

Fertility in Adverse Environments: Who we are & what we do...



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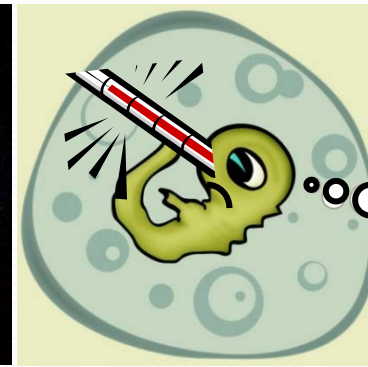
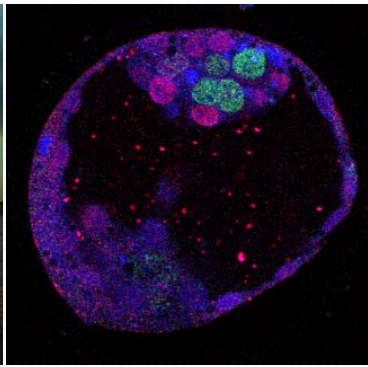
GAME Lab: About Us

- **Research Interests:**

- Assisted reproduction in wildlife (*marsupials, African wild dogs & barramundi*)
- Impact of adverse conditions (*IVF, heat-stress, social-stress, disease & maternal-age*) on fertility (*various animal models*)

- **Techniques used:**

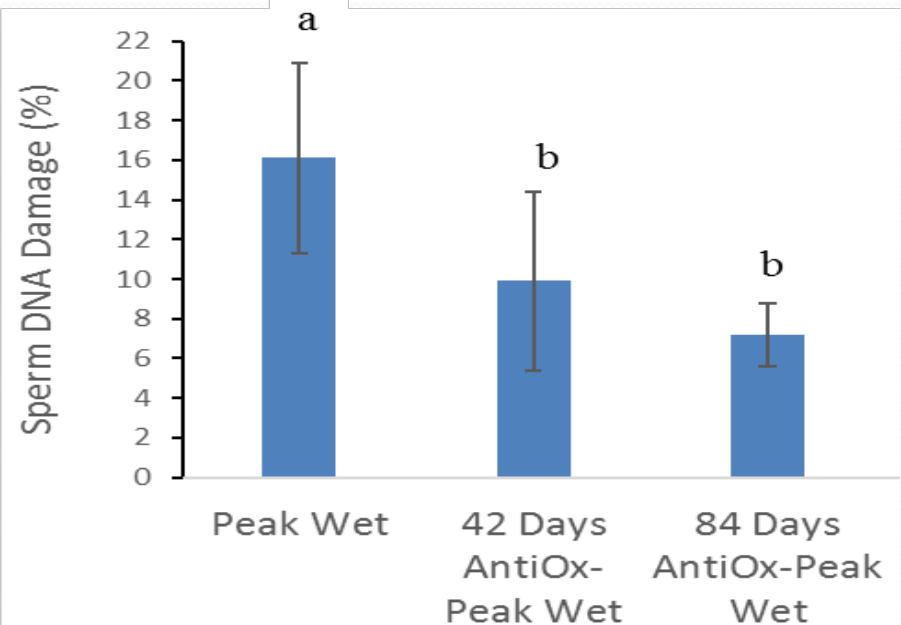
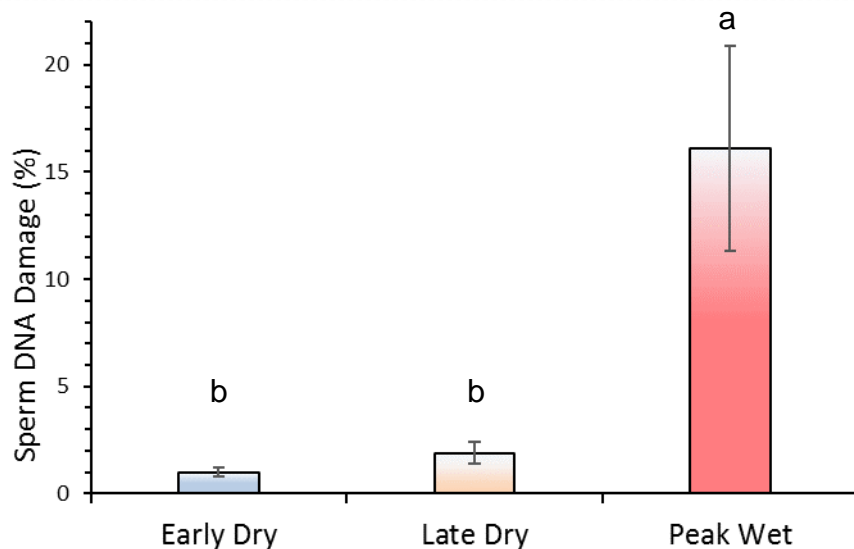
- highly sensitive molecular tools as 'barometer' to detect compromised viability in sperm & embryos:
 - CASA, TUNEL, immunofluorescent microscopy, qRT-PCR, semen collection, sperm cryopreservation, artificial insemination & IVF



