mirella Dapretto$^{1,2}$, Elizabeth O'Hare$^{1,2}$, Lisa H. Liu$^{1}$, Lorna Quandt$^{1}$, Lynne Smith$^{1}$, Mary O'Conner$^{1}$, Susan Bookheimer$^{1}$, Elizabeth Sowell$^{1,2}$, UCLA Laboratory of Neuro Imaging, Department of Neurology, Los Angeles, USA, UCLA Interdepartmental Program for Neuroscience, Los Angeles, USA, Roosevelt University, Department of Psychology, Chicago, USA, Harbor-UCLA Medical Center, Department of Pediatrics, Torrance, USA, UCLA Department of Psychiatry and Biobehavioral Sciences, Los Angeles, USA

Embedding at the sentence and verb levels: An fMRI study., Einat Shetreet$^{1}$, Naama Friedmann$^{2}$, Uri Hadar$^{1}$, Department of Psychology, Tel Aviv University, Tel Aviv, Israel, Language and Brain Lab, School of Education, Tel Aviv University, Tel Aviv, Israel

How priming enables us to understand speech in an impoverished context., Johannes Tuennerhoff, Uta Noppeney, Cognitive Neuroimaging Group, Max Planck Institute for Biological Cybernetics, Tuebingen, Germany

An Investigation of the Effects of Syntactic Complexity, Task Demand, and Rate of Speech Input on the Neural Correlates of Sentence Comprehension., Kathleen Brumm$^{1}$, David Swanwick$^{1}$, Frank Haisl$^{2}$, Tracy Love$^{1,2,3}$, SDSU/UCSD Joint Doctoral Program in Language and Communicative Disorders, San Diego, USA, University of California, San Diego, La Jolla, USA, San Diego State University, San Diego, USA

The influence of colour and shape modifiers on the semantic processing of noun phrase in the congenital blind., Ji-Won Chun$^{1,2,3}$, Jae-Jin Kim$^{1,2,3,4}$, Joongil Kim$^{1,2,3}$, ByungSik Seo$^{1,2,3}$, Hae-Jeong Park$^{1,2,3}$, Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, South Korea, Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Yonsei University College of Medicine, Seoul, South Korea, Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, South Korea, Department of Psychiatry, Yonsei University College of Medicine, Seoul, South Korea

An fMRI Study of Word Category on Word Recognition., Toshimune Kambara$^{1}$, Satoru Yokoyama$^{1}$, Kei Takahashi$^{1,2}$, Naoki Mura$^{1}$, Tadao Miyamoto$^{1}$, Daiko Takahashi$^{1}$, Shigeru Sat0$^{1}$, Ryuta Kawashima$^{1}$, Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan, Graduate School of International Cultural Studies, Tohoku University, Sendai, Japan, Department of Intelligent Mechanical Systems Engineering, Koito University of Technology, Kami, Japan

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Dynamic ERP Mapping Denoting Percept to Concept: Chinese Olympic Sport Symbols, Andrew CN Chen*, Peipei Wang, Center for Higher Brain Functions, Capital Medical University, Beijing, China

The role of the posterior superior temporal sulci in understanding linguistic and extralinguistic communicative intentions, Ivan Enrici 1, Mauro Adenzato 1, Bruno G. Bara 1, Stefano Cappa 1, Marco Tettamanti 1, 2, 3, 4, 5. 1 Center for Cognitive Science, University of Torino, Torino, Italy, 2 Neuroscience Institute of Turin, Torino, Italy, 3 Vita-Salute San Raffaele University, Milano, Italy, 4 CERMAC-HSR, Milano, Italy, 5 Department of Nuclear Medicine, Scientific Institute HSR, Milano, Italy

LANGUAGE
Reading/Writing

Implicit and Explicit Morphologically Related Activation, Atira Bick1, 2, Gadi Goelman2, Ram Frost3, 1 ICNC, Hebrew University, Jerusalem, Israel, 2 Medical Biophysics, Hadassah Hebrew University Hospital, Jerusalem, Israel, 3 Psychology Department, Hebrew University, Jerusalem, Israel

The Different Function of the Dorsal and Ventral Pathways in the Spatial Processing of Chinese Characters: A fMRI Study, Yanlin Luo 1, Andrew CN Chen1, xiujun Li 1, Danlin Pei1, 1 Center for Higher Brain Functions, Capital Medical University, Beijing, China, 2 Beijing normal University, Beijing, China

Using fMRI to Explore the Neural Underpinnings of Individual Differences in Reading Skill, Chantel Prat, Robert Mason, Marcel Just, Carnegie Mellon University, Pittsburgh, USA

Differential Associations with Socioeconomic Status and Brain Activation in Dyslexic versus Typical Adolescent Readers, Jessica M. Black1, 2, Candy S. Ho1, Joshua Heitzmann1, Nahal Zakerami1, Allan L. Reiss1, Fumiko Hoeft1, 1 Center for Interdisciplinary Brain Sciences Research, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, USA, 2 School of Education, Stanford University, Stanford, USA

Neuronal processes in Kanji and Kana reading by Dyslexic children: An MEG study, Ryusaku Hashimoto1, Sunao Iwaki2, Mitsuaki Kashiwagi3, Shuhei Suzuki3, 1 Osaka Medical College, Takatsuki, Japan, 2 National Institutes of Advanced Industrial Science and Technology, Ikeda, Japan

Changes in neural microstructure associated with spelling and reading impairment in adolescents and young adults, Nenad Vasic1, Christian Robert Wolf1, Christina Lohr2, Claudia Steinbrink2, Manfred Spitzer2, 1 University Clinic of Ulm, Department of Psychiatry III, Ulm, Germany, 2 Transfer Center for Neuroscience and Learning, University of Ulm, Ulm, Germany

MEMORY & LEARNING
Learning (explicit & implicit)

Visuospatial Working Memory in Children with Attention Deficit Hyperactivity Disorder, Combined Type (ADHD-CT): A Functional Magnetic Resonance Imaging (fMRI) Study, Melissa Casey1, Maree Farrow1, Ross Cunningham1, Alasdair Vance1, 1 Academic Child Psychiatry Unit, Royal Children's Hospital, Murdoch Childrens Research Institute, Melbourne, Australia, 2 Queensland Brain Institute, Brisbane, Australia, 3 Howard Florey Institute, Melbourne, Australia

Boredom Susceptibility and Experience Seeking Predict Brain Responses to Repeated Visual Experience, Yang Jiang1, Joann Lianekhammy1, Adam Lawson1, Chunyan Guo1, 2, Donald Lynam1, Jane Joseph1, Brain Gold1, Thomas Kelly1, 1 Department of Behavioral Science, Lexington, USA, 2 Department of Psychology, Beijing, China, 3 Department of Psychological Sciences, Purdue University, West Lafayette, USA, 4 Department of Anatomy & Neurobiology, Lexington, USA

Comparable and dissociable neural correlates of spontaneous sensory-specific imagery versus perception of cue-unique sensory-perceptual outcome events, Leh Woon Mok1, Kathleen Thomas2, Ovidiu Lungu1, 1 Nanyang Technological University, Singapore, Singapore, 2 University of Minnesota, Minneapolis, USA, 3 Université de Montréal, Montreal, Canada

AVERSIVE UNCONDITIONED STIMULI CAN INHIBIT THE DEFENSIVE SYSTEM, Marita Andreaita, Andreas Muehberger, Paul Pauli, University of Wuerzburg, Wuerzburg, Germany

Effects of implicit learning on repetitive recognition performance, Teruo Hashimoto1, Nobuo Usui2, Masato Taira2, Shozo Kojima1, 1 Dept of Psychology Keio Univ, Tokyo, Japan, 2 Nihon University Advanced Research Institute for the Sciences and Humanities, Tokyo, Japan
Guidance and Learning of Circular Eye Movements, Raimund Kleiser¹, Thomas Matyas², Hans-Jörg Wittsack³, Rüdiger Seitz²,³ ¹Department of Neurology, University Hospital, Duesseldorf, Germany, ²School of Psychology, LaTrobe University, Bundoora, Victoria, Australia, ³Department of Diagnostic Radiology, University Hospital, Duesseldorf, Germany, ⁴Brain Imaging Centre West, Juehlich, Germany

Hippocampal Subregional Involvement in Encoding and Retrieval of Spatial Information, Nanthia Suthana¹, Arne Ekstrom², Saba Moshirvaziri³, Barbara Knowlton¹, Susan Bookheimer¹,²,³ ¹Center for Cognitive Neurosciences, Semel Institute, UCLA, Los Angeles, USA, ²Dept. of Psychiatry and Biobehavioral Sciences, UCLA, Los Angeles, USA, ³Department of Psychology, UCLA, Los Angeles, USA

11:30 – 12:30 Corryong Hall (Level 2)

MEMORY & LEARNING
Long-term Memory (episodic, semantic, autobiographical)

KIBRA alleles modulate medial temporal lobe activity during episodic memory, M. R. Emery, V. S. Mattay, F. Sambataro, V. P. Murty, J. Reed, H. Y. Tan, B. Kolachana, J. H. Callicott, D. R. Weinberger, Clinical Brain Disorders Branch, National Institute of Mental Health, NIH, Bethesda, USA

Semantic Knowledge Alters Functional Connectivity Recorded with MEG During Transverse Patterning Performance, Sandra Moses, Natasa Kovacevic, Christina Villate, Timothy Bardouille, Anthony Randal McIntosh, Jennifer Ryan, Rotman Research Institute, Baycrest Centre, Toronto, Canada

Functional connectivity of the hippocampi in healthy subjects, Kathrin Wagner¹, Lars Frings¹,², Anne Bulles³, Joachim Speer³, Andreas Schulze-Bonhage¹, Epilepsy Center, University Hospital Freiburg, Freiburg, Germany, ²Gerontopsychiatry and Neuropsychology Section, Department of Psychiatry and Psychotherapy, University Hospital Freiburg, Freiburg, Germany, ³Department of Neuroradiology, University Hospital Freiburg, Freiburg, Germany

Stressed memories: effects of acute stress on medial temporal lobe activation during memory formation, Erno Hermans¹,², Marloes Henckens¹, Zhenwei Pu³,⁴, Marian Joëls⁵, Guillon Fernández¹,² ¹F.C. Donders Centre at the Radboud University Nijmegen, Nijmegen, Netherlands, ²Department of Neurology at the Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, ³SILS-CNS, University of Amsterdam, Amsterdam, Netherlands

Activity in the medial temporal lobes predicts realization of intentions for future actions, Jiro Okada¹, Nobuhito Abe², Maki Suzuki³, Toshikatsu Fujii¹, Tamagawa University Brain Science Institute, Machida, Tokyo, Japan, ²Department of Behavioral Neurology and Cognitive Neuroscience, Tohoku University Graduate School of Medicine, Sendai, Japan, ³Division of Cyclotron Nuclear Medicine, Cyclotron and Radioisotope Center, Tohoku University, Sendai, Japan, ⁴The Japan Society for the Promotion of Science, Tokyo, Japan

Retrieval of associations between color and achromatic features activates two distinct areas in the ventral occipitotemporal cortex, Yan Wang¹,², JinHai Zhao², FuCang Jia², Sheng He², Lin Ma², DeJuan Li³, XuChu Weng¹, ¹Department of Psychology, Laboratory for Cognition and Learning, Capital Normal University, Beijing, China, ²Institute of Psychology, the Chinese Academy of Sciences, Beijing, China, ³Department of Psychology, University of Minnesota, Minneapolis, USA, ⁴Department of Radiology, PLA General Hospital, Beijing, China

MODELING & ANALYSIS
Exploratory Methods, Artifact Removal

Measurement of gamma band effects in MEG and concurrent EEG/MRI at 7T, Matthew Brookes, Karen Mullinger, Claire Stevenson, Gerda Geirsdottir, Peter Morris, Richard Bowtell, University of Nottingham, Nottingham, United Kingdom

A Framework for Analyzing and Visualizing Multi-Modality Cross-Correlation, Satoru Hayasaka¹,², Paul Laureti³, Joseph Maldjian³, ¹Biostatistical Sciences, Wake Forest University, Winston-Salem, USA, ²Radiology, Wake Forest University, Winston-Salem, USA

Average Gradient Artefact Subtraction: the effect on neuronal signals, Karen J. Mullinger, Matthew J. Brookes, Gerda B. Geirsdottir, Richard W. Bowtell, University of Nottingham, Nottingham, United Kingdom

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Why sparse bump models?, Francois-B. Vialatte, Monique Maurice, Andrzej Cichocki, Riken BSI, Lab. ABSP, Wako-Shi, Japan

Hemodynamic response latency correction for improved fMRI functional connectivity, Catie Chang1, Moriah E. Thomson2, Gary H. Glover2,3,4, 1Dept. of Electrical Engineering, Stanford University, Stanford, USA, 2Dept. of Psychology, Stanford University, Stanford, USA, 3Dept. of Radiology, Stanford, USA

Conquer and Divide: A novel approach to spatiotemporal significance testing that accounts for alpha error inflation, Sven P. Heinrich1, Michael Bach1, Jürgen Kornmeier1, University of Freiburg, Freiburg, Germany

Assessing fiber similarity in probabilistic diffusion tractography, Luca Nanetti1, Leonardo Cerliani1, Valeria Gazzola1, Christian Keysers1, University Medical Center Groningen, Groningen, Netherlands

Regional Distribution of Outliers Across a Population of Diffusion MRI in Human Brain, Lindsay Walker1, Jinzhong Yang1, Xiaoying Wu1, Kristina Simonyan1, Ragini Verma1, Carlo Pierpaoli1, 1NICHHD, NIH, Bethesda, USA, 2Dept. of Radiology, University of Pennsylvania, Philadelphia, USA, 3NINDS, NIH, Bethesda, USA

MODELING & ANALYSIS

Flattening, Segmentation

Age and gender effect on Cerebral Spinal Fluid thickness, Anna Custo1, William M. Wells III1,2, W. Eric L. Grimson1, 1Massachusetts Institute of Technology, CSAI, Cambridge, USA, 2Brigham and Women’s Hospital, HMS, Boston, USA

