

# The Environmental Impact on Urologic Health and Disease

April 4-5, 2016

University of Wisconsin Fluno Center

## Visiting Speakers

**Shuk-Mei Ho, PhD**, University of Cincinnati

**Barry Timms, PhD**, University of South Dakota

**Rick Woychik, PhD**, National Institute of Environmental Health Sciences (NIEHS)

**SPEAKERS**

## University of Wisconsin Speakers

**Dale Bjorling, DVM**, School of Veterinary Medicine

**Chris Bradfield, PhD**, Department of Oncology

**Allison Brodbeck, BA**, Department of Medicine

**Reginald Bruskewitz, MD**, Department of Urology

**Justine Coburn, BS**, Department of Oncology

**John Denu, PhD**, Wisconsin Institutes for Discovery

**Diya Binoy Joseph, BS**, School of Veterinary Medicine

**Stephanie Lemancik**, Department of Urology

**Lingjun Li, PhD**, School of Pharmacy

**Teresa Liu, PhD**, Department of Urology

**Megan Livingston, BA**, Department of Chemistry

**Will Ricke, PhD**, Department of Urology

**Linda Schuler, PhD, VMD**, School of Veterinary Medicine

**Weiping Tang, PhD**, School of Pharmacy

**Jordan Vellky, BS**, Department of Urology; Cancer Biology Program

**Chad Vezina, PhD**, School of Veterinary Medicine

**Kyle Wegner, BS**, METC

**Jalissa Wynder, BS**, Department of Urology; METC

**Wei Xu, PhD**, Department of Oncology

## About the O'Brien Center

The UW-George M. O'Brien Center of Research Excellence is a multi-site research cooperative between the University of Wisconsin-Madison, University of Massachusetts-Boston, and the National Institutes of Health (NIH). 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 knowledge through seminars, workshops and symposia



**George M. O'Brien  
Urology Research Center**  
UNIVERSITY OF WISCONSIN-MADISON



**Molecular & Environmental  
Toxicology Center**  
UNIVERSITY OF WISCONSIN  
SCHOOL OF MEDICINE AND PUBLIC HEALTH



**National Institute of  
Diabetes and Digestive  
and Kidney Diseases**

# Monday, April 4

AM

7:30 Breakfast

8:00 Welcome & Overview

- Will Ricke, PhD, Director, UW-O'Brien Center
- Dean Robert Golden, MD, University of Wisconsin School of Medicine and Public Health
- Stephen Nakada, MD, Chair, Department of Urology

## I. Overview of Lower Urinary Tract Dysfunction and Toxicology

**Chair: Jill Macoska, PhD**

8:15 Overview of BPH/LUTS: A Role for Compliance and Fibrosis —  
Reginald Bruskewitz, MD

8:55 Toxicological Insights for Future Research — Rick Woychik, PhD

9:55 Break

## II. BPA & Lower Urinary Tract Dysfunction

**Chairs: Rob Lipinski, PhD, and Clara Jeong, PhD**

10:25 The Role of Bisphenol-A in LUT Development and LUTD — Barry Timms, PhD

11:25 Estrogen Induction of LUTD in Mice — Will Ricke, PhD

11:55 The Role of Bisphenol A in LUTD — Jalissa Wynder, BS

PM

12:10 BPA Exposure and Associated Gene Expression Changes in Prostate Cancer —  
Jordan Vellky, BS

12:30 Lunch

## III. Aryl Hydrocarbon Receptor Pathways in Disease

**Chairs: Dick Peterson, PhD, and Brian Johnson, PhD**

1:30 IUL TCDD Exacerbates LUTD in Mice — Chad Vezina, PhD

2:20 The Next Generation of SAhRM as Potential Therapeutics — Weiping Tang, PhD

2:40 ER and AhR Crosstalk in Breast Cancer — Justine Coburn, BS

2:55 Break

## IV. Developing Technology to Investigate LUT Disease

**Chairs: Paul Marker, PhD, and Dalton McLean, BS**

3:15 Developing Mass Spectrometry-based Omics Strategies for Candidate Biomarker  
Discovery in LUTS — Lingjun Li, PhD

## AGENDA

All lectures will be held in the Howard Auditorium on the first floor of the Fluno Center. Breaks will be held just outside the Howard Auditorium. The poster session will be held on the eight floor in the Skyview Room.

3:35            Ultrasound Imaging of the Mouse Renal System — Allison Brodbeck, BA

3:55            Assessing Collagen in the Mouse Urethra — Stephanie Lemancik

## **V. Resources**

4:10            Background and Collaborations — Dale Bjorling, DVM

4:30            Overview of the Molecular & Environmental Toxicology Center — Chris Bradfield, PhD

4:45            Picrosirius Red: A Versatile Tool for Analyzing Collagen in the Lower Urinary Tract —  
Kyle Wegner, BS

5:00            Poster Session

6:30            Adjourn

## **Tuesday, April 5**

AM

7:30            Breakfast

## **VI. Epigenetics and Post Translational Modifications in Disease Progression**

**Chairs: Dale Bjorling, DVM, and Molly Morgan, BS**

8:00            BPA Effects on Methylation in Reproductive Tissues — Shuk-Mei Ho, PhD

8:55            Histone-typing as an Epigenetic Tool in Diagnosis and Treatment — John Denu, PhD

9:30            Investigating the Role of DNA Methylation in Prostate Development and Disease —  
Diya Binoy Joseph, BS

9:50            Break

## **VII. Estrogen Signaling in Hormone Responsive Tissues**

**Chairs: Tony Goldberg, DVM, and Mark Cadena, BS**

10:10            Desmoplasia: Hijacking Hormones in Breast Cancer — Linda Schuler, PhD, VMD

10:45            Direct Estrogen Receptor Dimerization Using Chemical Probes — Wei Xu, PhD

11:20            Utilizing Micro-scale Tools to Identify Key Factors in the Microenvironment —  
Megan Livingston, BA

11:35            Selective Estrogen Receptor Modulators and BPH — Teresa Liu, PhD

11:50            Closing Remarks

PM

12:00            Adjourn