

# Steroid Hormone Pathways and Mechanisms of Action in Benign Urologic Disease

May 22-24, 2017

University of Wisconsin Health Sciences Learning Center - 1335

## Keynote Speaker

**Jim Dalton, PhD**, Professor and Dean of University of Michigan School of Pharmacy, University of Michigan



**SPEAKERS**

## Visiting Speakers

**Jonathan Barasch, PhD**,  
Columbia University

**Larry Baskin, MD**, University of  
California, San Francisco

**Paul Cooke, PhD**, University of  
Florida

**Don DeFranco, PhD**, University of  
Pittsburgh School of Medicine

**Stephen Hammes, MD, PhD**,  
University of Rochester School of  
Medicine and Dentistry

**Dolores Lamb, PhD, HCLD**, Baylor  
College of Medicine Medical  
Center

**Jun Luo, PhD**, Johns Hopkins  
Hospital

**Jill Macoska, PhD**, University of  
Massachusetts Boston

**Claus Roehrborn, MD**, University  
of Texas Southwestern Medical  
Center

**Fred vom Saal, PhD**, University of  
Missouri

## University of Wisconsin Speakers

**Elaine Alarid, PhD**

**Lisa Arendt, DVM, PhD**

**Dale Bjorling, DVM**

**Joan Jorgensen, DVM, PhD**

**Pamela Kreeger, PhD**

**Paul Lambert, PhD**

**Paul Marker, PhD**

**Stephen Nakada, MD**

**Kyle Richards, MD**

**Will Ricke, PhD**

**Linda Schuler, VMD, PhD**

**Chad Vezina, PhD**

**Wei Xu, PhD**

## K12 Scholar Speakers

**Heidi W. Brown, MD**

**Diego Hernando, PhD**

**Teresa Liu, PhD**

**Lindsay Hampson, MD**

**Alejo Roldan, PhD**

**Adriane Sinclair, PhD**

**Adam Szafran, MD**

**Mike Wood, DVM, PhD**

# Monday, May 22



## AGENDA

- 8:00 Breakfast
- 8:30 **Welcoming Remarks** — Will Ricke, PhD, Director UW O'Brien Center, Professor, Urology Dept, UW-Madison
- 8:35 **Welcoming Remarks** — Richard Moss, PhD, Associate Dean for Basic Research, Biotechnology and Graduate Studies, UW-Madison
- 8:45 **BPH: Androgens, Estrogens, and Fibrosis** — Kyle Richards, MD, Assistant Professor, Urology Dept, UW-Madison
- 9:10 **Opportunities and Challenges for Modeling BPH and LUTS in Rodents** — Paul Marker, PhD, Professor and Associate Dean, School of Pharmacy, UW-Madison
- 9:35 **Linking Lower Urinary Tract Function and Structure** — Dale Bjorling, DVM, Professor and Associate Dean, School of Veterinary Medicine, UW-Madison
- 9:55 **Mass Spectrometry-based Urinary Proteomics** — Sam Thomas, PhD Candidate, Ricke lab, METC Program, UW-Madison
- 10:05 **Urinary Flow Dynamics - An MR Based Computational Modeling Approach** — Alejo Roldan, PhD, K12 Scholar, Assistant Professor, Dept of Mechanical Engineering, UW-Madison
- 10:15 Break
- 10:35 **Steroid Hormones and Clinical LUTS/BPH: Correlations, Causations and Therapeutic Targets** — Claus Roehrborn, MD, Professor and Chairman, Dept of Urology, UT Southwestern
- 11:15 **Role of G-Protein Coupled Receptors in Lower Urinary Tract Fibrosis** — Jill Macoska, PhD, Professor, Biological Sciences, U-Mass Boston
- 11:45 **Next Generation ER and AR Blockers for Cancer Treatment** — Wei Xu, PhD, Professor, Dept of Oncology, UW-Madison
- 12:15 **Identification of Estrogen Regulated Gene Networks in BPH** — Teresa Liu, PhD, K12 Scholar, Dept of Urology, UW-Madison
- 12:30 Lunch
- 1:30 **Hormone Action in the Cervix** - Paul Lambert, PhD, Professor and Chairman, Dept of Oncology, UW-Madison
- 2:00 **What is BPH and What Roles Might Estrogen Be Playing?** — Will Ricke, PhD, Director UW O'Brien Center, Professor, Urology Dept, UW-Madison

- 2:20 **Reconstructing the Tissue Microenvironment to Understand the Role of Estrogens in Prostate Disease Progression** — Molly Morgan, PhD Candidate, Beebe lab, METC Program, UW-Madison
- 2:30 Break
- 2:50 **Steroids and Inflammation: How Studying Androgen Signaling Leads to the Neutrophil** — Stephen Hammes, MD, PhD, Professor and Associate Chair, Dept of Medicine, U-Rochester, NY
- 3:20 **Androgen Receptor Splice Variants: From Biology to Utility** — Jun Luo, PhD, Associate Professor, Dept of Urology, Johns Hopkins Medical Center
- 3:50 **Androgen Regulation of FGF5 and its Role in the Prostate** — Dalton McLean, PhD Candidate, Ricke lab, McArdle Cancer Biology Program, UW-Madison
- 4:00 **Keynote: Selective Androgen Receptor Modulators (SARMs) as Prostate-sparing Anabolic Therapy** — Jim Dalton, PhD, Professor and Dean of University of Michigan School of Pharmacy, University of Michigan
- 4:55 **Closing Remarks** — Stephen Nakada, MD, Professor and Chairman, Dept of Urology, UW-Madison
- 5:00-6:30 Poster Session