Semi-automated delineation of the tentorium cerebellum from MRI scans, Neeraja Pennetche1, Suraj Kabadi1, Bruno Jedynak1, Charles Walcutt1, Mokhtar H. Gado1, Lei Wang1, J. Tilak Ratnamanther1, 1Center for Imaging Science, Johns Hopkins University, Baltimore, USA, 2Dept of Psychiatry, Washington University School of Medicine, St. Louis, USA, 3Dept. of Radiology, Washington University School of Medicine, St. Louis, USA

MAPPING NEURODEGENERATION USING MULTI-ATLAS FLUID IMAGE ALIGNMENT, Yi-Yu Chou, Natasha Lepore, Xue Hua, Arthur Toga1, Paul Thompson1, Laboratory of Neuro Imaging, Department of Neurology, UCLA, Los Angeles, USA

Mapping Hippocampal Degeneration in 400 Subjects with a Novel Automated Segmentation Approach, Jonathan Morra1, Zhuowen Tu1, Liana Apostolova1,2, Amity Green1, Christina Avedissian1, Sarah Madsen1, Neelroop Parikh1, Xue Hua1, Arthur Toga1, Clifford Jack1, Norbert Schuff1, Michael Weiner1,2, Paul Thompson1, 1Laboratory of Neuro Imaging, UCLA, Los Angeles, USA, 2Dept. of Neurology, UCLA, Los Angeles, USA, 3Mayo Clinic College of Medicine, Rochester, USA, 4Dept. of Radiology, UCSF, San Francisco, USA, 5Dept. of Medicine and Psychiatry, UCSF, San Francisco, USA

MODELING & ANALYSIS

Functional Connectivity and Structural Equation Modeling

Population dynamics under the Laplace assumption, Andre Marreiros, Jean Daunizeau, Stefan Kiebel, Lee Harrison, Karl Friston, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom

Principal Frequency of Resting State Networks, Rami Niazy1,2,3, Stephen Smith2, Christian Beckmann1, 1Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, Cardiff, United Kingdom, 2Centre for Functional MRI of the Brain (FMRI), Department of Clinical Neurology, University of Oxford, Oxford, United Kingdom, 3Department of Engineering Science, University of Oxford, Oxford, United Kingdom, 4Clinical Neuroscience Department, Division of Neuroscience and Mental Health, Imperial College London, London, United Kingdom

Effect of alcohol on the resting state correlations., Pawel Skudlarski1,2, Sashwat Meda1, Vince Calhoun1, Godfrey Pearlson1,2, Olin Neuropsychiatry Research Center, Hartford, USA, 3Department of Psychiatry Yale University School of Medicine, New Haven, USA, 4The Mind Institute, Albuquerque, NM, University of New Mexico, Albuquerque, USA
Increasing specificity of resting-state fMRI-data using multiple regression analysis, Andreas Weissenbacher1,2, Rupert Lanzenberger3, Ewald Moser1,2, Christian Windischberger1,2, 1MR Center of Excellence, Medical University, Vienna, Austria, 2Center for Biomedical Engineering and Physics, Medical University, Vienna, Austria, 3Department of Psychiatry and Psychotherapy, Medical University, Vienna, Austria 537 TH-AM

A Method for Improved Sensitivity and Flexibility of Psychophysiological Interactions in Event-Related fMRI Experiments, Donald McLaren1, Michele Ries1,2, Guifang Xu1,2, Michele Fitzgerald2, 1Erik Kastman1,2, Gemma Gliori1, Britta Jabbar1,2, Sterling Johnson1,2, 1William S. Middleton Memorial Veterans Hospital, Madison, USA, 2University of Wisconsin, Madison, USA 541 TH-AM

Discovering brain’s functional connectivity through joint analysis of MEG and fMRI data by Dynamic Bayesian Network, Sergey Plis1, Michael P Weisend2, Mark Scully3, Vincent P Clark4, Terran Lane4, 1Department of Computer Science, University of New Mexico, Albuquerque, USA, 2The Mind Research Network, Albuquerque, USA 545 TH-AM

Dynamical Consequences of Lesions in Cortical Networks, Christopher Honey, Olaf Sporns, Department of Psychological and Brain Sciences, Indiana University, Bloomington, USA 549 TH-AM

Asymmetry analysis of anterior cingulate cortex: functional connectivity using resting state fMRI, Xi-Nian Zuo1,2, Chao-Zhe Zhu1, Qi-Hong Zou1, Yu-Feng Zhang1, 1State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 2National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China 553 TH-AM

Modular Architecture of Weighted Human Brain Structural Network Revealed by Cortical Thickness from MRI, Zhang Chen, Yong He, Alan Evans, McConnell Brain Imaging Centre, Montréal Neurological Institute (MNI), McGill University, Montreal, Canada 557 TH-AM

Investigating reproducibility of effective connectivity using Dynamic Causal Modelling in a working memory task, Nia Goulden, Shane McKie, John Francis William Deakin, Rebecca Elliott, University of Manchester, Manchester, United Kingdom 561 TH-AM

Visual cues from mouth movements change the effective connectivity between V5/MT and Broca’s area in the right hemisphere, Heejung Kim1,2, Yoon-Kyoong Yim1,2, Hyejin Kang1,2, Dong Soo Lee1, Eunjoo Kang3, 1Dept. of Nuclear Medicine, Seoul National University School of medicine, Seoul, South Korea, 2Interdisciplinary program in cognitive science, Seoul National University, Seoul, South Korea, 3Programs in Brain and Neuroscience, Seoul National University, Seoul, South Korea, 4Department of Psychology, Kangwon National University, Chuncheon, South Korea 565 TH-AM

Inferring neural signals’ processing time: beyond the balloon model, Claudinei Eduardo Biazoli Jr, João Ricardo Sato, Edson Amaro Jr, NIF/LIM-44 Instituto de Radiologia do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil 569 TH-AM

Dynamic causal modelling of distributed electromagnetic responses, Jean Damoiseau, Stefan Kiebel, Karl Friston, Welcome Trust Centre for Neuroimaging, London, United Kingdom 573 TH-AM

Reliability of Functional Connectivity in the Motor Cortex, Rao Gollapalli1, Neha Shab2, Steve Roys1, Jiachen Zhuo1, 1Department of Radiology, University of Maryland School of Medicine, Baltimore, USA, 2Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County, Baltimore, USA 577 TH-AM

Feedback Connections within Low-Level Emotion Processing Network Revealed by Dynamic Causal Modeling, Christian Kassess1,2, Rupert Lanzenberger3, Lukas Pezawas3, Ewald Moser1,2, Christian Windischberger1,2, 1MR Center of Excellence, Medical University Vienna, Vienna, Austria, 2Center for Biomedical Engineering and Physics, Medical University Vienna, Vienna, Austria, 3Department of Psychiatry and Psychotherapy, Medical University Vienna, Vienna, Austria 581 TH-AM

**MODELING & ANALYSIS**

Multivariate Modeling, PCA, & ICA

The effect of respiration variations on independent component analysis of resting state functional connectivity, Rasmus Birn, Kevin Murphy, Peter Bandettini, Laboratory of Brain and Cognition, National Institute of Mental Health, Bethesda, USA 585 TH-AM
Multivariate functional connectivity between fine-grained cortical activation patterns, Jakob Heinzel1, John-Dylan Haynes2, 3, 3, 1Bernstein Center for Computational Neuroscience, Charité - Universitätsmedizin, Berlin, Germany, 3Max Planck Institute for Cognitive and Brain Sciences, Leipzig, Germany

ICA of Brain Imaging Data - Validation by Resampling and Hierarchical Clustering, Radu Matinac, University of Bucharest, Bucharest, Romania

Frequency-wise inverse solutions to EEG recordings by state space modeling decomposition and dynamical LORETA, and its application to changes in slow delta activity during induction of anesthesia, Kin Foon Kevin Wong1, 2, Andreas Galka3, 4, Toshihiko Ozaki1, 2, 5, 1JST RISTEX, Tokyo, Japan, 2Institute of Statistical Mathematics, Tokyo, Japan, 3Department of Neurology, University of Kiel, Kiel, Germany, 4Institute of Applied Physics, University of Kiel, Kiel, Germany, 5Graduate University for Advanced Studies, Kanagawa, Japan

A New Data-driven Analysis Method Based on the Temporal Structure of BOLD Response, Carlos Estombelo-Montesco1, Marcelo Starzbecher1, Oswaldo Baffa1, Allan Kardec1, Draulio de Araujo1, 1Department of Physics and Mathematics, FFCLRP, University of Sao Paulo, Ribeirao Preto, SP, Brazil, 2Department of Electrical Engineering, Federal University of Maranhao, Sao Luis, MA, Brazil

Independent Component Analysis of FMRI Wavelet Coefficients, Robert Johnson1, 2, Jonathan Marchini1, Stephen Smith1, Christian Beckmann1, 3, 1Department of Statistics, University of Oxford, Oxford, United Kingdom, 2FMRIB, University of Oxford, Oxford, United Kingdom, 3Imperial College, London, United Kingdom

Longitudinal Multivariate Tensor- and Searchlight-Based Morphometry Using Permutation Testing, Gerard Ridgway1, Brandon Whitcher2, Derek Hill3, Nick Fox3, 1Centre for Medical Image Computing, UCL, London, United Kingdom, 2GSK Clinical Imaging Centre, London, United Kingdom, 3Dementia Research Centre, UCL, London, United Kingdom

The Impact of Dimensionality Estimation On Spatial Signal Detection In Multivariate Gaussian Image Data, Grigor Yourtganov1, 2, Stephen Strother2, 1Institute of Medical Science, University of Toronto, Toronto, Canada, 2Rotman Research Institute of Baycrest Centre, University of Toronto, Toronto, Canada, 1Department of Medical Biophysics, University of Toronto, Toronto, Canada

MOTOR BEHAVIOR
Basal Ganglia/Brainstem/Spinal Cord

Putamen functional connectivity demonstrates a mechanism for the integration of motor and cognitive symptoms as well as cerebellar-basal ganglia communication, William Marchand1, 2, James Lee1, John Thatcher1, Edward Hsu1, Esther Rashkin1, Yana Sych1, Gordon Chelune1, Jennifer Starr1, Sharon Barbero1, 1University of Utah, Salt Lake City, USA, 2Department of Veterans Affairs VISN 19 MIRECC, Salt Lake City, USA

MOTOR BEHAVIOR
Eye Movements/Visuomotor Processing

Modulations of gamma and beta band activity during decision and preparation of saccades revealed by simultaneous intracranial recordings in human parietal and prefrontal cortex, Karim Jerbi1, 2, Samson Freyer1, Olivier Bertrand1, Lorella Minotti1, Philippe Kahan1, Jean-Philippe Lachaux1, Alain Berthoz1, 1Physiology of Perception and Action Lab, CNRS, Collège de France, Paris, France, 2INREMER, U821, Brain Dynamics and Cognition & University Lyon 1, Lyon, France, 3Department of Neurology and INSERM U704, Grenoble Hospital, Grenoble, France

Neurons in the frontal eye fields projecting to the superior colliculus are crucial in making antisaccades: an FMRI-DTI study, AD de Weijer, RCW Mandl, IEC Sommer, SFW Neggars, Rudolf Magnus Institute of Neuroscience, Department of Psychiatry, University Medical Centre Utrecht, Utrecht, Netherlands

NEUROANATOMY
DTI Studies, Application

Exploring the Large-Scale Connectivity of the Human Visual System using Diffusion Tensor Tractography, Michael Capalbo, Alard Roebroeck, Rainer Goebel, University of Maastricht, Department of Cognitive Neuroscience, Maastricht, Netherlands

589 TH-AM
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Investigating the Biomechanisms of Cerebral Cortical Folding, Guangqiang Geng, Leigh Johnston, Edwin Yan, David Walker, Gary Egan, Howard Florey Institute, Florey Neuroscience Institutes, Melbourne, Australia, Graduate School of Biomedical Engineering, University of New South Wales, Sydney, Australia, Dept. of Electrical & Electronic Engineering, University of Melbourne, Melbourne, Australia, National Trauma Research Institute, Alfred Hospital, Melbourne, Australia, Dept. of Physiology, Monash University, Melbourne, Australia, Centre for Neuroscience, University of Melbourne, Melbourne, Australia

The nigro-striatal pathway in the monkey brain using diffusion tensor imaging fiber tracking at 7T, Stephane Lehericy, Essa Yacoub, Eric Bardinet, Romain Valabregue, Chantal Francois, Geoff Ghose, Noam Harel, University Pierre and Marie Curie, Paris, France, INSERM, Paris, France, University of Minnesota, Minneapolis, USA, CNRS, Paris, France

Diffusion tensor MRI can anatomically segment human amygdaloid subregions in vivo, Eugenia Solano-Castilla, Alfred Anwander, Carol Docherty, Enrico Reimer, Marcel Weiss, Angela Friederici, Robert Turner, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

A DTI tractography study on the functional relevance of inter-individual differences in callosal connectivity, René Westerhausen, Renate Gruner, Karsten Specht, Kenneth Hugdahl, Dept of Biological and Medical Psychology, University of Bergen, Bergen, Norway, Dept of Radiology, Haukeland University Hospital, Bergen, Norway, Clinical Engineering Department, Haukeland University Hospital, Bergen, Norway, Division of Psychiatry, Haukeland University Hospital, Bergen, Norway

An omnibus test for case-control studies utilizing Tract-Based Spatial Statistics (TBSS), Matthew Cykowski, Jack Lancaster, Roger Ingham, Janis Ingham, Anderson Winkler, Peter Kochunov, Peter Fox, Research Imaging Center, University of Texas Health Science Center at San Antonio, San Antonio, USA, University of California, Santa Barbara, Santa Barbara, USA, VA Medical Center, San Antonio, USA

Connectivity-Based Parcellations of the Human Lateral Premotor Cortex and its Relationship to Functional Activation Patterns, Thomas R. Knösche, Alfred Anwander, Ricarda I. Schubotz, Marc Tittgemeyer, Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, Max-Planck-Institute for Neurological Research, Cologne, Germany

