University of Wisconsin & University of Massachusetts-Boston O'Brien Research Center Spring Symposium

"Molecular and Cellular Mechanisms of Fibrosis"

April 11-12, 2019

University of Wisconsin, Health Sciences Learning Center

Keynote Speaker

Jeremy Duffield, MD, PhD, FRCP

Global Head of Human Biology

Vertex Pharmaceuticals

Visiting Speakers

Balakrishna Lokeshwar, PhD, Professor, Augusta University, Augusta, GA

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

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

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

Pradeep Tyagi, PhD, Associate Professor, University of Pittsburgh, Pittsburgh, PA

University of Wisconsin Speakers

Dale Bjorling, DVM, Professor, School of Veterinary Medicine

Matt Conklin, PhD, Associate Scientist, School of Medicine and Public Health

Diego Hernando, PhD, Assistant Professor, School of Medicine and Public Health

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

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

K12/Trainee Speakers

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

Scott Gabrielsen, MD, PhD Clinical Instructor, Baylor College of Medicine

Kim Keil, PhD, Honorary Assoc/Fellow, University of Wisconsin-Madison

Teresa Liu, PhD, Assistant Scientist, University of Wisconsin-Madison

Sarah Neuman, PhD, Postdoctoral Fellow, University of Wisconsin-Madison

Petra Popovics, PhD, Research Associate, Case Western Reserve University

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

Adriane Sinclair, PhD, Postdoctoral Scholar, University of California, San Francisco

Nicholas Steers, PhD, Associate Research Scientist, Columbia University

Thursday April 11th

AGENDA

8:00am Breakfast (HSLC Atrium)

Room 1306 HSLC

8:30am **Welcoming Remarks**

William Ricke, PhD, Professor, UW-Madison

8:35am **Opening Remarks**

David Jarrard, MD, Professor and Vice Chairman, Dept. of Urology, UW-Madison

Session I

Moderators: Don DeFranco, Christian Ortiz-Hernandez

8:45am **Synergistic Interdisciplinary Research Interactions in Benign Urology: How Can We Be More Like Bacteria?**

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

9:05am **Ring Around the Urethra: Do SRD5A2+ Fibroblasts Cause LUTS?**

Douglas Strand, PhD, Assistant Professor, UT-Southwestern

9:30am **To Be or Not to Be: How Does a Prostate Cell Decide to Cause Fibrosis?**

Chad Vezina, PhD, Associate Professor, UW-Madison

9:55am **The Big Squeeze: The Role of Prostate Smooth Muscle Contraction in Urinary Obstruction**

Anne Turco, PhD Candidate, Research Assistant (Vezina Lab), UW-Madison

10:05am **Break**

Session II

Moderators: Simon Hayward, Kyle Wegner

10:15am **From Mice to Men: Activation of the CXCL12/CXCL4 Axis in Prostatic Fibrosis**

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

10:40am **Insight from the Link Between Adipokine Levels in Urine and the Obesity of BPH Patients**

Pradeep Tyagi, PhD, Associate Professor, University of Pittsburgh

11:10am **Using Large Observational Studies to Study Mechanisms of BPH/LUTS**

Scott Bauer, MD, Assistant Professor, UCSF

11:30am **The Interleukin-8 Axis in the Development of BPH**

Balakrishna Lokeshwar, PhD, Professor, Augusta University

12:00pm Lunch (HSLC Atrium)

Session III

Moderators: Robert Matusik, Sam Thomas

1:00pm **Emerging MRI Techniques: New Tools for Research and the Clinic**

Diego Hernando, PhD, Assistant Professor, UW-Madison

1:20pm **Age-Related Changes in the Urinary System – MRI Assessment**

Alejandro Roldán-Alzate, PhD, Assistant Professor, UW-Madison

1:40pm **Estrogen Receptor Expression and Steroid Hormone Metabolism in Benign Prostatic Hyperplasia**

Teresa Liu, PhD, Assistant Scientist, UW-Madison

2:00pm **Are All Men Destined to Get BPH?**

William Ricke, PhD, Professor, UW-Madison

2:25pm **MRI-based Method for Analyzing Lower Urinary Tract Dysfunction in Adult Male Mice**

Dalton McLean, PhD Candidate (Ricke Lab), UW-Madison

2:35pm **Exploring Collagen Changes in C57BL/6J Mice with Bacterial-induced Prostate Inflammation**

Brett Mueller, Research Intern (Vezina Lab), UW-Madison

2:45pm **Break & Poster Set Up**

Session IV

Moderator: Will Ricke

3:00pm **Keynote: Cellular and Molecular Mechanisms Underlying Solid Organ Fibrosis: What to Target and Why?**

Jeremy Duffield, MD, PhD, FRCP, Global Head of Human Biology, Vertex Pharmaceuticals

4:00pm **Closing Remarks**

William Ricke, PhD, Professor, UW-Madison

4-5:30pm **Poster Session** (HSLC Atrium)

Friday April 12th

8:45am Breakfast (Rm. 1345 HSLC)

Session V, K12 Scholars/Trainees' Program #1

Moderator: Dale Bjorling

9:00am **Methods for Decoding the Collagen ECM in Prostate Cancer and BPH: out of many fibers, a biomarker?**

Matt Conklin, PhD, Associate Scientist, UW-Madison

9:20am **Osteopontin: A Key Link Between Inflammation and Prostatic Fibrosis**

Petra Popovics, PhD, Research Associate, Case Western Reserve University

9:40am **Elucidating the Origin and Function of Bladder Resident Macrophages**

Nicholas Steers, PhD, Associate Research Scientist, Columbia University

10:00am **Housekeeping Genes and Rigor & Reproducibility**

Jordan Vellky, PhD Candidate (Ricke Lab), UW-Madison

10:10am **Finding the Needle in the Haystack: Harnessing Big Data to Identify Novel Causes of Male Infertility**

Scott Gabrielsen, MD, Clinical Instructor, Baylor College of Medicine

Session VI, K12 Scholars/Trainees' Program #2

Moderator: Will Ricke

10:30am **Developmental Exposure to Polychlorinated Biphenyls (PCBs) Induces Bladder Inflammation, Increased Nerve Density and Voiding Dysfunction in Young Adult Mice**

Kim Keil, PhD, Honorary Assoc/Fellow, UW-Madison

10:50am **Hypospadias in Humans and Mice**

Adriane Sinclair, PhD, Postdoctoral Scholar, UCSF

11:10am **Translational Control in Steroid Hormone Signaling: Insights from Drosophilia**

Sarah Neuman, PhD, Postdoctoral Fellow, UW-Madison

11:30am **Rodent Urodynamics: What's the Point?**

Dale Bjorling, DVM, Professor, UW-Madison

11:55am **Closing Remarks**

William A. Ricke, PhD, Professor, Director UW O'Brien Center, 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 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,

Please visit and support the other O'Brien Centers of Excellence:

George M. O'Brien Urology Research Center
Department of Urology
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

NIH National Institute of Diabetes and Digestive and Kidney Diseases

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