I don't feel so good!

Current Projects

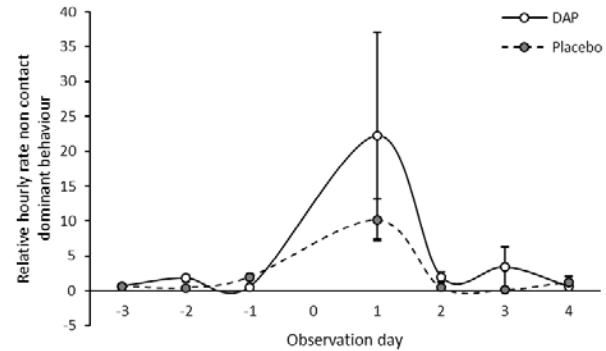
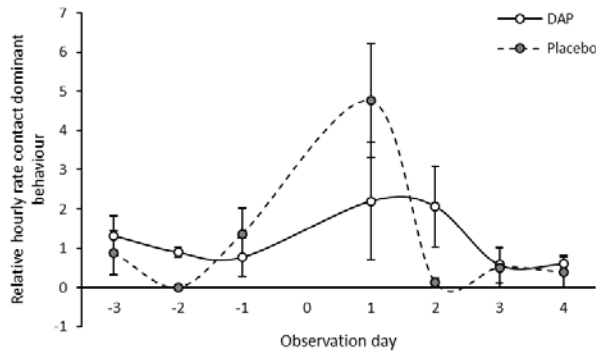
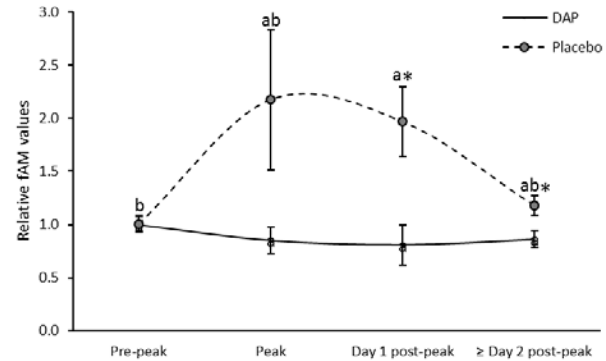
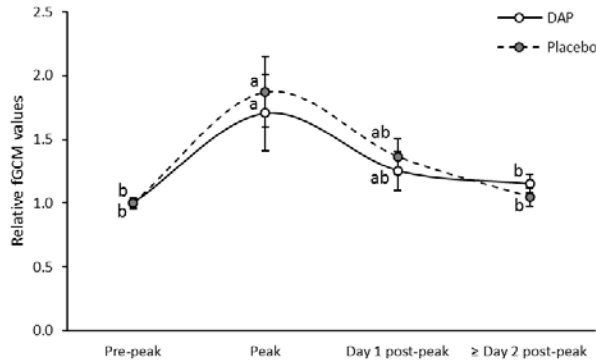
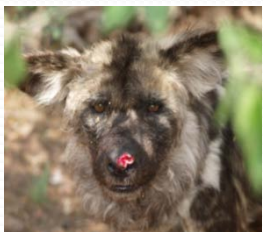
- ***S Peña (PhD)***: Impact of heat-stress on sperm DNA integrity & mitigation by antioxidants in the boar