Quantitative analysis of the registration errors in the combining voxel-based morphometry and diffusion tensor imaging (DTI-VBM), Jun-Sung Park, Bang-Bon Koo, Chi-Hoon Choi, Jong-Min Lee, Department of Biomedical Engineering, Hanyang University, Seoul, South Korea

Non-Invasive Mapping of Human Trigeminal Brainstem Pathways, Jaymin Upadhyay, Jamie Knudsen, Julie Anderson, Lino Becerra, David Borsook, P.A.I.N. Group, Brain Imaging Center, McLean Hospital, Belmont, USA, Athinoula A. Martinos Center for Biomedical Imaging Massachusetts General Hospital Harvard Medical School, Charlestown, USA

SENSORY SYSTEMS
Auditory/Vestibular

Cortical representation of auditory objects, Amber Leaver, Josef Rauschecker, Georgetown University, Washington, USA

Neural correlates of auditory categorical perception revealed by magnetoencephalography, Hanna Renvall, Noël Staeren, Nicolette Siep, Ole Jensen, Elia Formisano, Department of Cognitive Neuroscience, Faculty of Psychology, Maastricht, Netherlands, F.C. Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands

3D pattern of brain changes in deaf subjects mapped using Tensor-Based Morphometry, Natasha Lepore, Patrick Vachon, Franco Lepore, Yi-Yu Chou, Patrice Voss, Caroline Brun, Agatha D. Lee, Arthur W. Toga, Paul M. Thompson, Laboratory of Neuro Imaging, David Geffen School of Medicine at UCLA, Los Angeles, USA, Centre de Recherche en Neuropsychologie et Cognition, Universite de Montreal, Montreal, Canada

Post-lingual deaf potentiate the pre-existing normal speechreading network, but a different form of speechreading network is created in pre-lingual deaf: a Magnetoencephalographic Study, Myung-Whan Suh, Hyo-Jeong Lee, Chun Kee Jung, June Sic Kim, Min Hyun Park, Ja Hyun Kim, Seung Ha Oh, Department of Otorhinolaryngology, College of Medicine and Research Center for...
Sensory Organs, Medical Research Center, Seoul National University, Seoul, Korea, 2Department of Otolaryngology-Head and Neck Surgery, Hallym University Sacred Heart Hospital, Seoul, Korea, 3Department of Neurosurgery, Seoul National University College of Medicine, MEG Center, Seoul, Korea, 4Department of Otorhinolaryngology, Seoul Municipal Boramae Hospital, Seoul, Korea, 5Department of Biomedical Engineering, College of Health Science, Yonsei University, Seoul, Korea

SENSORY SYSTEMS

Tactile/Somatosensory

High Resolution fMRI Mapping of the Primary Somatosensory Cortex and Thalamus in Humans at 7T, Feng Wang, Li Min Chen, Robert Friedman, Elizabeth Stringer, John Gore, Malcolm Avison, Christopher Gatenby, Vanderbilt University, Nashville, USA 681 TH-AM

Responsiveness of the sensorimotor cortex in fMRI to variable foot vibration using a controllable vibrating probe, Christian Siedentopf1,2, Karsten Heubach3,4, Anja Ischebeck2,4, Florian Koppelstaetter1,2, Eugen Gallasch5, Martin Fend6, Ilka Haalda1,2, Stephan Felber7,8, Franz Gerstenbrand7, Stefan Golaszewski1,2,8, 1Department of Radiology, Medical University Innsbruck, Innsbruck, Austria, 2fMRI-Lab, Department of Psychiatry, Medical University Innsbruck, Innsbruck, Austria, 3Department of Surgery, St. Nepomuk Hospital, Erfurt, Germany, 4Department of Neurology, Medical University Innsbruck, Innsbruck, Austria, 5Department of Physiology, Medical University Graz, Graz, Austria, 6Stiftungsklinikum Mittelrhein St.Martin, Koblenz, Germany, 7Ludwig Boltzmann Institute for Restorative Neurology and Neuro modulation, Vienna, Austria, 8Department of Neurology, Paracelsus Medical University, Salzburg, Austria 685 TH-AM


Acupuncture Modulates Resting State Connectivity in Default and Sensorimotor Brain Networks, Polly Dhond1,2, Calvin Yeh1, Kyungmo Park1,2, Norman Kettner2, Vitaly Napadow1,2, 1Martinos Center for Biomedical Imaging, Charlestown, USA, 2Logan College of Chiropractic, Chesterfield, USA, 3Kyunghee University, Yongin, South Korea 693 TH-AM

Transient phase-locking in somatosensory cortex during vibrotactile stimuli, Angela Langdon1,2, Tjeerd Boonstra1,2, Stuart Knock1,2, Michael Breakspear1,2, 1The School of Psychiatry, University of New South Wales, Sydney, Australia, 2The Black Dog Institute, Sydney, Australia 697 TH-AM

VISION

When apparent motion and real stimuli meet in primary visual cortex, Arjen Alink1,2, Caspar Schwiedrzik1,2, Axel Kohler1,2, Wolf Singer1, Lars Muckli2, 1MPI for Brain Research, Neurophysiology, Frankfurt, Germany, 2University of Glasgow, dep. of Psychology, Glasgow, Scotland, 3Brain Imaging Centre, Frankfurt, Germany 701 TH-AM

MEG and EEG correlates of visual awareness and suppression of a face, Olivia Carter1,2,3, Ken Nakayama1, Dahlia Sharot1, Matti Hämäläinen1, Seppo Ahlfors2, 1Vision Sciences Lab, Harvard University, Cambridge, USA, 2Brain Research Institute, Heidelberg West, Australia, 3Martinos Center, Massachusetts General Hospital, Charlestown, USA 705 TH-AM

Spatial scale tuning maps in human visual cortex, Jonathan Polimeni1, Oliver Hinds2, Christina Triantafyllou1,2, Athinoula A. Martinos Center, Massachusetts General Hospital, Harvard Medical School, Chaleston, USA, 2McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA 709 TH-AM

Spatiotemporal frequency tuning of BOLD and Gamma band MEG responses compared in primary visual cortex, Suresh Muthukumaraswamy, Krish Singh, CUBRIC, Cardiff University, Cardiff, United Kingdom 713 TH-AM

Neural basis of modal and amodal completion: an fMRI investigation, Branka Spehar1, Scott McDonald2, Kiley Seymour1, Mark Schira1, Zoe Kourtzi1, Colin Clifford2, 1The University of New South Wales, Sydney, Australia, 2University of Sydney, Sydney, Australia, 3University of Birmingham, Birmingham, United Kingdom 717 TH-AM
Superposition of evoked and spontaneous activity in the visual cortex: a 7T study. Marta Bianciardi, Masaki Fukunaga, Peter van Gelderen, Silvina G. Horovitz, Jacco A. de Zwart, Jeff H. Duyn. Advanced MRI Section, LFMI, NINDS, NIH, Bethesda, USA

Multimodal Imaging combining fMRI and PET for the definition of early visual areas in humans, Florian Gersfl1,2, Christian Windschberger1,2, Rupert Lanzenberger1,2, Ernst Moser1,2, Kurt Kletter1, Siegfried Kasper1,1, MRCE, Medical University of Vienna, Vienna, Austria, 2Center for Biomedical Engineering and Physics, Medical University of Vienna, Vienna, Austria, 3Department of Psychiatry and Psychotherapy, Clinical Division of Biological Psychiatry, Medical University of Vienna, Vienna, Austria, 4Department of Nuclear Medicine, PET Centre, Medical University of Vienna, Austria, Vienna, Austria

Visual and auditory development: the use of entropy., Sarah Lippe1,2, Maryse Lassonde1,2, Natasa Kovacev1, Randy McIntosh1,1, Hôpital Ste-Justine, Montreal, Canada, 2University of Montreal, Montreal, Canada, 3Rotman-Baycrest Center, Toronto, Canada

High resolution fMRI protocols are feasible for standard fMRI procedures demonstrated using retinotopy., Mark Schira1, Branka Slepah1, Michael Breakspear1, Christopher Tyler2, University of New South Wales, Sydney, Australia, 2Smith Kettlewell Eye Research Institute, San Francisco, USA

Spontaneous activity associated with primary visual cortex in early blind, Kun Wang1, Chunshui Yu1, Lijuan Xu1, Wen Qin1, Kuncheng Li1, Tianzhu Jiang1, National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China

COGNITION & ATTENTION

Executive Function

The activation of prefrontal area, basal ganglia, and paralimbic system involved in maintaining of goal-directed action without rewards, Masahiko Nishimura1,2, Jobu Watanebe3, Yoshihiko Yoshii4, 1Department of Clinical Neuroscience Faculty of Medicine, University of the Ryukus, Okinawa, Japan, 2Department of Occupational Therapy, Okinawa College of Rehabilitation and Welfare, Okinawa, Japan, 3Waseda Institute for Advanced Study Waseda University, Tokyo, Japan

Brain Substrates Associated with Strategic Mode in Executive Function: Comparison between the Tower of London Task and 2-Back Task Using fMRI. Ji-Eun Park1, Jin-Sup Eom1, Ik-Hyun Kim2, Mying-Ae Chung3, Hajime Naqai1, Jin-Hun Sohn2, 1Dept. of Psychology, Institute for Brain Research, Chungnam Nat'l University, Daejeon, South Korea, 2Medical Information Convergence Service Research Team, ETRI, Daejeon, South Korea, 3BRAND'S Health Science Center, Cerebos Pacific Limited, China square central, Singapore

Freedom and Predictability of Choice Visualised by fMRI, Markus Thim1,2, Ralph Weidner2, Gereon Fink3, Walter Sturm3, 1Department of Neurology, Section Clinical Neuropsychology, University Hospital RWTH Aachen, Aachen, Germany, 2Institute of Neurosciences and Biophysics - Medicine, Research Centre Jülich, Jülich, Germany, 3Department of Neurology, University Hospital Cologne, Cologne, Germany

Representation of situational context during preparation in task switching as mediated by task specific and behaviorally significant functional connectivity., A. Lenartowicz, L. E. Nystrom, J. D. Cohen, Neuroscience of Cognitive Control Laboratory, Princeton University, Princeton, USA

The neural substrate of task-switching behavior in major depressive disorder and obsessive-compulsive disorder, Peter Remijnse1,2, Marjan Nielsen1, Harry Uylings1,3,4, Dick Veltman1,4, 1Department of Psychiatry, VU Medical Center, Amsterdam, Netherlands, 2Department of Anatomy and Neurosciences, VU Medical Center, Amsterdam, Netherlands, 3School for Mental Health and Neuroscience, division Neuropsychology, and Brain & Behaviour Institute, University of Maastricht, Maastricht, Netherlands, 4Graduate School Neurosciences, Amsterdam, Netherlands

Exploring a common executive attention network in the brain across stimulus modalities using visual and auditory sorting tasks, Helene Hjelmervik1, Kenneth Hugdahl1,2, Karsten Specht1,3, 1Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway, 2of Psychiatry and Bergen Mental Health Center, Haukeland University Hospital, Bergen, Norway, 3Clinical Engineering Department, Haukeland University Hospital, Bergen, Norway
Errare humanum est, avoiding the error even more: fMRI evidence of brain networks involved in response suppression., Antonioon Vallesi1, Anthony R. McIntosh1,2, Donald T. Stuss2, 3, Rotman Research Institute - Baycrest Centre, Toronto, Canada, 2University of Toronto, Toronto, Canada 28 TH-PM

The motivation-cognition interface: Effects of incentive valence, type, and magnitude on brain activity during working memory task performance, Todd Braver, Hannah Locke, Washington University, Saint Louis, USA 32 TH-PM

Gender difference in anticipation of monetary gain and loss on brain activation: An fMRI study, Yoonkyung Chung, Eunsoo Cho, Soonkoo Kwon, Hyeon Jeon, Eun Mo Yeon, Sung-il Kim, Korea University, Seoul, South Korea 36 TH-PM

Learning from errors: Error-related neural activity predicts improvements in future inhibitory control performance., Robert Hester, Janelle Madeley, Jason B. Mattingley, Queensland Brain Institute and School of Psychology, University of Queensland, St Lucia, Australia 40 TH-PM

A Dual-Process Model of Anticipatory Task Set Reconfiguration, Sharna Jamadar1, 2, Frini Karayanidou1, 2, 3, Pat Michie2, 3, 4Functional Neuroimaging Laboratory, Newcastle, Australia, 3Schizophrenia Research Institute, Sydney, Australia, 4Hunter Medical Research Institute, Newcastle, Australia 44 TH-PM

Executive functioning after Traumatic Brain Injury depends on difficulty., Fabienne Cazalis, Talin Babikian, Sarah Copeland, Claudia Kernan, Nina Newman, David Hovda, Christopher Giza, Robert Asarnow, UCLA - Brain Injury Research Center, Los Angeles, USA 48 TH-PM

Activation and Deactivation of the Default Mode, Omer Grigg1, 2, Cheryl Grady1, 2, 3, Rotman Research Institute, Toronto, Canada, 2University of Toronto, Toronto, Canada 52 TH-PM

Free selection of action: effects of ageing on behaviour and neural activity., James Rowe1, 2, 3, Laura Hughes1, 2, Doris Eckstein1, 2, Adrian Owen1, 2, 3Department of Clinical Neurosciences, Cambridge University, Cambridge, United Kingdom, 3MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, 3MRC Behavioural and Clinical Neurosciences Institute, Cambridge, United Kingdom 56 TH-PM

COGNITION & ATTENTION
Perception, Imagery, Awareness

The contralateral effect of auditory and visual stimuli on the event-related potential, Yoshimi Ohgami1, Yasunori Kotani1, Tatsuma Yoshihiro1, Tetsuji Tsukamoto1, Junichiro Arai1, Yasuke Inoue4, 1Tokyo Institute of Technology, Tokyo, Japan, 2GE-Yokogawa Medical Systems, Tokyo, Japan, 3Daikin Industries, Osaka, Japan, 4The University of Tokyo, Tokyo, Japan 60 TH-PM

