



Department of Research
Morphometry and Stereology Laboratory

Presents:
**The Inaugural Stereology and Its Application
in Kidney Disease Symposium**

Using Stereology to Quantify Renal Structural Pathology

**Wednesday-Friday
May 19-21, 2010**

Marriott Hotel
4100 Admiralty Way
Marina Del Rey, CA 90292
Phone: 310-301-3000

The Inaugural Stereology and Its Application in Kidney Disease Symposium

Using Stereology to Quantify Renal Structural Pathology, May 19th- 21st, 2010

Dear Colleagues,

It is my pleasure to extend to you a personal invitation to the Inaugural Stereology and its Applications in Kidney Disease symposium focused on “Using Stereology to Quantify Renal Structural Pathology.” This CME-approved program has emerged out of the need to address the growing prevalence of diabetes and its complications, particularly related to kidney disease. Unfortunately, the renal complications from diabetes are considered to be one of the worst contributors to chronic kidney disease, kidney failure and premature cardiovascular mortality in patients with diabetes. Therefore, the appropriate design of both basic and clinical studies to address the pathogenesis, prevention and treatment of diabetic nephropathy heavily rely on the identification and verification of renal structural pathology in animal models that best reflect the human disease. Indeed, there has been a major push by senior investigators in the field to achieve this. Therefore, it has now become imperative that we expand our awareness of the principles to accurately assess and quantify pathologies in renal structures in humans and promising animal models. The anticipated outcome of this educational event is to promote translational research by providing the tools for the appropriate design and execution of related studies and improve the interface of biology, environment and socio-cultural factors that will have a positive impact on patient care and ultimately reduce health disparities.

In this regard, Charles Drew University of Medicine and Science has created an innovative instructional program to educate physicians, physician-scientists and allied health care professionals involved in the care of patients with diabetes on the ways in which applications of stereology and morphometry may influence the study of human diabetic nephropathy. In order to enhance learning and discussion, the program has been designed to include a hands-on mini-workshop, didactic lectures and interactive discussions aimed at arriving at a consensus on conducting these studies.

We are positive that you will learn a great deal that will be directly applicable to your work, and I sincerely hope that you will attend. I look forward to seeing you at the Marriott Marina Del Rey Hotel May 19th-21st, 2010. Your continued dedication to the prevention and treatment of patients with diabetes and its renal complications is greatly appreciated.

Sincerely,

Susanne B. Nicholas, MD, MPH, PhD, FASN
Program Director,
Associate Professor of Medicine
David Geffen School of Medicine at UCLA, and
Charles Drew University of Medicine and Science
Los Angeles

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PROGRAM DIRECTOR

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Department of Medicine,
Divisions of Nephrology and Endocrinology, and
Charles Drew University of Medicine and Science,
College of Medicine, Department of Research

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Interim President,
Charles Drew University of Medicine and Science

Susanne B. Nicholas, MD, MPH, PhD, FASN
Associate Professor of Medicine
David Geffen School of Medicine at UCLA
Charles Drew University of Medicine and Science

John M. Basgen, BA
Senior Scientist
Charles Drew University of Medicine and Science

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GOALS

The overall goal of the course and symposium is to provide the foundation that will enhance the design of translational studies in chronic kidney disease, particularly diabetic nephropathy. This will be achieved through a change in approach and methods of analysis of renal structures on human kidney biopsies and related animal models.

SYMPOSIUM OBJECTIVES:

Upon completion of this program, participants will be able to:

1. Describe the utility of stereology and renal morphometry to improve health outcomes and reduce health disparities focused on diabetic nephropathy
2. Define the principles of stereology
3. Recall the structural definition of diabetic nephropathy
4. Define the methods of renal morphometry and have an improved understanding of the process of diabetic nephropathy in humans and animals
5. Identify the factors in nephrogenesis and glomerular number and relation to ethnic minorities
6. Assess the impact of diabetes on endothelial fenestra number
7. Analyze the measurements of renal structure by light microscopy and electron microscopy and assessment with immunolabeling and semi-thin sections
8. Discuss differences in methods to count podocyte number
9. Identify the factors associated with the use of ACEI/ARB in Pima Indians and the potential impact on approach to patient care
10. Describe new advances in renal Morphometry

CONTINUING MEDICAL EDUCATION

Charles Drew University of Medicine and Science is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians. Charles Drew University of Medicine and Science designates this continuing medical education activity for a maximum of **17 AMA PRA Category 1 Credit(s)**[™]. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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The Policy on identification of products and for discussing unlabeled uses of products is described as follows. Generic and trade names: Presentations must give a balanced view of therapeutic options. Faculty use of generic names will contribute to this impartiality. If trade names are used those of several companies should be used rather than only that of a single supporting company. Unlabeled uses of products: When an unlabeled use of a commercial product or an investigational use not yet approved for any purpose is discussed during an educational activity, the accredited provider shall require the speaker to disclose that the product is not labeled for the use under discussion or that the product is still investigational.