- ***Sperm DNA damage***: up to 16-fold higher in peak wet
- ***Antioxidant Treatment***: significantly decreases sperm DNA damage after 42 & 84 days

Current Projects

- ***F Van den Berghe (PhD)***: Developing artificial insemination & influence of appeasing pheromones on stress & aggression in endangered African wild dogs

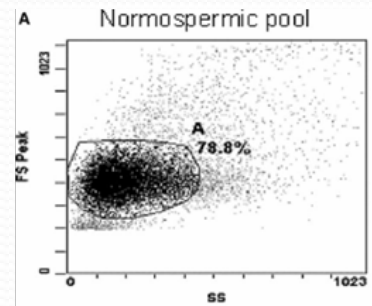
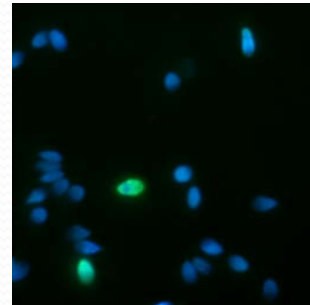
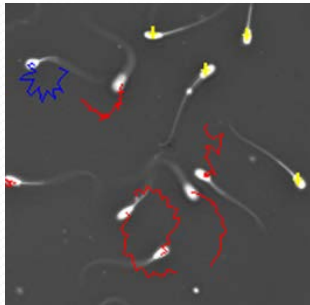


- ***DAP Treatment:***

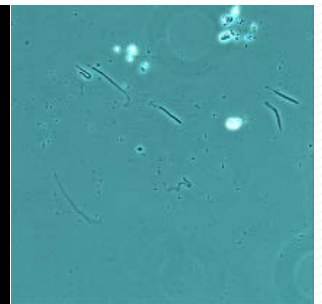
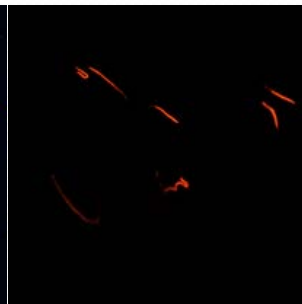
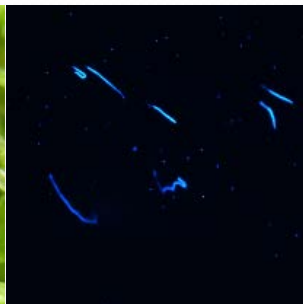
- signif decline in testosterone after intervention & reintroduction
- shift from contact to non-contact dominant behaviour

Current Projects

- **A Marc (PhD):** Developing advanced reproductive techniques to detect infertility & accelerate selective breeding in barramundi



- **P Frias-Alvarez (Postdoc):** Impact of chytrid fungus on sperm quality in the endangered Corroboree frog



Our Expertise



- ***Sperm quality analysis tools:*** CASA, TUNEL/FACS, fluorescent microscopy
- ***Assisted reproductive techniques:*** semen collection, sperm freezing, artificial insemination, IVF
- ***Embryo viability & paternity testing:*** DAPI, morphology, protein & gene expression, microsatellite analysis
- ***Mitigation strategies:*** nutrient, pheromone & behaviour



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Dean Jerry



Bruce Gummow



Anthony Parker



Monique Paris