Top-down facilitation of visual object recognition, Tomoya Taninato1, Naoki Miura2, Motoaki Sugiuara4, Ryuta Kawashima5, 6, 7Tohoku University School of Medicine, Sendai, Japan, 6Department of Intelligent Mechanical Systems Engineering, kochi, Japan, 7CREST, Japan Science and Technology Agency, Kawaguchi, Japan, 8National Institute for Physiological Science, Department of Cerebral, Okazaki, Japan, 9RISTEX, Japan Science and Technology Agency, Kawaguchi, Japan, 10Department of Functional Brain Imaging, IDAC, Tohoku University, Sendai, Japan 64 TH-PM

Neural correlates of visual extinction or awareness revealed by fMRI in a series of right-hemisphere stroke patients, Margarita Sarri, Christian Ruff, Geraint Rees, Jon Driver, University College London, London, United Kingdom 68 TH-PM

Changes of Low Frequency Fluctuation in Anterior Cingulate Cortex during Qigong Meditation, Weijun Tang1, Weilin Yu1, Linbao Ge2, Xiaoyuan Feng1, Ke Li1, Yizhang Cheng1, 1Department of Radiology, Huashan Hospital, Fudan University, Shanghai, China, 2Shanghai qigong institute, Shanghai University of Traditional Chinese Medicine, Shanghai, China, 3Second Military Medical University, Shanghai, China 72 TH-PM

Dynamic switching of thalamocortical network with transition of human states between NREM and REM sleep, Takahiko Koike1, Shigeyuki Kuri1, Masaya Misaki1, 2, Satoshi Miyashita1, 2, 1National Institute of Information and Communications Technology, Kobe, Japan, 2Kyushu Institute of Technology, Kitakyushu, Japan, 3Japan Society for the Promotion of Science, Tokyo, Japan 76 TH-PM
Investigating the processing of chimaeric speech with MEG and DTI, Rebecca Millman1, Philip Quinlan1, York Neuroimaging Centre, University of York, York, United Kingdom, 2Department of Psychology, University of York, United Kingdom

Imagery of a moving object affects activation patterns and directed influences of hMT/V5+, posterior parietal and early visual regions, Amanda Kaas1,2, Sarah Weigelt1, Alard Roebroeck2, Axel Kohler1, Wolfr Singer1, Lars Muckli1, 1Department of Neurophysiology, Max Planck Institute for Brain Research, Frankfurt am Main, Germany, 2Department of Cognitive Neuroscience, Faculty of Psychology, Maastricht University, Maastricht, Netherlands, 3Department of Psychology, University of Glasgow, Glasgow, United Kingdom

Is mental rotation a right parietal function? Investigation using ERPs and fMRI, Branka Milivojevic, Michael Corballis, Jeff Hamm, University of Auckland, Auckland, New Zealand

DISORDERS OF THE NERVOUS SYSTEM

Addiction

Why we drink alcohol: Striatal activation in response to intravenous alcohol infusion in social drinkers, Jodi Gilman, Vijay Ramchandani, Megan Davis, James Bjork, Daniel Hommer, National Institutes of Alcohol Abuse and Alcoholism, Section of Brain Electrophysiology and Imaging, Bethesda, USA

Differential effects of cognitive set on brain response to emotionally salient images in Alcohol-dependent Patients and Healthy Controls, Daniel Hommer, Megan Davis, Jodi Gilman, NIH/NIAAA, Bethesda, USA

DISORDERS OF THE NERVOUS SYSTEM

Autism

Neural substrates underlying Theory-of-Mind processing in children with autism: a functional MRI study, Rajesh Kanar, Timothy Keller, Diane Williams, Vladimir Cherkassky, Nancy Minshew, Marcel Just, University of Alabama, Birmingham, USA, 2Carnegie Mellon University, Pittsburgh, USA, 3Duquesne University, Pittsburgh, USA, 4University of Pittsburgh, Pittsburgh, USA

Alterations in Regional Homogeneity of Baseline Brain Activity in Autism Spectrum Disorder, Paakki Jyr-Johan, Rahko Jukka, Ebeling Hanna, Jussila Kaija, Jansson-Verkasalo Eira, Kauskko Sanna, Mattila Marja-Leena, Moilanen Irma, Nikkinen Juha, Remes Jukka, Starck Tuomo, Tervonen Osmo, Zang Yu-Feng, Kiviniemi Vesa, 1Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, 2Department of Child Psychiatry, Oulu University Hospital, Oulu, Finland, 3Faculty of Humanities, Speech and Language Pathology, University of Oulu, Oulu, Finland, 4State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

DISORDERS OF THE NERVOUS SYSTEM

Brain & Spinal Cord Trauma

Sensory processing in patients with ALS: An fMRI study, Dorothee Lule, Volker Diekmann, Jan Kassubek, Niels Birbaumer, Albert Ludolph, 1Department of Neurology, University of Ulm, Ulm, Germany, 2Medical Psychology and Behavioural Neurobiology, University of Tuebingen, Tuebingen, Germany

fMRI reveals cognitive and emotional processing in a long-term comatose patient, Simon B. Eckhoff, Manuel Dafotakis, Christian Greffkes, Tony Stöcker, Jon N. Shah, Karl Zilles, Mario Siebler, 1Institute of Neuroscience and Biophysics, INB-3 Medicine, Research Centre Jülich, Jülich, Germany, 2Max-Planck-Institut for Neurological Research, Cologne, Germany, 3C&O. Vogt Institute of Brain Research, University of Düsseldorf, Düsseldorf, Germany, 4Brain Imaging Center West (BICW), Jülich, Germany, 2Department of Neurology, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany

Assessing diffuse axonal injury in the corpus callosum using multimodal imaging, And Turken, Timothy Herron1, Xiaoguang Kang, David Woods1, 1Veterans Affairs Northern California Health Care System, Martinez, USA, 2University of California, Davis, Davis, USA
DISORDERS OF THE NERVOUS SYSTEM
Developmental Disorders

From genotype to phenotype: Diffusion imaging discovers optic radiation in patient with genetically-linked anophthalmia, Johannes C Klein1, Heidi Johansen-Berg1, Timothy EJ Behrens1, Preeti Bakramia2, Nicola K Ragge2,3,4, FMRIB Centre, University of Oxford, Oxford, United Kingdom, 2Department of Physiology, University of Oxford, Oxford, United Kingdom, 3Moorfields Eye Hospital, London, United Kingdom, 4Dept of Ophthalmology, Birmingham Children's Hospital, Steelhouse Lane, Birmingham, United Kingdom

Corpus Callosum development in the preterm infant: an MRI study, Deanne Thompson1,2,3, Terrie Inder2, Leigh Johnston1, Scott Kolbe1, Lex Doyle4, Gary Egan1,1 Howard Florey Institute, Melbourne, Australia, 2St Louis Children's Hospital, St Louis, USA, 3 Murdoch Childrens Research Institute, Melbourne, Australia, 4Royal Women's Hospital, Melbourne, Australia

Fractional anisotropy in the corticospinal tract, motor projection patterns, and hand motor outcome in children with unilateral cerebral palsy (CP) - Preliminary report, Linda Holmstrom1, Finn Lennartsson2, Kristina Tedroff2, Monimol Islam1, Chris Clark1, Jonas KE Persson2, Ann-Christian Eliasson1, Brigitte Vollmer1, 1Department of Women and Child health, Karolinska Institute, Stockholm, Sweden, 2MR-Center, Karolinska University Hospital, Stockholm, Sweden, 3Radiology and Physics unit, UCL, Institute of Child Health, London, United Kingdom, 4Neurophysiology unit, Karolinska University Hospital, Stockholm, Sweden

Abnormal Microstructure of the Cingulum Bundle in Agenesis of the Corpus Callosum: A 3T DTI Study, Michael Wahl1,2, Rita Jeremy1, James Barkovich1,2, Mari Wakahiro3, Steven Heits1, Elliott Sherr4, Pratik Mukherjee1, 1Dept. of Radiology, UCSF, San Francisco, USA, 2Dept. of Neurology, UCSF, San Francisco, USA, 3Dept. of Pediatrics, UCSF, San Francisco, USA

DISORDERS OF THE NERVOUS SYSTEM
Epilepsy

Brain plasticity for verbal memory processing in patients with temporal lobe epilepsy and left hippocampal atrophy, Andrea Alessio1, Fabricio Pereira1, Mauricio Sercheli2, Jane Rondina2, Helka Ozel2, Elisabeth Bilevicius3, Tatiane Pedro1, Marcelo Zibetti1, Roberto Covo12, Benito Damasceno1, Fernando Cendes2, 1Neuroimaging Laboratory, Campinas, Brazil, 2Institute of Physics Gleb Wataghin, Campinas, Brazil, 3Institute of Mathematics, Statistics and Computer Science, Campinas, Brazil

Function Cortical Mapping using High Frequency Intracranial Electroencephalography, Dean Freestone1,2,3, Anthony Burkill1,4, David Grayden1,4, Levin Kuhlmann1, Mark Cook1, Karen Fuller1, Simon Vogrin1,4, Ivan Marcel1, Alan Lau1,2,3, 1Department of Electrical and Electronic Engineering, The University of Melbourne, Melbourne, Australia, 2Department of Clinical Neurosciences, St. Vincent's Hospital, Melbourne, Australia, 3The Bionic Ear Institute, Melbourne, Australia

Event-related ICA of EEG/MRI: BOLD changes before epileptiform events, Richard Masterton1,2, David Abbott1,2, Graeme Jackson1,2, 1Brain Research Institute, Melbourne, Australia, 2The University of Melbourne, Melbourne, Australia

fMRI region of interest analysis of verbal memory task in controls and patients with left temporal lobe epilepsy, Jane Rondina1, Andréa Aléssio1, Fabricio Pereira1, Sercheli Mauricio2, Helka Ozel2, Elisabeth Bilevicius3, Tatiane Pedro1, Marcelo Zibetti1, Roberto Covo12, Benito Damasceno1, Fernando Cendes2, 1Neuroimaging Laboratory, Campinas, Brazil, 2Institute of Physics Gleb Wataghin, Campinas, Brazil, 3Institute of Mathematics, Statistics and Computer Science, Campinas, Brazil

Correlation study of optimized voxel-based morphometry and 1H MRS in patients with mesial temporal lobe epilepsy and hippocampal sclerosis (MTLE/HS), Brazdil Milan1, Marecek Radek1, Fajitkova Dagmar1, Miki Michal1,2, Kuba Robert1, Krupa Petra1, Rektor Ivan1, 1Brno Epilepsy Centre, Department of Neurology, St. Anne's Hospital, Masaryk University, Brno, Czech Republic, 2Faculty of Electrical Engineering and Communication, Brno University of Technology, Brno, Czech Republic, 3Department of Neuroimaging, St. Anne's Hospital, Masaryk University, Brno, Czech Republic

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Hemodynamic changes preceding the interictal spike in patients with different types of epilepsies investigated using simultaneous EEG-MRI, Julia Jacob9,2, Pierre LeVan7, Friederike Moeller7, Rainer Boor7, Ulrich Stephan1, Jean Gotman1, Michael Sinitchkin1, 1Department of Neuropediatrics, University Clinic of Kiel, Germany, 2Montreal Neurological Institute., Canada

HIPOCAMPAL FUNCTIONAL CONNECTIVITY MRI IN PATIENTS WITH LEFT MESIAL TEMPORAL LOBE EPILEPSY AND CONTROL SUBJECTS DURING RESTING STATE, Fabricio Pereira1, Andrea Alessio1, Mauricio Sercheli1, Elisabeth Bilevicius1, Helka Ozelo1, Jane Rondina1, Tatiane Pedro1, Marcelo Zibetti1, Gabriela Castellano1, Roberto Covoian1, Benito Damasceno1, Fernando Cendes1, 1Laboratory of Neuroimage, Campinas, Brazil, 2Institute of Physics Gleb Wataghin, Campinas, Brazil, 3Institute of Mathematics, Statistics and Scientific Computation, Campinas, Brazil

Dynamics of inter-ictal brain activity using correlation matrices from MEG signals, Maribel Pulgarin, Will Woods, Aziz Asghar, Gary Green, University of York, York, United Kingdom

DISORDERS OF THE NERVOUS SYSTEM

Stroke & Recovery of Function

Expensive toys or useful tools? FMRI and DTI in a patient with perinatal ischemia, Gunther Fest1, Rainer Kopits2, Yvonne Mevald2, Hartmut Brueckmann1, 1Neuroradiology, University of Munich, Grosshadern, Munich, Germany, 2Neurology, University of Munich, Grosshadern, Munich, Germany

Brain Activation Patterns during a Category Fluency Task in Children with Neonatal Stroke, Anjali C. Raj1, Anthony R. McIntosh1, Mary Pat McAndrews2, Steven L. Smalt3, 1Rotman Research Institute of Baycrest Centre, University of Toronto, Toronto, Canada, 2Toronto Western Research Institute, University of Toronto, Toronto, Canada, 3University of Chicago, Department of Neurology, Chicago, USA, 4University of Chicago, Department of Psychology, Chicago, USA

Variable Resolution Electric-Magnetic Tomography (VARETA) in patients with High Blood Pressure, Maria Esther de Queveda1, Carolina Franco2, Monica Reyes1, Guido Diaz1, 1Department of Physiopathology, School of Medicin "J.M. Vargas", Central University of Venezuela, Caracas, Venezuela, 2Unit for Electrodiagnostic in Neuropsychiatry NPD, Caracas, Venezuela

Structural integrity of the corticospinal tract is related to motor function of the affected lower extremity in persons with stroke, Zheng-An Luo1, Wen-Yih Isaac Tseng2, Yi-Hsin Ko1, Si-Chun Huang2, Pei-Fang Tang2, 1School and Graduate Institute of Physical Therapy, College of Medicine, National Taiwan University, Taipei, Taiwan, 2Center for Optoelectronic Biomedicine, College of Medicine, National Taiwan University, Taipei, Taiwan, 3Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

