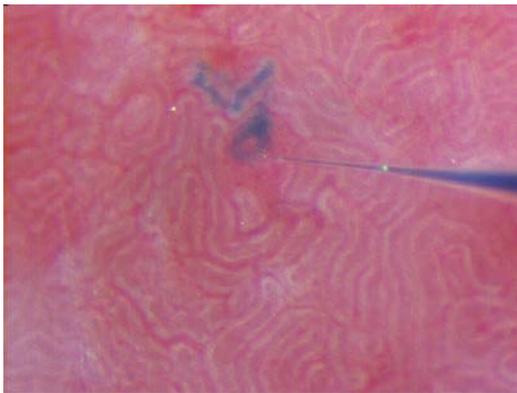


**UAB-UCSD O'BRIEN CENTER RODENT
KIDNEY PHYSIOLOGY/ INJURY
WORKSHOP**

September 19-23, 2011

**Four ½ Day Training Course
for Physiologists, Pharmacologists and
Nephrologists**

**Renal Division, UC San Diego and
VA Medical Healthcare System San
Diego, Division of Nephrology, University
of Alabama at Birmingham
Fees: \$750 (\$1500 for industry)**



Presented by the

**UAB-UCSD O'Brien Core Center for
Acute Kidney Injury Research (DK079337)**



The workshop is a practical, hands-on course designed to introduce and practice animal handling and phenotyping techniques for commonly used methods in the rat and mouse. Experienced experts will teach basic animal handling, drug administration, urine and blood sampling, assessment of blood pressure (Day 1), renal hemodynamics and transport on the whole kidney level (Day 2) as well as on the single nephron level (Day 3) and in models of kidney injury (Days 4). The format includes lectures, demonstrations and hands-on practical training and is open to graduate students, postdoctoral fellows, residents, research assistants, junior faculty and other laboratory personnel.

The aim of the workshop is to make participants familiar with practical procedures to characterize renal function in rodents (rats and mice).

PROGRAM

Day 1 Introduction and Basic Procedures

Instructors: Bray, Rieg, Singh, Vallon

Introductory Lectures

8-9am Animal handling, IP, SC, tail vein and retro-orbital injections, saphenous vein and retroorbital bleeding, tail and ear punch biopsies.

9-10am Anesthesia, pre and post-operative care, euthanasia.

10:15-11am Metabolic cage, oral gavage

11-12 noon Assessment of blood pressure

Practical Session

12:30-5pm a) Basic handling and injections, isoflurane anesthesia, injections and tail and ear biopsies; b) Metabolic cage, oral gavage in mice; c) Blood pressure by tail cuff in rats.

Day 2 Whole Kidney Function

Instructors: Rieg, Singh, Vallon

Introductory Lectures

8-9am Assessment of glomerular filtration rate (GFR) (incl. clearance studies and FITC inulin kinetics)

9-10am Assessment of renal plasma flow (RPF) (incl. renal clearance and flow probe)

10:15-12 noon Assessment of renal transport and plasma and urine analysis.

Practical Session

12:30-5pm a) GFR by FITC inulin kinetics in mice; b) Arterial blood pressure, renal clearance experiment and flow probe in rats; c) Urine analysis.

Day 3 Single Nephron Function

Instructors: Blantz, Thomson, Rieg, Singh, Vallon

Introductory Lectures

8-9am Background and principals of renal micropuncture, glomerular hemodynamics

9-10:30am Assessment of renal transport by micropuncture, microanalysis

10:45-12 noon Tubuloglomerular feedback

Practical Session

12:30-5pm a) Animal preparation and pipette making demonstration; b) Renal micropuncture hands-on experience; c) Microanalysis

Day 4 Models of Kidney Injury

Instructors: Singh, Blantz, Thomson, Rieg, Vallon, Agarwal and Sanders

Introductory Lectures

8-9am Aseptic surgical technique and models of acute kidney injury (AKI)

9-10am Models of chronic kidney disease (CKD)

10:15-11am Assessment of renal oxygen consumption

11-12 noon Models of diabetes mellitus

Practical Session

12:30-5pm a) Ischemia-reperfusion injury; b) Subtotal nephrectomy; c) Unilateral nephrectomy; d) Models of diabetes mellitus

Day 5 Review and Discussion

Instructors: Blantz, Thomson, Singh, Rieg, Vallon

8-10:30am Questions and answers.

