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Schedule

NOTE: THE HYBRID OPTION WILL INCLUDE LIVE BROADCAST OF ALL TALKS; THIS ALSO INCLUDES A RAPID-FIRE POSTER SESSION PRESENTED BY CONTEST FINALISTS.

7:45–8:30 REGISTRATION (VACCINATION DOCUMENT CHECK-IN) & CONTINENTAL BREAKFAST

8:30–8:40 WELCOME, Timothy J. Kamp, M.D., Ph.D.

SESSION 1: STEM CELL COMPOSITION from FIRST PRINCIPLES

Moderator: Jayshree Samanta, MBBS, Ph.D.

8:40–9:20 Cell Competition and Its Role as a Mitochondrial Purifying Selection Mechanism During Embryonic Development, Tristan Rodriguez, Ph.D.

9:20–10:00 Killer Clones: Competition between Hematopoietic Stem Cells and Its Role in Disease, Kenneth Walsh, Ph.D.

10:00–10:20 BREAK

SESSION 2: COMPETITION in the NICHE

Moderator: Jayshree Samanta, MBBS, Ph.D.

10:20–11:00 Stem Cell Competition: Lessons from the *Drosophila* Testis, Erika Bach, Ph.D.

11:00–11:40 Dynamics Underlying Neural Stem Cell Quiescence Exit, Darcie Moore, Ph.D.

11:40–12:10 Rapid-Fire Poster Session

12:10–1:30 LUNCH, POSTER SESSION & SPONSOR EXHIBITS

SESSION 3: COMPETITION in HEMATOPOIESIS

Moderator: Igor Slukvin, M.D., Ph.D.

1:30–2:10 Novel Approaches to Resolve the Blood Stem Cell Niche, Owen Tamplin, Ph.D.

2:10–2:40 Mechanisms by which DNMT3A Mutations Provide a Competitive Advantage to Hematopoietic Stem Cells, Grant Challen, Ph.D.

2:40–3:00 BREAK

SESSION 4: PLURIPOTENT STEM CELLS and COMPETITION

Moderator: Igor Slukvin, M.D., Ph.D.

3:00–3:40 Cell Competition during Early Embryogenesis Resembles Primitive Immune System, Thomas P. Zwaka, M.D., Ph.D.

3:40–4:20 Competition in Cell Fate Programming, Nika Shakiba, Ph.D.

4:20–4:45 POSTER CONTEST AWARDS & CLOSING REMARKS

Competition of Stem Cells in Health and Disease

April 20, 2022 | Madison, WI



Image courtesy of
Daniel Radecki, Samanta Group
University of Wisconsin – Madison

Key Topics

The Wisconsin Stem Cell Symposium is coordinated by the University of Wisconsin – Madison Stem Cell & Regenerative Medicine Center and the BTC Institute. Cell competition is an emerging field of stem cell biology that has important implications in healthy aging and disease states. To describe recent advances, this symposium will bring together leading researchers studying competition between stem cells and competitive interactions within their niche. The presentations will highlight the approaches to evaluate molecular mechanisms responsible for selective expansion and elimination of cell populations during development, reprogramming and disease.

Highlighted Issues

- Clonal hematopoiesis
- Cell competition during reprogramming
- Competitive elimination of stem cells
- Molecular sensors of cell competition

Speakers

Erika Bach, Ph.D.

Associate Professor, Biochemistry and Molecular Pharmacology, NYU Grossman School of Medicine, NYU Langone Health, New York, NY

Grant Challen, Ph.D.

Associate Professor, Internal Medicine/Oncology, Roy and Diana Vagelos Division of Biology & Biomedical Sciences, Washington University in St. Louis, St. Louis, MO

Darcie Moore, Ph.D.

Assistant Professor, Neuroscience, School of Medicine and Public Health, University of Wisconsin – Madison, Madison, WI

Tristan Rodriguez, Ph.D.

Faculty of Medicine, National Heart & Lung Institute, Imperial College London, United Kingdom

Nika Shakiba, Ph.D.

Assistant Professor, School of Biomedical Engineering, Faculty of Applied Science and Faculty of Medicine, School of Biomedical Engineering, The University of British Columbia, Vancouver, Canada

Owen Tamplin, Ph.D.

Assistant Professor, Cell and Regenerative Biology, University of Wisconsin – Madison, Madison, WI

Kenneth Walsh, Ph.D.

Professor, Internal Medicine, School of Medicine, University of Virginia, Charlottesville, VA

Thomas P. Zwaka, M.D., Ph.D.

Professor, Cell, Developmental & Regenerative Biology, Icahn School of Medicine at Mount Sinai, New York, NY

Organizing Committee

Karin Borgh, Ph.D.

Executive Director, BioPharmaceutical Technology Center Institute, Madison, WI

Timothy J. Kamp, M.D., Ph.D.

Professor, Medicine, Cell and Regenerative Biology; Director, Stem Cell and Regenerative Medicine Center, University of Wisconsin – Madison, Madison, WI

Jayshree Samanta, MBBS, Ph.D.

Assistant Professor, Comparative Biosciences, School of Veterinary Medicine, University of Wisconsin – Madison, Madison, WI

Igor Slukvin, M.D., Ph.D.

Professor, Pathology and Laboratory Medicine, Cell and Regenerative Biology, School of Medicine and Public Health, University of Wisconsin – Madison, Madison, WI

Poster Judges

Melissa Kinney, Ph.D.

Assistant Professor, Biomedical Engineering, College of Engineering, University of Wisconsin – Madison, Madison, WI

Robert Lipinski, Ph.D.

Associate Professor, Comparative Biosciences, School of Veterinary Medicine, University of Wisconsin – Madison, Madison, WI

Bikash Pattnaik, Ph.D., MPhil

Associate Professor, Pediatrics, School of Medicine and Public Health, University of Wisconsin – Madison, Madison, WI

Masatoshi Suzuki, DVM, Ph.D.

Associate Professor, Comparative Biosciences, School of Veterinary Medicine, University of Wisconsin – Madison, Madison, WI

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