EMOTION & MOTIVATION

Decision Making

“Your regret is my regret”: empathy in post-decisional outcome evaluation, Nicola Caneasa1,2, Matteo Motterlini1, Cinzia Di Dio1, Stefano Cappa1,2,4,5, Daniela Perani1,2,4,5, Vittorio Girotto1, Paola Scifo1, Giovanni Bucoppo1, Giacomo Rizzolattii1, 1CRESA, Vita-Salute San Raffaele University, Milan, Italy, 2Center for Cognitive Neuroscience, San Raffaele Scientific Institute, Milan, Italy, 3Department of Neuroscience, University of Parma, Parma, Italy, 4Faculty of Psychology, Vita-Salute San Raffaele University, Milan, Italy, 5CERMAC, Vita-Salute San Raffaele University, Milan, Italy, 6IUAV University, Venice, Italy

Ventral striatum activity correlates with decision risk in a novel gambling paradigm, Jon S Wegener1,2,3, Julian Macoveanu1,2,3,8,8,8, David Skimminge1,4,8,8,8, Olaf B Paulson1,2,3,8,8,8, Thomas B Rowe1,2,3,4, 1Danish Research Centre for MR, Copenhagen University Hospital, Hvidovre, Denmark, 2Center for Integrated Molecular Brain Imaging, Copenhagen University Hospital, Copenhagen, Denmark, 3Learning Lab Denmark, Danish University of Education, Emdrup, Denmark, 4Informatics and Mathematical Modeling, Technical University of Denmark, Lyngby, Denmark, 5Neurobiology Research Unit, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark, 6Cambridge University Department of Clinical Neurosciences, Cambridge, United Kingdom

Correlation between delay discounting and mesial frontal gray matter volume in alcohol-dependent patients and controls, Reza Momenan, James Bjork, Michael Kerich, Daniel Hammer, NIAAA, NIH, Bethesda, USA
COGNITION & ATTENTION
Attention (visual)

Investigating Attentional Networks in School Children using fMRI, Sina Wehran1, Rudolf Stark2, Ulrich Otter1, Franziska Dögel1, Gudrun Schwarzer1, Dieter Vaitl1. 1Clinical and Physiological Psychology, Justus-Liebig-University, Gießen, Germany, 2Bender Institute of Neuroimaging, Justus-Liebig-University, Gießen, Germany, 3Department of Developmental Psychology, Justus-Liebig-University, Gießen, Germany

EMOTION & MOTIVATION

Neural basis of reinforcement learning and dynamic decision adjustment in alcoholism, Jana Wrase1, Anne Beck1, Soyoung Park2, Thorsten Kahnt2, Mike X. Cohen2, Andreas Heinz2. 1Charité, Psychiatry CCM, Berlin, Germany, 2Department of Epileptology, Bonn, Germany

Neural and electrodermal activity during fear conditioning with continuous and intermittent pairing rates, Katharina Tabbert1, Jan Schweckendiek1, Rudolf Stark1, Peter Kirsch2, Dieter Vaitl3. 1Bender Institut of Neuroimaging, University of Giessen, Giessen, Germany, 2Central Institute for Mental Health, Mannheim, Germany

EMOTION & MOTIVATION

Neural Correlates of Static and Dynamic Emotional Face Processing, Angela Mayes, Andrew Pipingas, Richard Silberstein, Patrick Johnston, Brain Sciences Institute, Hawthorn, Australia

Serotonergic and Noradrenergic Antidepressants Increase Attentional Bias to Positive Facial Emotional Stimuli during Emotional Expression Decoding, An Event Related Potential (ERP) Study, Pradeep Nathan1, Rebecca Kerestec2, Izelle Labuschagne2, K. Luan Phan1, Rodney Croft3. 1University of Cambridge, Cambridge, United Kingdom, 2Monash University, Melbourne, Australia, 3University of Michigan, Ann Arbor, USA, 4Swinburne University, Melbourne, Australia

AMYGDALA VOLUME PREDICTS REACTIVITY TO POSITIVE BUT RECOVERY FROM NEGATIVE STIMULI AS INDEXED BY CORRUGATOR FACIAL EMG, Stacey Schaefer1, Matthew Sutterer1, Carien van Reekum1,2, Brenda Nacewicz1, Catherine Norris1,3, Regina Lapate1, David Bachhuber2, Nicole Rute1, Richard Davidson1. 1Wisconsin-Madison, Madison, USA, 2School of Psychology and CLS, University of Reading, Reading, United Kingdom, 3Psychological and Brain Sciences, Dartmouth College, Hanover, USA

Inhibition-related activity in subgenual anterior cingulate is associated with harm avoidance and self directedness in adolescents, Tony Yang1, Scott Matthews1, Alan Simmons1, Susan Tapert1, Guido Frank1, Martin Paulus1. 1UC San Diego, San Diego, USA, 2University of Colorado at Denver and Health Sciences Center, Aurora, USA

Reading of facial expression with complex emotions: An fMRI study, Hyosun Jung1, Minjung Kim1, Woorim Jeong1, Min Park1, Seungbok Lee1, Hye-Woon Yoon1, Hei-Rhee Ghim1. 1Department of Psychology, Chungbuk National University, Cheongju, South Korea, 2Neuroscience Research Institute, Gachon University of Medicine and Science, Incheon, South Korea

TMS disrupts the perception and embodiment of facial expressions, David Pitcher, Lucia Garrido, Vincent Walsh, Brad Duchaine, University College London, London, United Kingdom

Neural Circuits for Regulating Pleasant and Unpleasant Emotion: Beyond Reappraisal, Heather L. Urry1, Robert W. Roeser2, Sara W. Lazar3, Alan P. Posey1, Erin Phelps1, Richard M. Lerner1. 1Tufts University, Medford, USA, 2Massachusetts General Hospital, Charlestown, USA

Decoding affective states from sustained large-scale patterns of brain activity, Silke Anders1,2, Thomas Ethofer1, John-Dylan Haynes1. 1Neuroimage Nord, University of Luebeck, Department of Neurology, Luebeck, Germany, 2 Bernstein Center for Computational Neuroscience, Berlin, Germany, 3Laboratory for Behavioral Neurology & Imaging of Cognition, Geneva, Switzerland

EEG Default Mode Network: Mood Modulation (Happy-Sad) in Chinese Music (Butterfly Lovers, violin concerto), Huixuan Zhao, Andrew CN Chen*. 1Center for Higher Brain Functions, Capital Medical University, Beijing, China
Emotion regulation in patients with major depression, Susanne Erk1, Alexandra Miksch1, Sabine Stier2, Angela Ciancamarda1, Volker Gapp1, Bernhard Weber3, Henrik Walter1, J. Dept. of Psychiatry, Div. of Medical Psychology, University of Bonn, Bonn, Germany; 2Dept. of Psychiatry, Joh.-Wolfgang-Goethe University, Frankfurt/Main, Germany; 3Dept. of Cognitive Science, University of Turin, Turin, Italy

Prefrontal regulation of the emotional brain: Findings in depressed and healthy subjects from neuroimaging and psychophysiology, Tom Johnstone1, Gregory Kolden2, Sara Polis3, Michael Peterson4, Sandy Tierney1, Ned Kalin5, Richard Davidson6, University of Wisconsin-Madison, Madison, USA; 2University of Reading, Reading, United Kingdom

Brain response to emotional anticipation is related to respiratory rate, Jennifer L. Aron7, Scott C. Matthews8, Alan N. Simmons1,2,2, Irina A. Strigo1, Martin P. Paulus2,8,1 University of California, San Diego, La Jolla, USA; 2San Diego Veterans Administration, La Jolla, USA; 3Center of Excellence in Stress and Mental Health (CESAMH), San Diego, USA

Magnetoencephalographic evidence of right frontal impairment of negative emotion processing in bipolar disorder, Li-Fen Chen1,2, Ying-Chia Lin1, Yong-Sheng Chen1, Jen-Chuen Hsieh1,2, Ting-Ping Su1,2, Institute of Brain Science, National Yang-Ming University, Taipei, Taiwan; 2Integrated Brain Research Laboratory, Taipei Veterans General Hospital, Taipei, Taiwan; 3Department of Computer Science, Hsinchu, Taiwan; 4Division of Psychiatry, School of Medicine, National Yang-Ming University, Taipei, Taiwan; 5Psychiatric Department, Taipei Veterans General Hospital, Taipei, Taiwan

Repetition suppression in orbitofrontal cortex is modulated by anger in the voice, Thomas Ethofer1,2,2, Benjamin Kreifelts1, Sarah Wiethoff1, Jonathan Wolf1, Wolfgang Grodd1, Patrick Vuilleumier2, Dirk Wildgruber1,2, Department of General Psychiatry, University of Tuebingen, Tuebingen, Germany; 2Laboratory for Behavioral Neurology & Imaging of Cognition, Department of Neurosciences & Clinic of Neurology, University Medical Center of Geneva, Geneva, Switzerland; 3Department of Child Psychiatry, University of Tuebingen, Tuebingen, Germany

Automatic and Controlled Emotion Processing: Preliminary Data, Nicole Joshua1,2, Susan Rossell1,3, MHRI, Melbourne, Australia; 2University of Melbourne, Melbourne, Australia; 3Monash University, Melbourne, Australia

IMAGING TECHNIQUES & CONTRAST MECHANISM

Anatomical MRI

MRI of Postmortem Human Brain Hemispheres: Changes in T2 Relaxation during Formaldehyde Fixation, Robert Dawe1, David Bennett1, Julie Schneider2, Sunil Vasisreddi1, Konstantinos Arfanakis2, Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, USA; 2Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, USA

Evaluating Faster Structural MRI Acquisitions based on Automated Measures of Classified Local Brain Volumes, Michael Marxen1, Tara L. Dawson1, M. Kate Hanratty3, Gwenn S. Smith1, Simon J. Graham1,2,4,5, Rotman Research Institute, Baycrest Centre for Geriatric Care, Toronto, Canada; 2Heart & Stroke Foundation Centre for Stroke Recovery, Toronto, Canada; 3Centre for Addiction and Mental Health, Toronto, Canada; 4Department of Medical Biophysics, University of Toronto, Toronto, Canada; 5Sunnybrook Health Sciences Centre, Toronto, Canada

Comparison of MMSE Scores with Postmortem Hippocampal Volumes, Robert Dawe1, David Bennett1, Julie Schneider2, Sunil Vasisreddi1, Konstantinos Arfanakis2, Department of Biomedical Engineering, Illinois Institute of Technology, Chicago, USA; 2Rush Alzheimer's Disease Center, Rush University Medical Center, Chicago, USA

Automatic Segmentation of White Matter Hyperintensities in FLAIR images at 3T, Erin Gibson1, Fujiang Gao1, Sandra E. Black1,2, Nancy J. Lobagha1,2, Sunnybrook Health Sciences Centre, Toronto, Canada; 2University of Toronto, Toronto, Canada

IMAGING TECHNIQUES & CONTRAST MECHANISM

Diffusion MRI

Simulated Framework for Fibre Tracking Validation, Thomas Close1,2,3, Jacques-Donald Tournier4, Leil Johnston2,4,5, Fernando Camalante1,4, Iven Marxelis2,3, Alan Connelly1,4, Brain Research Institute, Melbourne, Australia; 2National ICT Australia, Melbourne, Australia; 3Department of Electrical
Engineering, University of Melbourne, Melbourne, Australia, 2 Department of Medicine, University of Melbourne, Melbourne, Australia, 3 Howard Florey Institute, Melbourne, Australia

**Diffusion Tensor Imaging (DTI) at 3T and 7 T, Ralf Luetzkendorf, Tobias Moench, Maurice Hollmann, Sebastian Baecke, Johannes Bernarding, Institute for Biometry and Medical Informatics, Medical Faculty, University of Magdeburg, Magdeburg, Germany**

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**Resolving crossing fibres: validation studies using DWI phantom data, Jacques-Donald Tournier¹,², Chun-Hung Yeh¹, Fernando Calamante¹,², Kuan-Hung Cho¹, Alan Connelly¹,², Ching-Po Lin³,⁴, Brain Research Institute, Melbourne, Australia, 2Department of Medicine, University of Melbourne, Melbourne, Australia, 3Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University, Taipei, Taiwan, 4Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Taiwan**

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**Prediction of Motor Outcome using Diffusion Tensor Tractography in Pontine Infarct, min cheol Jang, sung ho Jang, sang ho Ahn, dong kyu Kim, Department of Physical Medicine & Rehabilitation, Yeungnam University College of Medicine, Taegu, Korea**

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**Measuring and correcting errors that occur in diffusion weighted images due to non-linear gradients, Zoltan Nagy, Chloe Hutton, Nikolaus Weiskopf, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom**

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**Combining DTI with Partial-brain Q-Ball Imaging to Improve the Efficiency of Fiber Detection, Jiancheng Zhuang¹, Nicolas Lory¹,², ³University of Southern California, Los Angeles, USA, ²Coimbra University, Coimbra, Portugal**

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**IMAGING TECHNIQUES & CONTRAST MECHANISM**

**Multi-modal Integration**

Evaluating quality of ultrafast EEG signatures in a synchronized EEG-fMRI approach, Frank Freyer¹, Petra Ritter¹, Robert Becker¹, Kimitaka Anami², Gabriel Curio³, Arno Villringer¹,², ¹Berlin Neuroimaging Center, Charité Universitätsmedizin, Berlin, Germany, ²Max Planck Institute for Brain and Cognitive Sciences, Leipzig, Germany, ³National Center Hospital for Mental, Nervous, and Muscular Disorders, Tokyo, Japan

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Integration of MEG and EEG data in minimum L2 norm estimation, Antonio Molins¹,², Steven Stufflebeam²,³,⁴, Emery Brown²,³,⁴, Matti Hämäläinen²,³,⁴, ¹Brain and Cognitive Sciences, MIT, Cambridge, USA, ²MGH-MIT-HMS Athinoula A. Martinos Ctr. for Biomed. Imaging, Charlestown, USA, ³Harvard-MIT division for Hlth. Sci. and Technology, Cambridge, USA, ⁴Harvard Medical School, Cambridge, USA, ⁵Radiology, MGH, Boston, USA, ⁶Anesthesiology, MGH, Boston, USA

