



Summer 2012-Research Opportunity



- Conduct research during summer of 2012 (June and July) under direction of a Vanderbilt scientist (stipend provided)
- Laboratory-based, clinical or translational research in kidney disease or hypertension (no research experience required)
- Career advice, clinical and research seminars and discussions

Application deadline is February 1st, 2012
(limited to 12 students)

For more information and registration details visit:

<https://www.mc.vanderbilt.edu/mkpdcc>

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Division of Nephrology and Hypertension



- The Division of Nephrology and Hypertension at Vanderbilt conducts a broad range of NIH funded, cutting edge basic science and human and patient-oriented research
- Ranked in the top 10 Nephrology Divisions (2010 US News and World Report) and in an elite group of top NIH funded Nephrology Divisions
- Our goal is to advance and acquire new knowledge that will advance our understanding of kidney biology and the pathogenesis and treatment of renal disease and hypertension
- Over 50 clinical and research faculty, 14 NIH funded laboratories with over 25000 sq. ft of office and research space, and more than \$13 million in annual external research funding
- Human and patient-oriented research conducted at the Clinical Research and Nephrology Clinical Trials Centers
- Close ties between the Division of Nephrology and world renowned research in the Division of Clinical Pharmacology and the Centers for Matrix Biology, Developmental Biology and Stem Cell Biology



Organization of the Course

- **Dates**

You will spend a total of 8-12 weeks over the summer 2012. Core curriculum: June 4th-July 27th but you must be able to arrive either on May 14th or June 1st and to complete the curriculum in order to be eligible. You are also expected to present your research at the National Symposium at the end of the summer (August 1st/2nd).

- **Orientation**

On the day of arrival you will meet with the program administrator who will provide an orientation package. You will then meet up with the program directors Mark de Caestecker and Kerri Cavanaugh to discuss research placements and the program for the summer.

- **Lunchtime meetings (June 4th-July 27th)**

Monday: Lecture (Clinical topic)

Tuesday: Work in Progress-informal "chalk board" presentations by 2-3 students and round table discussions. Preparation of posters for the final symposium towards the end of the summer

Wednesday: Round table discussion with 2-4 different preceptors each week to discuss career paths and opportunities in academic medicine. This class will be combined with the Vanderbilt Summer Training Program in Diabetes and Endocrinology, and will include academic physician scientists and physician educators at different stages of their career development from across the campus

Thursday: Diabetes seminar or free

Friday: Lecture (Basic science related to the clinical topic)

- **Clinical rotations (June 4th-July 27th)**

Students will have clinical exposure by attending renal clinics or wards at Vanderbilt for one morning or afternoon each week

- **Summer Research Symposium at Vanderbilt**

Attend and present research poster at the National Summer Research Symposium that is being jointly organized with the Diabetes Center at Vanderbilt on August 1st/2nd 2012



Preceptors

Ray Harris M.D., Professor and Chief of Nephrology

Dr. Harris is Director of the O'Brien Kidney Disease Center. His research interests focus on the role of growth factors and eicosanoids in renal physiology and pathophysiology

Mark de Caestecker, M.D., Ph.D., Associate Professor in Nephrology

Dr. de Caestecker is Director of the Medical Student Research Training Program (Basic Science Research). His lab studies renal development and renal regenerative therapies

Kerri Cavanaugh M.D., M.H.S., Assistant Professor in Nephrology

Dr. Cavanaugh is Co-Director of the Medical Student Research Training Program (Clinical Research) Her research interests focus on the impact of psychosocial and behavioral factors in kidney disease care

Eric G. Neilson, M.D. Frist Professor in Nephrology

Dr. Neilson's lab studies epithelial-mesenchymal transition and the origin of fibroblasts.

Roy Zent M.D., Ph.D., Professor in Nephrology

Dr. Zent studies the mechanisms regulating renal fibrosis, epithelial cell biology and the role of cell-extracellular matrix interactions in regulation renal development and disease

Nancy J. Brown, M.D. Professor and Chair of Medicine

Dr. Brown's research focuses on the mechanisms of end organ damage in hypertension and the pathophysiology of cardiovascular disease in renal failure

Takamune Takahashi M.D., Ph.D., Assistant Professor in Nephrology

Dr. Takahashi studies the molecular controls of renal vascular development and the pathogenic mechanisms of diabetic vascular injury

Bogdan Borza Ph.D., Assistant Professor in Nephrology

Dr. Borza studies the pathogenic mechanisms of antibody-mediated glomerulonephritis and hereditary glomerulopathies affecting the glomerular basement membrane.

Volker H. Haase, M.D., Associate Professor in Nephrology

Dr. Haase studies the molecular machinery that senses cellular oxygen levels and its role in renal physiology and pathophysiology.



