# "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

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
  - - 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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