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The MIND Clinical Imaging Consortium as an application for novel comprehensive quality assurance procedures in a multi-site heterogeneous clinical research study, H Jeremy Bockholt¹, Sumner Williams¹, Mark Scully¹, Vincent Magnotta¹, Randy Golubits¹, John Lauriello¹, Kelvin Lim¹, Tonya White¹, Rex Jung¹, Charles Schulz², Nancy Andreassen², Vincent Calhoun¹,², ¹The MIND Institute, Albuquerque, USA, ²The University of Iowa, Iowa City, USA, ³Massachusetts, Charlestown, USA, ⁴The University of New Mexico, Albuquerque, USA, ⁵The University of Minnesota, Minneapolis, USA

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Comparison of CBV changes with MRI and laser-Doppler: Implications on CMRtg calculation, Peter Herman¹, Basavaraju G. Sanganahalli¹, Fahmee Hyder¹,², ²Diagnostic Radiology, Yale University, New Haven, USA, ³Biomedical Engineering, Yale University, New Haven, USA

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Relation between spatially and spectrally confined EEG rhythms and fMRI resting state networks, Petra Ritter¹, Michael D. Greicius¹, Robert Becker¹, Arno Villringer¹,², ¹Berlin Neuroimaging Center and Dept. Neurology, Charité, Universitätsmedizin Berlin, Berlin, Germany, ²Departments of Neurology and Psychiatry, Stanford University School of Medicine, Stanford, USA, ³Max Planck Institute for Brain and Cognitive Sciences, Leipzig, Germany

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**IMAGING TECHNIQUES & CONTRAST MECHANISM**

**Optical Imaging/NIRS/MRS (magnetic resonance spectroscopy)**

Removal of skin blood flow artifact in fNIRS signal induced by an excessive finger tapping task though ICA, Satoru Kohno¹,², Akihiro Ishikawa¹, Shin-ichi Shiono¹, Shoichi Tsunehito¹, Haruhide

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Udagawa 1, Takashi Amita 1, Yoshihiro Mukata 1, 2 R&D Department Medical Systems Division, Shimadzu Corporation, Kyoto, Japan, 3 Human Brain Research Center, Kyoto University Graduate School of Medicine, Kyoto, Japan, 4 R&D Department, Shimadzu System Development Corporation, Kyoto, Japan

**Phase Imaging System of Oxygen Transport using Oxyhemoglobin and Deoxyhemoglobin - new index and phenomenon of brain function**, TOSHIKORI KATO, Department of Brain Environmental Research, KATOBRAIN Co., Ltd.(http://www.nonogakko.com), Tokyo, Japan 332 TH-PM

**IMAGING TECHNIQUES & CONTRAST MECHANISM**

**Perfusion MRI**

**A Bayesian Approach to Perfusion Quantification of Arterial Spin Labelling Data by Deconvolution**, Michael Chappell, Salima Makni, Saad Jbabdi, Mark Woolrich, FMRIB Centre, University of Oxford, Oxford, United Kingdom 336 TH-PM

**Using CASL Versus BOLD fMRI Techniques to Study Linguistic and Visuospatial Tasks: a comparison of findings**, Georg Deutsch 1, Amol Pednekar 2, Omar Sen 3, Beverly Corbitt 4, William Evanovich 5, Jan den Hollander 6, Donald Twieg 7, 1 University of Alabama Medical Center, Birmingham, USA, 2 Philips Medical Systems NA, Bothell, USA 340 TH-PM

**IMAGING TECHNIQUES & CONTRAST MECHANISM**

**PET/SPECT**

**Effect of transmission protocol on statistical analysis of brain 18F-FDG PET: Comparison between pre- and post-injection transmission scans**, Masato Kobayashi, Takashi Kudo, Tetsuya Tsujikawa, Yasushi Kiyono, Yasuhisa Fujibayashi, Hidehiko Okazawa, Biomedical Imaging Research Center, University of Fukui, Fukui, Japan 344 TH-PM

**Ictal SPECT Perfusion patterns in pathologically verified Mesial Temporal Sclerosis. Correlation with Surgical outcome**, Puhashalatha Sudhakar Lakkunta 1, Sita Jayalakshmi S 2, Prabakar Rao V. V. S 3, Manas Panigrahi 4, Sundaram Challa 5, Bhushan S. Murari 6, 1 Department of Nuclear Medicine, Nizam's Institute of Medical Sciences, Hyderabad, India, 2 Department of Neurology, Nizam's Institute of Medical Sciences, Hyderabad, India, 3 Department of Nuclear Medicine, Nizam's Institute of Medical Sciences, Hyderabad, India, 4 Department of Nuclear Medicine, Nizam's Institute of Medical Sciences, Hyderabad, India, 5 Department of Pathology, Nizam's Institute of Medical Sciences, Hyderabad, India, 6 Department of Nuclear Medicine, Nizam's Institute of Medical Sciences, Hyderabad, India 348 TH-PM

**LANGUAGE Comprehension**

**Auditory-visual integration in speech perception: A pattern-analytic fMRI study of the McGurk effect**, Kachina Allen 1, 2, Francisco Pereira 1, 2, Matthew Botvinick 1, 2, 3 Princeton Neuroscience Institute, Princeton, USA, 4 Psychology Department, Princeton University, Princeton, USA 352 TH-PM

**fMRI in the service of linguistic theory: The case of optional complements**, Eina Shetreet 1, Naama Friedman 2, Uri Hadar 3, 1 Department of Psychology, Tel Aviv University, Tel Aviv, Israel, 2 Language and Brain Lab, School of Education, Tel Aviv University, Tel Aviv, Israel 356 TH-PM

**Sex Hormones Affect Interhemispheric Connectivity during the Menstrual Cycle: an fMRI study**, Susanne Weis 1, Barbara Stoffers 2, Markus Hausmann 3, Walter Sturm 4, 1 Clinical Neuropsychology, Department of Neurology, Aachen, Germany, 2 Department of Psychology, Durham University, Durham, United Kingdom 360 TH-PM

**The relation between auditory processing and prosodic perception in speech and music: An ERP study**, Varghese Peter, Genevieve McArthur, Macquarie Centre for Cognitive Sciences, Macquarie University, Sydney, Australia 364 TH-PM

**Neural correlates of metaphor comprehension: the role of the right hemisphere**, Midori Shibata 1, Atsushi Terao 2, Tamaki Miyamoto 3, Jun-ichi Abe 4, 1 Department of Psychology, Hokkaido University Graduate School of Letters, Sapporo, Japan, 2 Brain Function Research Laboratory, Hokkaido University Graduate School of Medicine, Sapporo, Japan, 3 Information Science Research Center, Aoyama Gakuin University, Tokyo, Japan 368 TH-PM
Neural substrate for integrating semantic and orthographic processing in Chinese children, Mei-Yao Wu, Tai-Li Chou, Chih-Wei Chen, Shu-Hui Lee, Li-Ying Fan, Mei-En Hsieh, Department of Psychology, National Taiwan University, Taipei, Taiwan

Auditory Language Processing in Chinese: a functional MRI Study, Mea-Yuan Lin, Chiao-Yi Wu, Shuo-En Huang, Wen-Yih Isaac Tseng, S.H. Annabel Chen, 1Department of Psychology, National Taiwan University, Taipei, Taiwan, 2Department of Radiology, National Taiwan University College of Medicine, Taipei, Taiwan

When logical connectives modulate priming: An electrophysiological study of coordinate structures, Magda Dumitruc, MACC5, Macquarie University, Sydney, Australia

Does the processing of words and pictures involving body parts recruit the motor cortex?, Analía Arevalo, Nina Dronkers, 1Center for Aphasia and Related Disorders, VA Northern California Health Care System, Martinez, USA, 2University of California, Davis, Davis, USA, 3University of California, San Diego, La Jolla, USA

Dynamic ERP Mapping in Perception of International Phonetic Vowels, Andrew CN Chen, Peipei Wang, Yanling Yin, Weijia Feng, Center for Higher Brain Functions, Capital Medical University, Beijing, China

Integration of speech and coverbal iconic gestures: Meaning matters, Antonia Green, Benjamin Straube, Susanne Weis, Klaus Willmes, Kerstin Konrad, Tilo Kircher, 1Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany, 2Department of Neurology, RWTH Aachen University, Aachen, Germany, 3Department of Child and Adolescent Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany

LANGUAGE
Reading/Writing

Girls show more top-down influence on Fusiform during reading: an effective connectivity, fMRI study, Tali Bitan, Jimmy Cheor, Dong Lu, Douglas Burman, James Booth, 1Department of Communication Disorders, Haifa University, Haifa, Israel, 2Department of Communication Sciences and Disorders, Northwestern University, Evanston, USA, 3Department of Radiology, Evanston Northwestern Healthcare, Evanston, USA

Common and Unique Mechanisms for Phonological Decoding Real-words and Non-words., Richard Frye, Jacqueline Liederman, Benjamin Malmberg, David Strickland, Andrew Papanicolaou, 1University of Texas, Houston, USA, 2Boston University, Boston, USA

Hemodynamic response observation during typing tasks using NIRS-imaging, Nao Tatsumi, Kayoko Yoshino, Shun Ishizaki, 1Graduate School of Media and Governance, Keio University, Fujisawa, Japan, 2Faculty of Environmental Information, Keio University, Fujisawa, Japan

Investigation of the orthographic/phonological interaction and the L2 factor in the ERP rhyming effect, Yuchun Chen, Jun-Ren Lee, Shih-Kuen Cheng, Daisy Hung, Ovid Tseng, 1Dept. of Special Education, National Taiwan Normal University, Taipei, Taiwan, 2Dept. of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Taiwan, 3Laboratory for Cognitive Neuroscience, National Yang-Ming University, Taipei, Taiwan, 4Institute of Cognitive Neuroscience, National Central University, Chung-Li, Taiwan

Neuroanatomical Correlates of Reading Development in Adolescents with Dyslexia: A Longitudinal Study, Candy Ho, Alexander Gamtman, Black Jessica, Heitzmann Joshua, Zaherani Nahal, Reiss Allan, Hoef Fumiko, Stanford University, Palo Alto, USA

MEMORY & LEARNING
Learning (explicit & implicit)

The neural organization of individual voice categories, Attila Andics, James M. McQueen, Karl Magnus Petersson, 1FC Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, 2Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands

Investigating cortical mechanisms related to enhancing memory by intellectual excitement, Ai Fukushima, Motoaki Sugiyama, Yuko Sassa, Ryuta Kawashima, 1Department of functional brain
imaging of IDAC, Tohoku University, Sendai, Japan, 2Department of Cortical research, National Institute for Physiological Sciences, Okazaki, Japan, 3RISTEX, JST, Kawaguchi, Japan

A MEG study of recognition memory, Sun-Kyoung Kim1, Myung-Sun Kim1, June Sik Kim2, Chun Kee Chung2, 3Sungshin Women’s University, Department of Psychology, Seoul, South Korea, 4Seoul National University Hospital, Department of Neurosurgery, Seoul, South Korea

SPOKEN WORD MEMORY TRACES WITHIN THE HUMAN AUDITORY CORTEX, Pierre Gagnepain, Gael Chételat, Brigitte Landeau, Jacques Dayan, Francis Eustache, Karine Lebreton, Inserm - EPHE - Université de Caen Basse/Normandie, Unité U923, GIP Cynecor, CHU Côte de Nacre, Caen, France

Visuospatial Memory (VSM) in Children and Adolescents with Obsessive Compulsive Disorder (OCD): A Functional Magnetic Resonance Imaging (fMRI) Study, Eve Gu1, Hannah Shoemaker2, Melissa Casey1, Tim Silk2, Michael Farrell1, Alasdair Vance1, 1Academic Child Psychiatry Unit, Royal Children’s Hospital, Murdoch Childrens Research Institute, Melbourne, Australia, 2Queensland Brain Institute, Brisbane, Australia, 3Howard Florey Institute, Melbourne, Australia

"Does Size Matter? The relationship between hippocampal volume and memory ability in patients with treatment resistant MDD", Kate Hoy, Alfred Psychiatry Research Centre, Prahran, Australia

The effects of prenatal methamphetamine exposure on brain activation during verbal learning, Lisa H Lu1, 2, Lynne M Smith1, Mary J O’Connor3, Arianne Johnson1, Elizabeth D O’Hare4, 5, Suzanne Houston6, Susan Y Bookheimer1, 8, Elizabeth R Sowell5, 8, 1UCLA Laboratory of Neuro Imaging, David Geffen School of Medicine, Los Angeles, USA, 2Roosevelt University Dept of Psychology, Chicago, USA, 3Harbor-UCLA Medica Center Dept of Pediatrics, Torrance, USA, 4UCLA Dept of Psychiatry & Biobehavioral Sciences, Los Angeles, USA, 5UCLA Interdepartmental PhD Program for Neuroscience, Los Angeles, USA

The neural substrate of Shogi pattern recognition shaped by long-term training in professional players, Xiaohong Wan, Hironori Nakatani, Kenichi Ueno, Takeshi Asamizuya, Kang Cheng, Keiji Tanaka, RIKEN Brain Science Institute, Wako_shi, Japan

11:30 – 12:30

Corryong Hall (Level 2)

MEMORY & LEARNING

Long-term Memory (episodic, semantic, autobiographical)

Effective connectivity during recollection- and familiarity-based memory decisions, Thomas Lemmin, Alumit Ishai, Institute of Neuroradiology, University of Zurich, Zurich, Switzerland

Impact of Valence and Concreteness on Word List Learning in Young Adults: Differential Effects on Performance and Brain Activation, Olivier Piguet1, 2, Paymon Varnamkhasti1, Keymaa Prince1, Emily Comally1, Suzanne Corkin1, 2, 1Massachusetts Institute of Technology, Cambridge, USA, 2Prince of Wales Medical Research Institute, Sydney, Australia, 3MGH/MIT/HMS Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, USA