Preceptors

Leslie Gewin M.D., Instructor in Nephrology

Dr. Gewin's research investigates the role of growth factors in renal injury and fibrosis

Rich Breyer Ph.D., Professor in Nephrology

Dr. Breyer's lab studies eicosanoid signaling in the kidney and vasculature

John Oates M.D., Professor in Clinical Pharmacology

Dr. Oates' laboratory studies the role of eicosanoids in vascular disease and therapy

Al George M.D., Professor and Chief of Genetic Medicine

Dr. George studies the molecular genetics of ion transporters

Alp Ikizler M.D., Professor in Nephrology

Dr. Ikizler's research focuses on the translational/metabolism physiology in kidney disease

Matt Luther M.D., M.S.C.I., Assistant Professor in Clinical Pharmacology

Dr. Luther studies the effects of the renin/angiotensin/aldosterone system on glucose metabolism and vascular function, utilizing clinical studies and model systems

Adriana Hung M.D., M.P.H., Assistant Professor in Nephrology

Dr. Hung studies the genetics of renal disease

Rich Breyer Ph.D., Professor in Nephrology

Dr. Breyer's lab studies eicosanoid signaling in the kidney and vasculature

Valentina Kon M.D., Professor in Pediatric Nephrology

Dr. Kon is investigating the mechanisms underlying CKD-associated dysfunctions of lipid handling and inflammatory functions in atherosclerotic heart disease

Agnes Fogo M.D., Professor in Pathology

Dr. Fogo an expert on human and experimental renal pathology, with many years experience studying the effects of chronic renal injury models in rodents.



Registration

Vanderbilt Medical Student Research Training Program In Nephrology & Hypertension Summer of 2012 Application

Application Deadline: February 1st, 2012

Notifications will be sent the week of March 1st, 2012

<http://www.mc.vanderbilt.edu/mkpd>

The Vanderbilt Student Research Training program in Nephrology & Hypertension (MSRTP-NH) is sponsored by the National Institutes of Health and allows medical students to conduct research under the direction of an established scientist in the areas of Nephrology and/or Hypertension at Vanderbilt during the summer between the first and second year or second and third year of medical school. You are expected to work on your research for 8-12 weeks and must participate in the research symposium at Vanderbilt on August 1-2, 2012

Instructions:

1. Please complete the accompanying registration form and send this along with: i) a copy of your CV; ii) two letters of recommendation from physicians and/or scientists who you have worked with at some point in your training address (these can be mailed separately or with your packaged, or sent by email directly to the program coordinator); and 3) a written statement explaining why you are interested in this kidney related research experience, how much research experience you already have, and what your long term career goals are. Send by mail, FAX or email to:

Nancy Lightsey

MSRTP-NH Program Administrator

1161 21st Avenue South

MS-S3408A

Nashville, TN 37232

Phone: 615-322-3146

Fax: 615-343-9391

nancy.lightsey@vanderbilt.edu

2. If you are NOT a Vanderbilt student, you must obtain a letter from the Dean of your Medical School indicating you are a student in good standing and send it with the application.
3. If you are NOT a U.S. citizen, please upload documentation which certifies your U.S. permanent residency status (a PDF copy of your green card).
4. Submit your application by February 1st, 2012.

Notifications regarding the Program will be sent out the week of March 1st, 2012.

For questions and information about registration and accommodations, please contact Nancy Lightsey on 615 322 3146 or nancy.lightsey@vanderbilt.edu



Registration Form

1. *Name (Last, First, Middle Initial):

2. *Current Mailing Address (Street, City, State & Zip Code):

3. *Permanent Mailing Address (Street, City, State & Zip Code):

4. *Contact Telephone (Area Code-XXX-XXXX):

5. *Permanent Contact Telephone (Area Code-XXX-XXXX):

6. *Email Address:

7. *Medical Schools Name:

8. *Medical School Classification: 1st year 2nd year

9. *Date of Birth (Month/Day/Year – XX/XX/XXXX):

10. *Gender: Male Female

11. *Are you a U.S. Citizen or a Permanent Resident? (You must be a U.S. Citizen or U.S. Permanent Resident to participate in this Program.)

Citizen Permanent Resident

For non-U.S. Citizens, please make a copy of your Permanent Resident Card (green card).

Please print, fill out completely, and return by mail/FAX or email to Nancy Lightsey before February 1st, 2012 deadline.



Registration Form

12. Race/Ethnicity:

- American Indian or Alaskan Native
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or other Pacific Islander
- White
- Other

13. *What was your undergraduate major?

13. *Please indicate your research preferences:

- Animal Research
- Cell Biology
- Clinical Research
- Basic Science Research on Humans
- Any Research

14. *Please indicate your research interests:

- Chronic Kidney Disease
- Dialysis
- Glomerulonephritis
- Kidney Development
- Fibrosis
- Cardiovascular Disease
- Hypertension
- Molecular Genetics
- Acute Kidney Injury
- Other

ALL items marked with an asterisk * are required fields and must be completed.

Please print, fill out completely, and return by mail/FAX or email to Nancy Lightsey before February 1st, 2012 deadline.