WORKSHOP INSTRUCTORS

Roland C. Blantz, M.D., Professor and Chair of Nephrology: Research interests include glomerular hemodynamics, tubuloglomerular feedback, in vivo and in vitro assessment of whole kidney and tubular/glomerular oxygen consumption. Dr. Blantz has 40 years of experience with rat micropuncture and clearance studies.

Volker Vallon M.D., Professor of Medicine and Pharmacology: Research interests focus on the physiology, pathophysiology and pharmacology of the kidney including renal transport mechanisms, blood pressure regulation, and the diabetic kidney. Dr Vallon is experienced in the assessment of rat and mouse kidney function on the organ and single nephron level including micropuncture.

Scott Thomson M.D., Professor of Medicine: Dr. Thomson conducts research into the autoregulation of renal function with particular emphasis on glomerular hemodynamics and tubuloglomerular feedback (TGF). In order to study the operational behavior of this TGF system, he has implemented methods for measuring flow in unobstructed free-flowing single rat nephrons in micropuncture experiments and for quantifying the efficiency of the TGF response when flow is perturbed. Dr Thomson has 24 years of experience doing renal micropuncture.

Mari Bray D.V.M., DACLAM, Veterinary Medical Officer: Dr. Bray is a laboratory animal veterinarian with interests in all aspects of laboratory animal care and use, including design of research models using humane methods. She received her DVM from The Ohio State University and did a residency in Comparative Medicine at Yale University. She has worked with several research institutions over the last 21 years. Currently she is the Veterinary Medical Officer at the VASDHS,

Prabhleen Singh M.D., Assistant Professor of Medicine: Dr Singh is interested in the pathophysiology of early CKD and in elucidating the early hemodynamic and metabolic alterations in models of kidney disease. She is experienced in the assessment of renal function and hemodynamics in rats including single nephron function with renal micropuncture, whole kidney oxygen

consumption and animal models of acute and chronic kidney injury.

Timo Rieg M.D., Assistant Professor of Medicine: Research interests include regulation of renal function and blood pressure. Experienced in assessment of kidney function and blood pressure in awake and anesthetized mice.

UAB Faculty
Anupam Agarwal, M.D., Director, UAB Division of Nephrology and UAB-UCSD O'Brien Core Center: Research interests focus on pathophysiology of acute kidney injury in animal models using in vivo and in vitro techniques. Animal models include renal I/R, sepsis, nephrotoxins and renal transplantation in mice.

Paul Sanders, M.D., Professor of Medicine, Core Director, Resource for Pre-clinical Studies of the O'Brien Center: Research interests include acute renal tubular injury from light chains, multiple myeloma, salt sensitive hypertension and cell signaling.

REGISTRATION

The workshop is being held at the
VA San Diego Healthcare Center

Registration Deadline – July 18, 2011

Course Fees: \$750 (\$1,500 for industry)
The registration includes course materials, lunches, coffee, 1 evening meal.

First Name _____
Last Name _____
Institution _____
Department _____
Address _____

Phone _____
Fax _____
E-mail _____

Please submit registration form and your biosketch with a brief paragraph on experience and career goals by mail, fax or e-mail to

John Reeves
O'Brien Center Workshop Coordinator
Mailcode 9111-H, 3350 La Jolla Village Drive
San Diego, CA 92161-0002
E-mail: jreeves@ucsd.edu
Phone: 858-552-7528
Fax: 858-552-7549

The coordinator, John Reeves, will then communicate details about the payment, which is required to reserve your participation in the workshop.

Accommodations and Travel

Participants are responsible for their own travel and housing arrangements. John Reeves, O'Brien Center Workshop Coordinator, will provide assistance (contact info see above).

Only 10 spaces available for this workshop. Please register early.

Looking forward seeing you in San Diego