An fMRI Study of Episodic Memory Retrieval at 7T, Bing Yao1, Tie-Qiang Li1, James Krager2, Peter van Gelderen1, Jacco de Zwart1, Jeff Dunl1, 1NINDS, National Institutes of Health, Bethesda, USA, 2Department of Psychology, University of New Mexico, Albuquerque, USA

The role of facial expressions in animated characters during word encoding – an fMRI study, Henk Jansma1, Jan Ole Schumann1, Claus Tempelmann1, Thomas Münte1, 1Dept. of Neuropsychology, Otto von Guericke University, Magdeburg, Germany, 2Dept. of Neurology II and CAI, University of Magdeburg, Magdeburg, Germany

Differential Connectivity During Memory Encoding for Patients with MCI versus Controls: A Partial Least Squares Account of Encoding Success, Andrea B. Protzner1, Mary Pat McAndrews1, Jennifer L. Mandziak1, Sandra E. Black2, 1Krembil Neuroscience Program, Toronto Western Hospital, Toronto, Canada, 2Cognitive Neurology Unit, Sunnybrook Health Sciences Centre, Toronto, Canada

Predicting Successful Memory Formations using fMRI and Discriminant Analyses, Julie Yoo1, Noa Ofen1, Susan Gabrieli1, 2, Oliver Hinds1, Christina Triantafyllou1, 3, John Gabrieli1, 2, 1McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, USA, 2Department of Brain and
Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, USA, 1 Athinoula A. Martinos Center, Department of Radiology, MGH, Harvard Medical School, Boston, USA

**MODELING & ANALYSIS**

Exploratory Methods, Artifact Removal

Evaluating the sensitivity of a peak fit analysis to speech-associated manual gestures during naturalistic audiovisual language comprehension, E Elinor Chen, Michael Andric, Steven Small, The University of Chicago, Chicago, USA

**Volume Acquisition Noise-Induced Activation**, Shuowen Hu1, Olumide Olulade1, Joseph Santos2, Gregory Tamer2, Wen-ming Luh3, Thomas Talavage1, 2, 3 School of Electrical and Computer Engineering, Purdue University, West Lafayette, USA, 2 Weldon School of Biomedical Engineering, Purdue University, West Lafayette, USA, 3 National Institute of Mental Health, Bethesda, USA

In Vivo Simulation of Arbitrary Activation Waveforms for Exploring phMRI Pre-Processing and Statistical Analysis Streams, Lisa Nickerson1, 2, Sarabeth Fox1, Blaise Frederick1, 2, 3 McLean Hospital, Belmont, USA, 2 Harvard Medical School, Boston, USA, 3 University of Texas, San Antonio, USA

Investigation of analyzing process on voxel-based analysis using diffusion tensor imaging data sets., Haruyasu Yamada1, 2, Osamu Abe1, Hidenori Yamasue1, Kyito Kasa1, Shigeki Aoki2, Yusuke Inoue2, Atsuya Watanabe1, Toshiyuki Okubo1, Kuni Ohtomo2, 1 Department of Radiology, Teikyo University Chiba Medical Center, Ichihara, Japan, 2 Department of Radiology, University of Tokyo, Tokyo, Japan, 3 Department of Psychiatry, University of Tokyo, Tokyo, Japan

Is Cardiac Gating in Clinical DTI Studies with Single-Shot EPI Acquisition a Good Strategy?, SungWon Chung1, 2, Blandine Courcol1, Michael Sdlka1, Kirsten Moffar1, Caroline Rae1, Roland G. Henry1, 2, 3 UCSF / UC Berkeley Joint Graduate Group in Bioengineering, USA, 2 Department of Radiology, University of California, San Francisco, USA, 3 Department of Neurology, University of California, San Francisco, USA, 4 Prince of Wales Medical Research Institute, Sydney, Australia, 5 Symbion Clinical Research Imaging Centre, Sydney, Australia

Spatial characterisation of cardiac- and respiratory-related phase fluctuations in EPI, Chloe Hutton, Eric Featherstone, Nikolaus Weiskopf, Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom

Effect of ventilation variations on attention system activation during a scrutiny perception task in Social Anxiety Disorder, Hector Ortiz1, 2, Jesus Pujol1, Benjamin Harrison1, 3, Carles Soriano-Mas1, Marina Lopez-Solà1, 2, Monica Gimenez-Navarro1, Joan Deus1, 2, Narcis Cardone1, 2, Javier Rosell1, Emilio Merlo-Pich1, 1 Institut d’Alta Tecnologia (IAT) - CRC Corporació Sanitària, Barcelona, Spain, 2 Electronic Engineering Department, Technical University of Catalonia (UPC), Barcelona, Spain, 3 Melbourne Neuropsychiatry Centre, Department of Psychiatry, The University of Melbourne, Melbourne, Australia, 4 Clinical Sciences Department, Faculty of Medicine, University of Barcelona, Barcelona, Spain, 5 Department of Clinical and Health Psychology, Autonomous University of Barcelona, Barcelona, Spain, 4 Department of Psychiatry, Bellvitge University Hospital, Barcelona, Spain, 5 Psychiatry Centre for Excellence in Drug Discovery, Clinical Pharmacology and Discovery Medicine, GlaxoSmithKline SpA, Verona, Italy

Fractional Amplitude of Low Frequency Fluctuation: An Improved Approach for Detecting the Resting-State Functional MRI Signal, Qi-Hong Zou1, Chao-Zhe Zhu1, Yihong Yang1, Xi-Nian Zuo1, Xiang-Yu Long1, 2, Qing-Jiu Cao1, Yu-Feng Wang1, Yu-Feng Zang1, 3 State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 4 Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, USA, 5 Institute of Mental Health, Peking University, Beijing, China, 4 National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China

**MODELING & ANALYSIS**

Flattening, Segmentation

An improved tissue atrophy simulation based on delaunay triangulation, Meng Li, Huiguang He, Bin Lv, Mingchang Zhao, Institute of Automation, Chinese Academy of Sciences, Beijing, China
Restoration of the sphere-cortex homeomorphism for coarse cortical triangle meshes, Michael Wagner, Andreas Mang, Manfred Fuchs, Jörn Kastner, Jan Müller, Compumedics Neuroscan, Hamburg, Germany, University of Lübeck, Lübeck, Germany

GIFTI: A geometry data format for interoperable exchange of surface-based brain mapping data, John Harwell, Hester Bremen, Olivier Coulin, Donna Dierker, Richard C. Reynolds, Claudia Silva, Kevin Teich, David C. Van Essen, Simon K. Warfield, Ziad S. Saad, Department of Anatomy and Neurobiology, Washington University School of Medicine, Saint Louis, USA, Brain Innovation B.V., Netherlands, Laboratoire LSIS, UMR 6168, CNRS, Marseille, France, Scientific and Statistical Computing Core, National Institute of Mental Health, NIH, Department of Health and Human Services, Bethesda, USA, Scientific Computing and Imaging Institute and School of Computing, University of Utah, Salt Lake City, USA, Department of Radiology, Massachusetts General Hospital, Charlestown, USA, Computational Radiology Laboratory, Department of Radiology, Children’s Hospital Boston, Boston, USA

Brain MRI Segmentation Based on Local Markov Random Fields and Sub Volume Probabilistic Atlases, Jussi Tohka, Ivo Dinov, David Shattuck, Arthur Toga, Tampere University of Technology, Tampere, Finland, University of California, Los Angeles, Los Angeles, USA

MODELING & ANALYSIS

Functional Connectivity and Structural Equation Modeling

Spontaneous Activity is Modulated by Task Independently of the Evoked BOLD Response, Mark McAvoy, Linda Larson-Prior, Abraham Snyder, Debra Gusnard, Marcus Raichle, Giovanni d’Avossa, Washington University School of Medicine, Saint Louis, USA, Bangor University, Bangor, United Kingdom

Limbic-cortical networks in an affective shift task, Allison Nugent, Julie Frost-Bellgovan, Gang Chen, Wayne Drevets, Maura Furey, Section on Neuroimaging in Mood and Anxiety Disorders, NIMH, Bethesda, USA, Scientific and Statistical Computing Core, NIMH, Bethesda, USA

Predicting Resting-State Functional Connectivity from Structural Connectivity, Christopher Honey, Olaf Sporns, Leila Cammoun, Xavier Gigandet, Reto Meuli, Patric Hagmann, Department of Psychological and Brain Sciences, Indiana University, Bloomington, USA, Signal Processing Institute, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, Department of Radiology, University Hospital Center and University of Lausanne, Lausanne, Switzerland

Brain effective connectivity study based on conditional Granger causality, Zhenyu Zhou, Yonghong Chen, Guojun He, Paul Wright, Mingzhou Ding, Yijun Liu, Dept. of Psychiatry, University of Florida, Gainesville, USA, Key Laboratory of Child Development and Learning Science (Southeast University ), Ministry of Education, Nanjing, China, Dept. of Biomedical Engineering, University of Florida, Gainesville, USA

Characterize the Resting State fMRI of the Brain, aviv mezer, yaniv assaf, Tel Aviv University, Tel Aviv, Israel

Modeling Functional Connectivity in the Amygdala: A Meta-Analytic Approach, Jennifer Robinson, Angela Laird, David Glahn, Peter Fox, Department of Psychiatry, University of Texas Health Science Center, San Antonio, USA, Research Imaging Center, University of Texas Health Science Center, San Antonio, USA

Estimating mental chronometry from fMRI signals via solving the hemodynamic inverse problem, Vasily Vakorin, Rom Borowsky, Olga Krakovska, Gordon Sarty, Antony McIntosh, Rotman Research Institute of Baycrest, Canada, Department of Psychology, University of Saskatchewan, Canada, Division of Neurosurgery, University of Saskatchewan, Canada, Department of Applied Mathematics, University of Western Ontario, Canada, Division of Biomedical Engineering, University of Saskatchewan, Canada, Department of Psychology, University of Toronto, Canada.

Resting State Functional Connectivity of the Dorsolateral Prefrontal Cortex: Laterality effects, Nick Bradfield, David Reutens, Amanda Wood, Department of Medicine (Neurosciences), Southern Clinical School, Monash University, Melbourne, Australia

Granger causality analysis of fMRI data reveals true neuronal connectivity despite HRF variability, Gopikrishna Deshpande, Krish Sathian, Xiaoping Hu, Coulter Department of
Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, USA, 2Departments of Neurology, Psychology and Rehabilitation Medicine, Emory University, Atlanta, USA, 3Atlanta VAMC Rehabilitation R&D Center of Excellence, Atlanta, USA

Granger Causality analysis of the default network, Luis Hernandez-Garcia, Scott Peltier, Mostafa Rezaie, University of Michigan, Ann Arbor, USA 562 TH-PM

Diffusion tensor imaging analysis methods for comparisons at group level: tractwise fractional anisotropy statistics and intersubject fiber tracking, Jan Kassubeck, Anne-Dorte Sprenger, Axel Riecker, Albert C. Ladolph, Alexander Unrath, Hans-Peter Müller, Dept. of Neurology, University of Ulm, Ulm, Germany 566 TH-PM

Cortical interactions, masses and clouds: The geometry of system and measurement noise, Stuart Knock1,2, Michael Breakspear1,2, 1School of Psychiatry, University of New South Wales, Australia, Sydney, Australia, 2The Black Dog Institute, Randwick, NSW, Australia, Sydney, Australia 570 TH-PM

A multistart procedure to recover functional networks in MEG/EEG based on anatomical and functional K-means with spatial limitation constraints., Anael Dossevi1,2, Line Garnero1, Habib Ammar2, 1Cognitive Neuroscience & Brain Imaging Lab CNRS UPR 640, Paris, France, 2Center of Applied Mathematics, Ecole Polytechnique/CNRS UMR 7641, Palaiseau, France 574 TH-PM

Resting state brain functional connectivity is associated with EEG beta activity, Jaroslav Hlinka1, Charrlaoas Alexakis1, Ana Diekova1,2, Peter F. Liddle1, Paul S. Morgan1, Dorothée P. Auer1, 1Division of Academic Radiology, School of Medical and Surgical Sciences, University of Nottingham, Nottingham, United Kingdom, 2Division of Psychiatry, School of Community Health Sciences, University of Nottingham, Nottingham, United Kingdom 578 TH-PM*

Meta-analysis of the default mode network: Connectivity patterns for activations and deactivations, Angela Laird, Peter Fox, Research Imaging Center, University of Texas Health Science Center, San Antonio, USA 582 TH-PM

MODELING & ANALYSIS
Multivariate Modeling, PCA, & ICA

Detecting time-varying connectivity in EEG/MEG imaging, Felix Carbonell1, Keith Worsley1,2, Nelson Trujillo-Barreto1, Roberto Sotero1, 1Department of Mathematics and Statistics, McGill University, Montreal, Canada, 2McConnell Brain Imaging Centre, Montreal Neurologic Institute, Montreal, Canada, 3Cuban Neuroscience Centre, Havana, Cuba 586 TH-PM

Constrained Canonical Correlation Analysis using a Local Region Growing Algorithm, Mingwu Jin, Dietmar Cordes, University of Colorado Denver, Denver, USA 590 TH-PM

Clinical utility of distributed source modeling of scalp EEG in focal epilepsy, Chris Plummer1,3, Michael Wagner1, Manfred Fuchs2, Simon Vogrin2, Lucas Litewka1, Steve Farish1, 1St Vincent’s Hospital, Melbourne, Australia, 2Computmedics Neuroscan, Hamburg, Germany, 3University of Melbourne, Melbourne, Australia, 4Royal Children’s Hospital, Melbourne, Australia 594 TH-PM

Reproducibility Based Group-level Independent Component Analysis, Zhi Yang1, Stephen LaConte2, Xuchu Weng1, Xiaoping Hu1, 1Lab. for Higher Brain Function, Institute of Psychology, the Chinese Academy of Sciences, Beijing, China, 2Department of Bioengineering, Rice University, Houston, USA, 3Department of Biomedical Engineering, Emory University, Atlanta, USA 598 TH-PM

