

“Targeting Aging in the Lower Urinary Tract”

June 29-30, 2022

University of Wisconsin, Health Sciences Learning Center

Keynote Speaker

Judith Campisi, PhD, Professor, Buck Institute for Research on Aging

Visiting Speakers

Scott Bauer, MD, Assistant Professor, University of California, San Francisco, CA

Ramy Goueli, MD, MHS, Assistant Professor, UT Southwestern, Dallas, TX

Jill Macoska, PhD, Professor, University of Massachusetts-Boston, Boston, MA

Indira Mysorekar, PhD, Professor, Baylor College of Medicine, Houston, TX

Laura Pascal, PhD, Research Assistant Professor, University of Pittsburgh, Pittsburgh, PA

Kristina Penniston, PhD, Director of Interactions, NIH/NIDDK O'Brien Centers, Madison, WI

Tracy Rankin, PhD, MPH, Deputy Director/Program Director, NIDDK, Bethesda, MD

Douglas Strand, PhD, Associate Professor, UT Southwestern Medical Center, Dallas, TX

Renee Vickman, PhD, Research Scientist, NorthShore University, Evanston, IL



University of Wisconsin Speakers

William Ricke, PhD, Professor, School of Medicine and Public Health

Chad Vezina, PhD, Associate Professor, School of Veterinary Medicine

Rozalyn Anderson, PhD, Professor, School of Medicine and Public Health

John Denu, PhD, Professor, School of Medicine and Public Health

Kimberly Keil Stietz, PhD, Assistant Professor, School of Veterinary Medicine

Dudley Lamming, PhD, Associate Professor, School of Medicine and Public Health

Jules Panksepp, PhD, Rodent Models Core Research Program Manager, Waisman Center

Judith Simcox, PhD, Assistant Professor, College of Agriculture & Life Sciences

Shane Wells, MD, Associate Professor, School of Medicine and Public Health

K12/Trainee Speakers

Matthew Grimes, MD, Assistant Professor, University of Wisconsin-Madison

Teresa Liu, PhD, K01 Scholar/Scientist I, University of Wisconsin-Madison

Petra Popovics, PhD, K01 Scholar/Scientist I, University of Wisconsin-Madison

Alejandro Roldán-Alzate, PhD, K12/Scholar/Assistant Professor, University of Wisconsin-Madison

Wednesday June 29th



7:30am Breakfast (Rm. 1306 HSLC)

Room 1306 HSLC

8:00am **Welcome**

William Ricke, PhD, Professor, School of Medicine and Public Health

8:05am **Opening Remarks**

Jon Audhya, PhD, Professor and Senior Associate Dean for Basic Research, Biotechnology and Graduate Studies, UW-Madison

Session I: Mitochondrial Mechanisms of Aging

Moderators: Don DeFranco/Lauren Baker

8:15am **SIRT3 Deficiency Decreases Oxidative-metabolism Capacity but Increases Lifespan Under Caloric Restriction**

John Denu, PhD, Professor, UW-Madison

8:35am **Hallmarks of the Aging Prostate**

William Ricke, PhD, Professor, UW-Madison

9:00 am **Consequences of Mitochondrial Dysfunction in Prostate Cells**

Laura Pascal, PhD, Research Assistant Professor, University of Pittsburgh

9:20am **Examining the Role of Defective Oxidative Phosphorylation in the Normal and Diseased Prostate**

Alexis Adrian, BA, Research Assistant/PhD Student, UW-Madison

Session II: Diet and Aging

Moderators: Timothy Ratliff/Conner Kennedy

9:30am **Restriction of Specific Dietary Amino Acids to Promote Metabolic Health, Lifespan, and Continence**

Dudley Lamming, PhD, Associate Professor, UW-Madison

9:55am **Metabolism of Aging and Delayed Aging**

Rozalyn Anderson, PhD, Professor, UW-Madison

10:20am **The Role of Isoleucine in Diabetes and Aging**

Michaela Trautman, BS, Research Assistant, Lamming Lab, UW-Madison

10:30am Break

Keynote

Moderator: William Ricke

10:45am **Cellular Senescence: Quo Vadis?**

Judy Campisi, PhD, Professor, Buck Institute for Research on Aging

11:45am Poster and lunch session

Session III: Hormones and Aging

Moderators: Zhou Wang/Vinaya Bhatia

1:00pm **Prostate Immune Environment in a Steroid Hormone-induced Aging Model**

Petra Popovics, PhD, K01 Scholar/Scientist I, UW-Madison

1:20pm **Alteration in Estrogen Metabolism with Aging Alleviates the Development of Steroid Hormone Induced LUTD**

Teresa Liu, PhD, K01 Scholar/Scientist I, UW-Madison

1:40pm **SERMS as a Treatment for Urinary Dysfunction in a Mouse Model of BPH/LUTS**

