



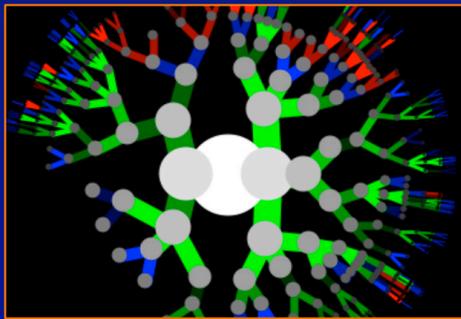
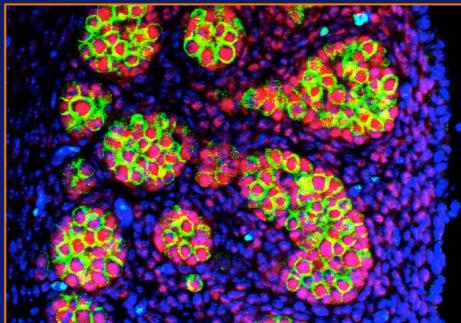
Gordon Research Conferences

frontiers of science

Announcing the 2019 Gordon Research Conference on:

Germinal Stem Cell Biology

Germ Cell Programming in Vertebrate Biology, Medicine and Biotechnology



May 19-24, 2019

Courtyard by Marriott Hong Kong Sha Tin
Hong Kong, China

Chair: **Monika Ward**

Vice Chair: **Blanche Capel**

Germinal stem cells are called the “stem cells of the species” as they provide the link between generations. Intense research focuses on the origin of these cells, their identification and regulation, environmental effects on their quality, and how their attributes affect resulting embryos.

The insights into these processes are instructive for all stem cell biology and are crucial for understanding fertility and managing reproductive disorders. Recent advances in single cell analyses enable addressing these research topics with unprecedented sensitivity, while constantly improving strategies for germline editing raise possibilities for translating basic science findings into biomedical and biotechnological applications.

The expansion of knowledge in the germline stem cell field is rapid and it is important that the key developments are shared in timely manner among community members. The conference will be a venue for presenting unpublished data, robust discussions, and informal interactions. It will highlight cutting-edge advancements and emerging concepts, define new research directions, and help to establish collaborations across disciplines and across nations.

The conference will be held in Hong Kong, one of the world’s most vibrant cities and a gateway to the heady delights of East Asia.

<https://www.grc.org/germinal-stem-cell-biology-conference/2019/>

Germinal Stem Cell Biology

Germ Cell Programming in Vertebrate Biology, Medicine and Biotechnology

May 19-24, 2019

Courtyard by Marriott Hong Kong Sha Tin
Hong Kong, China

Chair: **Monika Ward**
Vice Chair: **Blanche Capel**

To sponsor the meeting use the link: <https://www.grc.org/contributions/contribution.aspx?v1=15864>

PRELIMINARY PROGRAM

SESSION 1 (SUNDAY PM): Early Embryogenesis: the Origin of the Germline

Discussion Leader: Ian Chambers (University of Edinburgh, United Kingdom)

Invited Speakers:

- Magdalena Zernicka-Goetz (University of Cambridge, United Kingdom): "Building the mammalian embryo in vivo and in vitro."
- Takashi Hiragi (EMBL, Heidelberg, Germany): "Self-organization in mouse development."
- Janping Fu (Michigan University, USA): "Synthetic human embryo-like structures: a new paradigm for human embryology."

SESSION 2 (MONDAY AM): Genetic Regulation of the Germline

Discussion Leader: Josephine Bowles (University of Queensland, Australia)

Invited Speakers:

- Martin Matzuk (Baylor College of Medicine, USA): "Targeting spermatogenesis for male contraception."
- Wei Li (Chinese Academy of Sciences, China): "Deciphering allelic imbalance and its role in reproduction."
- Peter Koopman (University of Queensland, Australia): "Molecular pathways of mammalian sex determination"

SESSION 3 (MONDAY PM): Female Germline Development

Discussion Leader: Lei Lei (University of Michigan, USA)

Invited Speakers:

- Ji Wu (Shanghai Jiao Tong University, China): "Epigenetic regulation mechanism in differentiation of female germline stem cells."
- Evelyn Telfer (University of Edinburgh, UK): "Growing old human oocytes and making new ones in vitro."
- Cai-Xia Yang (Northeast Agricultural University, China): TBA

SESSION 4 (TUESDAY AM): Single Cell Analyses of Germ Cell Development

Discussion Leader: Blanche Capel (Duke University, USA)

Invited Speakers:

- Kikue Tachibana-Konwalski (IMBA, Austria): New insights into the causes of the maternal age effect
- Fuchou Tang (Peking University, China): "Decoding the gene regulation network of human germline cells by single cell functional genomics approach."
- Brian Hermann (University Texas San Antonio, USA): "Identifying spermatogonial stem cells and their regulatory framework with single-cell transcriptomics"
- Sue Hammoud (University of Michigan, USA): "The power of one: single cell sequencing identifies an unexpected somatic cell progenitor."

SESSION 5 (TUESDAY PM): Spermatogonial Stem Cells and their Niche

Discussion Leader: Jon Oatley (Washington State University, USA)

Invited Speakers:

- Xin Chen (John Hopkins University, USA): "Asymmetry from symmetry or symmetry from asymmetry?"
- Brad Cairns (University of Utah, USA): "The human testis transcriptional cell atlas."
- Jan-Bernd Stukenborg (Karolinska University, Sweden): "Male germ stem cells, their niche and potential *in vitro*."

SESSION 6 (WEDNESDAY AM): Environmental Impacts on the Germline

Discussion Leader: Pat Hunt (Washington State University, USA)

Invited Speakers:

- Qi Chen (University of Nevada, USA): "Sperm RNA code: how many more secrets in programming offspring phenotypes?"
- Michelle Lane (University of Adelaide, Australia): TBA
- Adam Watkins (University of Nottingham, UK): "Dads, diet and disease; the paternal programming of offspring health"

SESSION 7 (WEDNESDAY PM): Epigenetic Programming of Germline Development

Discussion Leader: Amander Clark (UCLA, USA)

Invited Speakers:

- Mitinori Saitou (Kyoto University, Japan): "Mechanism and reconstitution in vitro of human germ cell development"
- Makoto Tachibana (Tokushima University, Japan): "Epigenetic regulation of spermatogonial development by histone demethylation"
- Patrick Western (HIMR, Australia): "Germline epigenetics: Polycomb regulated investment in offspring futures."

SESSION 8 (THURSDAY AM): Technological Advances in Germ Cell Research

Discussion Leader: Monika Ward (University of Hawaii, USA)

Invited Speakers:

- Irina Larina (Baylor College of Medicine, USA): "Regulation of gametes and preimplantation embryos by oviduct environment: what can we learn from in vivo imaging"
- Goro Yoshizaki (Tokyo University MST, Japan): "Germ cell transplantation in fish: Current status and future prospects"
- Masahito Ikawa (Osaka University, Japan): "CRISPR/Cas9 mediated genome editing and its application for the study of fertilization"

SESSION 9 (THURSDAY PM): Natural and Induced Mutations in the Germline

Discussion Leader: John McCarrey (University of Texas San Antonio)

Invited Speakers:

- Anne Goriely (University of Oxford, UK): "Selfish testes, new mutations and human disease"
- Jacob Mueller (University of Michigan, USA): "A Mus lineage-specific gene family is essential for male fertility and equalized sex ratio."
- Itai Yanai (New York University Langone Health, USA): "Widespread transcriptional scanning in testes modulates gene evolution rates."