Algorithm for automated identification of intrinsic brain networks in group studies by clustering independent components across subjects, Sridharan Devarajan, Elena Rykhlevskaia, Kaustubh Suparik, Catherine Chang, Michael Greicius, Vinod Menon, Stanford University, Stanford, USA 602 TH-PM

Directed Partial Correlation to assess functional interactions in fMRI time series, David Feess1,3, Wolfgang Mader1,3, Rüdiger Lange3, Dorothee Saure2, Volkmar Glauche1, Cornelius Weiller2,3, Jens Timmer2, Björn Schelter2, 1FDM, Center for Data Analysis and Modeling, University of Freiburg, Freiburg, Germany, 2BCCN, Bernstein Center for Computational Neuroscience, University of Freiburg, Freiburg, Germany, 3Department of Neurology, University Hospital Freiburg, Freiburg, Germany 606 TH-PM

Neuronal dynamics in Stop-signal paradigm: EEG/MEG source localization, Alexander Savostyano1,2, Arthur Tsoy1, Michelle Liou1, Xin-Der Lee2, Evgeny Levin1, Alexey Yurganov1, 1IAE-CVM, Volkswagen Foundation, Vienna, Austria, 2Institute of Neuroinformatics, University of Zurich, Zurich, Switzerland 610 TH-PM
Gennadiy Knyazev1, 1Institute of Physiology of SB RAMS, Novosibirsk, Russia, 2Institute of Statistical Science of Academia Sinica, Taipei, Taiwan

MOTOR BEHAVIOR
Basal Ganglia/Brainstem/Spinal Cord

Gender differences in voluntary micturition control - An fMRI study., Jürgen Bauedwig1, Sandra Seske2, Kai Kallenberg2, Rolf H Ringort1, Florian Seske2, Peter Dechent1, 1MR-Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 2Department of Urology, University Medical Center, Göttingen, Germany, 1Department of Urology, Martha-Maria Hospital, Halle, Germany

Interhemispheric Transfer Visualized by fMRI: Are there BOLD Signal Changes in White Matter?, Jürgen Bauedwig1, Julia Böhmer2, Peter Dechent1, Aribert Rothenberger2, Veit Roessner2, 1MR-Research in Neurology and Psychiatry, University Medical Center, Göttingen, Germany, 2Department of Child and Adolescent Psychiatry, University Medical Center, Göttingen, Germany

Eye hand coordination task by Children with Developmental Coordination Disorder: An fMRI study, Mitsuru Kashigaw1, Sunao Iwaki1, Ryusaku Hashimoto1, Shuhei Suzuki1, Osaka Medical College, Takatsuki, Japan, National Institutes of Advanced Industrial Science and Technology, Ikeda, Japan

COMPARISON OF OBSERVING AN ACTION AS IF IT WERE PERFORMED BY ONESELF OR THE OTHER PERSON USING EVENT RELATED fMRI, Satomi Higuchi1,2,3, Stefan Vogl4,5, Francis McGlone6, Neil Roberts4, 1Department of Psychology, Lancaster University, Lancaster, United Kingdom, 2Cognitive Neuroscience, Unilever R&D, Port Sunlight Laboratories, Wirral, United Kingdom, 3Magnetic Resonance and Image Analysis Research Centre, University of Liverpool, Liverpool, United Kingdom

NEUROANATOMY
DTI Studies, Application

Mapping genetic influences on brain fiber architecture with high angular resolution diffusion imaging (HARDI), Ming-Chang Chiang1, Marina Barysheva1, Agatha D. Lee1, Sarah Madsen1, Andrea D. Klunder1, Arthur W. Toga1, Katie L. McMahan1, Greig I. de Zubicaray1, Matthew Meredith1, Margaret J. Wright1, Anuj Srivastava1, Nikolay Balov1, Paul M. Thompson1, 1Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, 2Functional MRI Laboratory, Centre for Magnetic Resonance, University of Queensland, Brisbane, Australia, 3Queensland Institute of Medical Research, Brisbane, Australia, 4Department of Statistics, Florida State University, Tallahassee, USA

Connectivity-based parcellation of the cortical surface using q-ball diffusion imaging, Pamela Guevara1,2, Muriel Perrin1,2,3, Pascal Cathier1,2, Yann Cointepas1,2, Denis Rivière1,2, Cyril Poupon1,2, Jean-Francois Mangin1,2, 1CEA, Neurospin, Gif-sur-Yvette, France, 2Institut Fédératif de Recherche 49, Gif-sur-Yvette, France, 3GE Healthcare, Buc, France

Disparate Gender Effects on White Matter Tracts in Fronto-striato-thalamic Circuit: A Diffusion Spectrum Imaging Study, Y.C. Lo1, S.C. Huang2, W.Y. Chiang2, L.W. Kuo2, F.C. Yeh2, V.J. Wedeen2, W.Y.I. Tseng2,3, 1Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, 2Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, Taiwan, 3Department of Medical Imaging, National Taiwan University Hospital, Taipei, Taiwan

Comparison of white matter indices in healthy ageing, Emmanuel A Stamatakis1, Meredith A Shafto2, Lorraine K Tyler1, 1School of Psychological Sciences and Division of Imaging Science and Biomedical Engineering, University of Manchester, Manchester, United Kingdom, 2Centre for Speech, Language and the Brain, Department of Experimental Psychology, University of Cambridge, Cambridge, United Kingdom

Gender difference in gray/white matter volume and diffusion tensor data during normal aging, Osamu Abe1, Hidenori Yamashita1, Haruyasu Yamada1, Yoshitaka Masutani1, Hideyuki Inoue1, Kunio
Uncertainty of apparent white matter fiber tract size in DTI fiber tracking and region of interest analyses: A multi-resolution study, Daniel Franz1, Christophe Lenglet2, Gloria Haro3, Paul Thompson4, Bryon Mueller5, Guillermo Saprio6, Kelvin Lim2, 7University of Minnesota, Minneapolis, USA, 8Siemens Corporate Research, Princeton, USA, 9UPC, Barcelona, Spain, 10UCLA Medical School, Los Angeles, USA

Gender Differences in White Matter Asymmetry in Relation with Cortical Thickness Asymmetry, Chi-Hoon Choi1,2, Jong-Min Lee3, Bang-Bon Koo4, Jun Sang Park5, Jun Soo Kwon6, Sun I. Kim7, 1Department of Diagnostic Radiology, National Medical Center, Seoul, South Korea, 2Department of Biomedical Engineering, Hanyang University, Seoul, South Korea, 3Department of Psychiatry, Seoul National University College of Medicine, Seoul, South Korea

Comparative SPM and ROI analyses of fractional anisotropy maps in preterm and normal newborns, Paola Scifo, Cristina Baldoli, Silvia Pontesilli, Valeria Blasi, Roberta Scotti, Giuseppe Scotti, Ferruccio Fazio, Scientific Institute H San Raffaele, Milan, Italy

DTI Fiber Tractography Reveals Precentral-Postcentral Gyral Connectivity, John Bogovic, Aaron Carass, Jing Wan, Bennett Landman, Jerry Prince, Image Analysis and Communications Laboratory, Electrical and Computer Engineering, the Johns Hopkins University, Baltimore, USA

SENSORY SYSTEMS
Auditory/Vestibular

Diffusion tensor imaging study on congenitally deaf, Yonghui Li1, Yuan Zhou1, Jun Li2, Chunshui Yu3, Wen Qin4, Kuncheng Li5, Yong Liu6, Ni Shu7, Tianzi Jiang8, 1National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, 2Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China

rTMS over medial posterior parietal cortex impairs fine auditory spatial discrimination, Santani Teng, David Whitney, Center for Mind and Brain/Dept. of Psychology, UC Davis, Davis, USA

Electrophysiological mapping of the human auditory cortex using click-train stimulation, Kirill Nourski1, Hiroyuki Oya1, Hiroto Kawasaki1, Richard Reale1,2, Albert Fenoy3, Paul Poon4, Matthew Howard5, John Brugge1,2, 1The University of Iowa, Iowa City, USA, 2University of Wisconsin-Madison, Madison, USA, 3National Cheng Kung University, Tainan, Taiwan

Plastic Functional Connectivity in Musicians’ Brain: a Resting State fMRI Study, Han Zhang1, Ying Han1, Hong Yang2, He-Han Tang3, Qi-Yong Gong4, Yu-Feng Zhang5, Chao-Zhe Zhu6, 1State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, 2Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China

SENSORY SYSTEMS
Tactile/Somatosensory

MEG Event-Related Desynchronization and Synchronization Differences During Basic Somatosensory Processing in Individuals with ADHD, Colleen Dockstader1, William Gaetz1, 2, Douglas Cheyne1, 2, Christina M. Popovich1, 3, Frank Wang1, 4, F. Xavier Castellanos1, Rosemary Tannock1, 2, 1Neurosciences and Mental Health Program, The Hospital for Sick Children, Toronto, Canada, 2Department of Diagnostic Imaging, The Hospital for Sick Children, Toronto, Canada, 3Institute of Medical Science, University of Toronto, Toronto, Canada, 4Child Study Center, New York University, New York, USA, 5Human Development & Applied Psychology, Ontario Institute for Studies in Education, Toronto, Canada

Perceptive limits linked to differential 600 Hz activity in the somatosensory system, Ulrike Jaros1, Bernd Hilgenfeld1, Stephan Lai2, Gabriel Caro3, Jens Haukensen1, 2, 3Biomagnetic Center, Department of Neurology, University Hospital Jena, Jena, Germany, 3Institute of Biomedical Engineering and Informatics, Technical University Ilmenau, Ilmenau, Germany, 4Neurophysics Group, Department of Neurology, Charité - University Medicine Berlin, Berlin, Germany
Top-down control of cortical ongoing mu rhythm (7-13 Hz) in sensory awareness of a weak stimulus, Yan Zhang, Mingzhao Ding, J. Crayton Pruitt Family Department of Biomedical Engineering, University of Florida, Gainesville, USA

Cuff-type pneumatic stimulator for somatosensory mapping of finger afferences with fMRI, Eugen Gallasch1, Martin Fend2, Dietmar Raffelt1, Christian Siedentopf2,3, Stefan Golazewski2,3, Roland Beisteiner1, 1Dept. of Physiology, Medical University of Graz, Graz, Austria; 2Center for Biomedical Engineering and Physics, Medical University of Vienna, Vienna, Austria; 3Dept. of Neurology, Paracelsus Medical University Salzburg, Salzburg, Austria

A fMRI Study of Acupuncture: Human Brain Activity in the Manipulation of Needle Rotation., Hiroaki Mano1, Masahiro Umeda2, Masaki Fukunaga2, Toshihiro Higuchi1, Chizu Tanaka1, 1Department of Brain Surgery, Meiji University of Integrated Medicine, Nantan, Japan; 2Department of Medical Informatics, Meiji University of Integrated Medicine, Nantan, Japan

SENSORY SYSTEMS

Vision

Multivoxel fMRI analysis reveals the representation of spatial frequency information in the human primary visual cortex, Bahador Bahrami1,2, Gerard Rees1,2, 1Institute of Cognitive Neuroscience, London, United Kingdom; 2Wellcome Department of Imaging Neuroscience, London, United Kingdom

Brain Mechanisms of Vision in Human Amblyopia: A Magnetoencephalography (MEG) Study., Filomeno Cortes1, Herbert C. Gole1, Zahra Hurj1, Douglas O. Cheyne1, Agnes F. M. Wong1, 1Department of Ophthalmology & Vision Sciences, The Hospital for Sick Children, Toronto, Canada; 2Diagnostic Imaging, The Hospital for Sick Children, Toronto, Canada

The transformation of representational similarity along human ventral-stream stages of visual-object processing, Nikolaus Kriegeskorte, Marieke Mur, Jerzy Bodzynka, Peter Bandettini, NIMH, Bethesda, USA

N170 amplitude reflects the seen number of faces irrespective of low-level stimulus variables, Aina Puce1, Marie McNeely1, Olivia Carrick1, Michael Berberich1, James Epling1, James Thompson1,2, Jillian Hardee1, Leor Zellner1, Julie Brefczynski-Lewis1, 1Center for Advanced Imaging, West Virginia University, Morgantown, USA; 2Psychology Department, George Mason University, Fairfax, USA

MEG demonstrates a shift to higher gamma frequencies in primary visual cortex for moving versus stationary stimuli., Jennifer B. Swettenham, Krish D. Singh, CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom

Increasing the measured BOLD signal in human lateral geniculate nucleus and superior colliculus using cardiac gating, Martin Hebbar1, Ignacio Vallines1,2, 1Department of Experimental Psychology, Ludwig Maximilian University, Munich, Germany; 2Department of Experimental Psychology, University of Regensburg, Regensburg, Germany

Exploring the relationship between natural fluctuations in electrical measures of brain activity and the BOLD response, during visual stimulation., Karen J. Mullinger, Gerda B. Geirsdottir, Matthew J. Brookes, Peter F. Liddle, Richard W. Bowtell, University of Nottingham, Nottingham, United Kingdom

Using inter-session repeatability to improve the results of phase-encoded retinotopic mapping, Krish D. Singh1, Simon K. Rushton1, Tom C.A. Freeman1, Petroc Sumner1, Paul A. Warren1, Andy T. Smith1, 1CUBRIC, School of Psychology, Cardiff University, Cardiff, United Kingdom; 2Dept. of Psychology, Royal Holloway, University of London, Egham, United Kingdom

SENSORY SYSTEMS

Tactile/Somatosensory

Proprioceptive perception, an fMRI study of brain lateralization and its relationship with behavioral measures, Ettie Ben-Shabat1,2, Gaby S Pell1, Amy Brodmann1, Thomas A Matyas1,2, Leanne M Carey1,2, 1La Trobe University, Melbourne, Australia; 2National Stroke Research Institute, Melbourne, Australia; 3Brain Research Institute, Melbourne, Australia