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AGENDA

Wednesday May 19th

- 8:00 - 9:00 am **Registration and Breakfast**
9:00 - 9:05 **Welcome Remarks; Keith Norris, MD, FACP**
9:05 - 9:15 Integrating basic Science in Renal Morphometry of Diabetic Nephropathy to Improve Health Outcomes; Susanne Nicholas, MD, PhD, FASN
9:15 - 9:30 Introduction to Principles to Stereology; Jens Nyengaard, MD, PhD
9:30 - 10:30 Volume: Glomerular Volume, Mesangial Volume, Interstitial Volume; John Basgen, BA
10:30 - 11:00 **Break**
11:00 - 12:00 Surface: Glomerular Filtration Surface; Jens Nyengaard, MD, PhD
12:00 - 1:00 pm **Lunch**
1:00 - 3:00 Number: Glomerular Number, Glomerular Cell Number; Jens Nyengaard, MD, PhD
3:00 - 3:30 **Break**
3:30 - 4:30 Width Measurements: GBM, TBM, Foot Process; John Basgen, BA

Thursday May 20th

- 7:30 - 8:00 am **Registration and Breakfast**
8:00 - 10:00 Sampling and Statistics; Jens Nyengaard, MD, PhD
10:00 - 10:30 **Break**
10:30 - 12:00 *Course Discussion*
12:00 - 1:00 pm **Lunch**
1:00 - 1:30 **Keynote Address by Marilyn Farquhar, PhD, "The Evolution of Renal Structure Investigation"**
1:30 - 2:00 Definition of Human Diabetic Nephropathy; Behzad Najafian, MD
2:00 - 2:30 Diabetic Nephropathy in the Absence of Diabetes; Susanne Nicholas, MD, PhD, FASN
2:30 - 3:00 Diabetic Nephropathy in the Non-Human Primate; Barbara Hanson, PhD
3:00 - 3:15 **Break**
3:15 - 3:45 Mouse Models of Diabetic Nephropathy; Frank Brosius, MD
3:45 - 4:15 The Link between Obesity and Albuminuria Adiponectin and Podocyte Dysfunction; Kumar Sharma, D
4:15 - 4:45 Podocyte Loss in the OVE26 mouse model of Diabetic Nephropathy; Edward Carlson, PhD
5:30 - 10:00 **Dinner Cruise**

Friday May 21st

- 8:00 - 8:30 am **Registration and Breakfast**
8:30 - 9:00 Nephron Number and Glomerular Volume in Caucasians and African-Americans; Wendy Hoy, BScMed, MB, BS, FRACP
9:00 - 9:30 Nephrogenesis in the non-human primate kidney: Effects of Preterm Birth; Jane Black, PhD
9:30 - 10:00 Endothelial Fenestra Number is Reduced in Type 1 Diabetes; Bahzad Najafian, MD
10:00 - 10:30 **Break**
10:30 - 11:00 Utility of Semi-thin sections: Bridging the Gap between Electron Microscopy and Light Microscopy; Marilyn Farquhar, PhD
11:00 - 11:30 Morphometric analysis of kidney structure in early Diabetes the NIH Pima Indian study; Kevin Lemley, MD, PhD
11:30 - 12:00 *Discussion*
12:00 - 1:00 pm **Lunch**
1:00 - 1:30 Factors Affecting Immunolabeling Intensity; Xiao Yan Bai, MD, PhD
1:30 - 2:00 Comparison of Podocyte Number using Plastic Embedded Sections and Immunostaining; John Basgen, BA
2:00 - 2:30 New Advances: Non-Invasive Imaging to Assess Renal Structure; Jens Nyengaard, MD, PhD
2:30 - 3:00 *Symposium Discussion*
3:00 Closing Remarks; Susanne Nicholas, MD, PhD, FASN

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DIRECTIONS AND PARKING INFORMATION:

From Los Angeles International Airport:

Go East World Way/Center Way, merge onto CA 1N (4.3 miles). Turn left onto Bali Way (0.1 mile). Turn right onto Admiralty Way (1.2 miles). Arrive at Marriott, 4100 Admiralty Way. Marriott Phone: 310-301-3000

From I-405:

Merge onto CA-90 W (3.2 miles). Turn slight right onto Lincoln BLVD/CA-1 N (0.5 mile). Turn left onto Washington BLVD (0.8 mile). Turn left onto Palawan Way (0.1 mile). Turn Right onto Admiralty Way (0.1 mile). Arrive at Marriott 4100 Admiralty Way. Marriott Phone: 310-301-3000

REGISTRATION

To register for the Symposium fill out and return the form below or go to :<http://www.cdrewu.edu/SymposiumRegistration>

To Reserve a Room at Marriott Hotel call 1-310-301-3000 with **GroupCode of " kdbkdba"**

Registration fee is \$125 After May 1, 2010 \$150

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Return completed form to:

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