

**2nd Cost Action FA0702
Gemini General Conference
Maternal Interactions with Gametes and Embryos**

1st-3rd October 2009
Alghero, Sardinia, Italy

Abstract Submission Form

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Abstract Title: Intrauterine expression of LIF and its receptors in the cycling and early pregnant mare

Abstract:

Leukaemia Inhibitory Factor (LIF) plays a critical role in blastocyst development and implantation, as clearly demonstrated by the failure of wild-type mouse embryos to implant in the uterus of LIF-knockout female mice unless the latter receive LIF supplementation. Expression of LIF and its receptors (LIF-R and gp130) in the early pregnant horse have not been described. However, the horse may be an interesting animal in which to study such 'implantation factors' because various aspects of implantation occur both unusually late and in a temporally distinct fashion in this species.

The aim of this study was to examine LIF, LIF-R and gp130 gene expression in the endometrium of cycling and early pregnant mares, and in the early conceptus. Endometrial biopsies were recovered from 4 mares at each of late oestrus, days 7 and 14 of dioestrus (cycling mares), and days 7, 14 and 21 of gestation. Conceptuses were recovered by uterine lavage (day 7) or using a video-endoscopically guided net (days 14 and 21). For day 14 and 21 conceptuses, only the bilaminar trophoblast was used in gene expression studies. Expression of mRNA for LIF, LIF-R and gp130 was analysed by rtPCR, with relative expression calculated with respect to the 3 most stable housekeeping genes using GeNorm analysis.

A dramatic increase in LIF mRNA expression ($p < 0.01$) was observed in both the endometrium and the trophoblast on day 21 of pregnancy. Expression of LIF-R and gp 130 increased significantly in the trophoblast on day 21 ($p < 0.01$), but did not vary in the endometrium at the various stages examined. We propose that LIF plays a role in the adhesion between trophoblast and endometrium which, in the mare, cannot begin until the blastocyst capsule is dissolved somewhere between days 18 and 22 of gestation.

Please tick if you wish to be considered for:

- Oral presentation only
 Poster presentation only
 Both an oral presentation and/or a poster presentation

Please indicate which working group session you would like your presentation to be considered for:

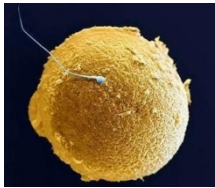
- Working Group I:** Experimental models; In vivo and In vitro
 Working Group II: Tools, Technologies and Systems Biology
 Working Group III: Maternal Nutrition

NOTES TO AUTHORS:

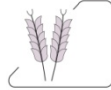
- Abstracts must be received by 17:00 (UK Time) on 10 August 2009 for consideration by the Gemini Meeting Executive.

- Submitted abstracts should be accompanied by registration forms and payment of registration fees of presenting author.
- Abstracts should NOT exceed 300 words.
- Abstracts received will be considered for oral and poster presentations.
- All abstracts will be published in the meeting's abstract book and online at www.cost-action.eu/meetings.

Please note responsibility for accuracy rests with the author.



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Maternal Interaction With Gametes and Embryos

Participating countries: AT, BE, DK, EE, FR, DE, GR, HU, IT, LT, MK, NL, PL, PT, SI, SK, ES, SE, CH, UK

Chair of the Action: **Dr Alireza Fazeli**, UK, a.fazeli@sheffield.ac.uk

Vice Chair of the action: **Prof Fulvio Gandolfi**, fulvio.gandolfi@unimi.it

COST Science Officer: **Dr Ioanna Stavridou**, istavridou@cost.esf.org

www.cost-gemini.eu



Second General Conference

Alghero, Sardinia, Italy

1st – 3rd October 2009

Speakers that have already accepted our invitation:

Philippe Andrey, INRA, France

How-to: A practical approach to the mathematical modeling of biological systems

Veronique Duranthon, INRA, France

Rabbit as a pre and post-implantation developmental model

Yuri Lazebnik, Cold Spring Harbor Laboratory, USA

Can a biologist fix a radio?

Heiner Niemann, Institute of Farm Animal Genetics, Germany

Unravelling the transcriptome of bovine preimplantation embryos derived in vivo

Kevin Sinclair, University of Nottingham, UK

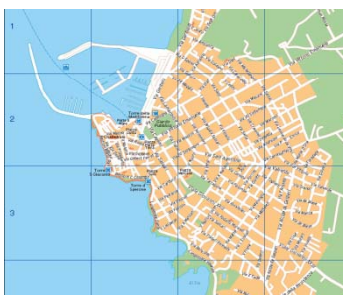
Developmental origins of health and disease: Maternal diet and epigenetic programming in the oocyte and pre-implantation embryo

Thomas Werner, Genomatix Software, Germany

Next generation sequencing: Opportunities and challenges on the example of ChIP-seq application

Mike White, University of Liverpool, UK

Spatial and temporal information coding by the NF- κ B system



Organising Committee

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Member: Dr Jean-Pierre Ozil, INRA
Member: Dr Pascale Chavatte-Palmer, INRA

Meeting Details:

- Abstract deadline – **Monday 10th August 2009**
- Website: www.cost-gemini.eu/meetingalghero.html
- Abstract forms can be downloaded from the website and should be returned to secretary@cost-gemini.eu
- To register complete the online registration form and return to: secretary@cost-gemini.eu
- For further information please contact: secretary@cost-gemini.eu