Maggie Stangis, MS, Research Assistant/PhD Student, UW-Madison

1:50pm **Mass Spectrometry-based Approaches for Steroid Hormone Detection**

Hannah Miles, BA, Research Assistant/PhD Student, UW-Madison

Session IV: Human and LUTD

Moderators: Simon Hayward/Han Zhang

2:00pm **Mitochondrial Function and Lower Urinary Tract Symptoms in Older Adults**

Scott Bauer, MD, Assistant Professor, UCSF

2:30pm **Detrusor Dysfunction in the Setting of Outlet Obstruction**

Ramy Goueli, MD, MHS, Assistant Professor, UT Southwestern

2:50pm **Defining Altered Collagen Structure and Epithelial Differentiation in Urethral Lichen Schlerosus**

Matthew Grimes, MD, Assistant Professor/K12 Scholar, UW-Madison

3:05pm **Image-based Biomarkers of the Prostate**

Shane Wells, MD, Associate Professor, UW-Madison



3:20pm Break



Session V: Aging Bladder

Moderators: Dale Bjorling/LaTasha Crawford

3:35pm **Impact of Aging on Bladder Homeostasis**

Indira Mysorekar, PhD, Professor, Baylor College of Medicine

4:10pm **Non-Invasive Assessment of the Lower Urinary Tract – MRI Urodynamics**

Alejandro Roldán-Alzate, PhD, K12/Scholar/Assistant Professor, UW-Madison

4:45pm **Can Environmental Toxicants Predispose to More Severe Aging Phenotypes?**

Monica Ridlon, BS, Research Assistant/PhD Student, UW-Madison

4:55pm **Closing Remarks**

William Ricke, PhD, Professor, School of Medicine and Public Health

5:00pm Conclude for the day

Thursday June 30th

7:30am Breakfast (Rm. 1306 HSLC)

Session VI: Research, Technology and Administrative Cores

Moderators: Travis Jerde/Simran Sandhu

8:00am **The Rodent Urinary Function Testing Core (RUFT) Tools and Resources to Help Understand Voiding Physiology in Rodent Models**

Kimberly Keil Stietz, PhD, Assistant Professor, UW-Madison

8:20am **Behavioral Phenotyping Resources at the Waisman Center Rodent Models Core**

Jules Panksepp, PhD, Research Program Manager, Waisman Center, UW-Madison

8:40am **Plasma Lipid Signaling in Aging and Metabolic Disease**

Judith Simcox, PhD, Assistant Professor, College of Agriculture & Life Sciences

9:00am **Resources and Opportunities in Benign Urology Research**

Kristina Penniston, PhD, Director of Interactions, NIH/NIDDK O'Brien Centers

9:20am **Brief Update and Q&A with the NIDDK**

Tracy Rankin, PhD, MPH, Deputy Director/Program Director, NIDDK

9:40am Break

Session VII: Cells of Aging and Dysfunction

Moderators: Paul Marker/Marcela Ambrogi

10:00am **Aging Promotes Fibroblast Plasticity and ECM Accumulation**

Jill Macoska, PhD, Professor, University of Massachusetts-Boston

10:30am **A Cellular Etiology of Human BPH**

Douglas Strand, PhD, Associate Professor, UT Southwestern Medical Center

11:00am **Cellular Basis of Prostatic Fibrosis**

Chad Vezina, PhD, Associate Professor, UW-Madison

11:30am **Understanding the Inflammatory Composition of Human BPH Tissues**

Renee Vickman, PhD, Research Scientist, NorthShore University

11:50am **Closing Remarks**

William Ricke, PhD, Professor, UW O'Brien Center Director, UW-Madison

12:00pm Adjourn



ABOUT THE O'BRIEN CENTER

THE UW- GEORGE M. O'BRIEN CENTER OF RESEARCH EXCELLENCE IS A RESEARCH COOPERATIVE BETWEEN THE UNIVERSITY OF WISCONSIN-MADISON, UNIVERSITY OF TEXAS SOUTHWESTERN, UNIVERSITY OF MASSACHUSETTS-BOSTON, AND THE NATIONAL INSTITUTES OF HEALTH.

OUR GOALS ARE TO:

- IDENTIFY FACTORS THAT CAUSE URINARY DYSFUNCTION IN AGING MEN
 - BUILD CONSENSUS AROUND RESEARCH APPROACHES TO MODEL URINARY DYSFUNCTION IN RODENTS
- PROVIDE OPPORTUNITIES FOR ESTABLISHED INVESTIGATORS TO TRANSITION INTO THE FIELD OF BENIGN UROLOGY
 - SECURE THE FUTURE OF UROLOGIC RESEARCH BY PROMOTING DEVELOPMENT OF THE NEXT GENERATION OF UROLOGIC RESEARCHERS
- DISSEMINATE UROLOGIC RESEARCH AND KNOWLEDGE

Dear Scientists,

On behalf of our O'Brien Center, we want to thank you for participating in this important scientific event.

We hope that you found the symposium informative and thought provoking. Your support, critical thinking, and time are incredibly valuable to us.

See you next year!

Gratefully yours,



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