## Tuesday, May 23

- 8:00 Breakfast
- 8:30 **Exploring Novel Alterations in Steroid Hormone Receptor Signaling that Underlie Human Congenital Genitourinary Anomalies** — Dolores Lamb, PhD, HCLD, Professor, Dept of Urology, Baylor College of Medicine
- 9:05 **Development of Individual Male Urogenital Tract Components Require Distinct Threshold Concentrations of Fetal Testosterone** — Joan Jorgensen, DVM, PhD, Associate Professor, Dept of Pharmacology, UW-Madison
- 9:25 **Hormonal Control of Genital Development** — Larry Baskin, MD, Professor, Dept of Urology, UCSF
- 10:00 Break
- 10:20 **Estradiol and Estrogenic Chemicals Modulate Androgen Action During Prostate Development** — Fred vom Saal, PhD, Professor, Div of Biological Sciences, U of Missouri
- 11:00 **Role of Membrane Estrogen Receptor 1 in the Development and Function of the Male Reproductive Tract** — Paul Cooke, PhD, Professor and Chair, Dept of Physiological

Sciences, U-Florida

- 11:40 **Pinpointing Cellular Origins and Physiological Consequences of Prostate Fibrosis**  
— Chad Vezina, PhD, Associate Professor, Dept of Comparative Biosciences, UW-Madison
- 12:10 **Investigating the Mechanism of Estrogen Receptor  $\alpha$  Regulation by Paracrine Interactions** — David Lung, PhD Candidate, Alarid lab, McArdle Cancer Biology Program, UW-Madison
- 12:20 **One In Six Hypogonadal Men Treated With Clomiphene Citrate Need Combination Therapy With an Aromatase Inhibitor** — Brett Johnson, MD, Urology Resident, Dept of Urology, UW-Madison
- 12:30 Lunch
- 1:30 **Opposing Roles for Cox-2 in Regulating Estrogen Receptor  $\beta$  Function in the Prostate**  
— Don DeFranco, PhD, Professor, Dept of Pharmacology, U-Pittsburgh
- 2:10 **Hormone-ECM Collusion in Breast Cancer** — Linda Schuler, VMD, PhD, Professor, Dept of Comparative Biosciences, UW-Madison
- 2:40 **Obesity and ER $\alpha$ : Selecting for Hormonal Responsiveness?** — Lisa Arendt, PhD, Assistant Professor, Dept of Comparative Biosciences, UW-Madison
- 3:10 **Harnessing Lineage Tracing to Study Hormonal Responses in the Prostate** — Diya Binoy Joseph, PhD Candidate, Vezina lab, Cellular and Molecular Biology Program, UW-Madison
- 3:20 Break
- 3:40 **Postranslational Dynamics of ER and Its Paradoxical Roles in Cancer** — Elaine Alarid, PhD, Professor, Dept of Oncology, UW-Madison
- 4:10 **Computational Modeling of Cell Signaling Networks** — Pamela Kreeger, PhD, Associate Professor, Dept of Biomedical Engineering, UW-Madison
- 4:40 **Measurement of Multi-steroid Hormones in Mouse Serum using LC-MS/MS** — Clara Jeong, PhD, Postdoctoral Fellow, Ricke lab, Dept of Urology, UW-Madison
- 4:50 **Investigating the Effects of Phosphorylation on the DNA Binding Properties of ER $\alpha$**  — Kyle Helzer, PhD Candidate, Alarid lab, McArdle Cancer Biology Program, UW-Madison
- 5:00-6:30 Poster Session

## Wednesday, May 24

- 8:00 Breakfast
- 8:30 **How SHAIP is Shaping Up** — Heidi Wendell Brown, MD, K12 Scholar, Assistant Professor,

Dept of OB/GYN, UW-Madison

- 8:45 **An Iron Defense Against UTI** — Jonathan Barasch, PhD, Associate Professor of Medicine & Pathology & Cell Biology Columbia University
- 9:25 **Improving Transitional Urology Care** — Lindsay Hampson, MD, Assistant Professor, Dept of Urology, UC San Francisco
- 9:40 **Analysis of Gene Expression in Human Penile Development** — Adriane Sincliar, PhD, Postdoctoral Scholar UC San Francisco School of Medicine
- 10:00 Break
- 10:30 **E-cadherin Downregulation and Increased Luminal Epithelial Permeability in BPH** — Laura Pascal, PhD, Research Assistant Professor, Department of Urology, University of Pittsburgh
- 10:45 **Using Cellular Imaging to Investigate the Role of Nuclear Receptor Expression and Mitochondria in Hypospadias** — Adam Szafran, MD, PhD, PhD Instructor Molecular and Cellular Biology, Baylor College of Medicine
- 11:00 **Classic IL-6 Signaling Mitigates Urothelial Infection** — Mike Wood, DVM, PhD, DACVIM, Assistant Professor, Dept of Medical Sciences, UW-Madison
- 11:15 **Quantitative MRI Techniques for the Assessment of BPH: Background and Proposed Research** — Diego Hernando, PhD, Assistant Professor, Dept of Radiology and Medical Physics, UW-Madison
- 11:30 **Deciphering the Influence of Diabesity and Intermittent Hypoxia on the Male Environment in Urinary Tract Dysfunction** — Lisa Abler, PhD, Assistant Scientist, Vezina lab, Dept of Comparative Biosciences, UW-Madison
- 11:45 Closing Remarks
- 12:00 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 knowledge



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