

A collaboration between Northwest Kidney Centers and UW Medicine



LEFT: Investigator Dr. Yoshio Hall presents on chronic kidney disease in the healthcare safety net at the 7th annual Scientific Advisory Committee meeting Sept. 2.

RIGHT: SAC member Dr. Joseph Bonventre, director of the Renal Division at Brigham and Women's Hospital and a professor at Harvard Medical School, responds.

Expansion in 2015

A message from the director

DR. JONATHAN HIMMELFARB

We capped off a productive summer by hosting our 7th annual Scientific Advisory Committee meeting in early September. A number of our investigators presented current research projects, gaining important feedback from SAC members. The SAC remains supportive of our core scientific program and our work to enhance our communications capacity and increase philanthropic efforts.

In June, investigator Dr. Bob Roshanravan received a 2015 Chair of Medicine Scholars award that fosters the transition to physician-scientist and principal investigator for meritorious faculty at the University of Washington. In September, new nephrology faculty member Dr. Dan Lam was named a grant recipient of Cambia Health Foundation's national Sojourns Scholar Leadership Program—turn the page to see how Dan will use the grant. We also welcomed faculty recruit Dr. Benjamin "Beno" Freedman from Harvard University. Read more about Beno's research on the back page. In addition, Dr. Andrew Marshall, a University of Washington Chemical Engineering graduate and current Chief Technology Officer of Healionics, Inc., received a federal Small Business Innovation Research grant to look at vascular grafts for needle free dialysis access devices.

We continue to expand our research space, at UW Medical Center and Northwest Kidney Centers, and focus on community outreach and fundraising by sponsoring two great events—supporting the American Diabetes Association and the PKD Foundation—in Seattle this fall. In addition, we will sponsor Northwest Kidney Centers' Discovery Gala in support of kidney research, with investigators and staff also volunteering at the Nov. 14 event.

It's been a productive 2015, and we thank you for your continued support of the Kidney Research Institute.

ON THE HORIZON

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**TRANSFORMING LIVES THROUGH
INNOVATION AND DISCOVERY**

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Kidney Research Institute forms team, takes part in the PKD Foundation's Walk for PKD in Seattle

A team of ten Kidney Research Institute investigators and staff members, led by Dr. Benjamin "Beno" Freedman and Maya Kimura, took part in the PKD Foundation's Walk for PKD in Seattle Oct. 4. The annual event raises money for research into treatments and a cure for polycystic kidney disease, a genetic disease that results in numerous balloon-like cysts forming on the kidneys and causing damage.

"Polycystic kidney disease is a leading cause of kidney disease, which we are trying to cure," says Beno, who has been involved with the walk since 2013.

"The PKD Foundation does a great job raising awareness of the



Team KRI at the Seattle PKD Walk Oct. 4. Top row: Francie Fitzpatrick, Linda Manahan, Dr. Catherine Yeung, Mary Bray, Maya Kimura. Bottom row: Dr. Benjamin Freedman, Dr. Jennifer Bacci, Dr. Ronit Katz, Leila Zelnick, Dr. Jonathan Himmelfarb.

disease and sponsors research into it. In addition to fundraising for the organization, the walk is a way for us investigators to get out of the lab and meet patients who are living with PKD. It's a really fun event and inspiring to see the community come together."

The PKD Foundation holds walks in 50 cities across the United States each year, with more than 11,000 walkers taking part.

This year's Seattle Walk for PKD, a three-mile loop around Green Lake, raised \$49,695 for the PKD Foundation, funds that will go towards patient support services and research into polycystic kidney disease, the fourth leading cause of kidney failure.



Dr. Benjamin Freedman, Dr. Jonathan Himmelfarb and Dr. Catherine Yeung take part in the Seattle Walk for PKD Oct. 4 at Green Lake.

Investigators, staff members 'step out' in support of the American Diabetes Association and diabetes research

A group of Kidney Research Institute investigators and staff members recently took part in the American Diabetes Association's Step Out: Walk to Stop Diabetes in Seattle. The KRI also sponsored this year's walk, held Oct. 3 at Magnuson Park, which raised more than \$150,000 for research and education programs.



Dawn Lum, Nicole Robinson and Connor Henry talked to participants about kidney research at the American Diabetes Association's Step Out: Walk to Stop Diabetes in Seattle Oct. 3.

"It was great to have this opportunity to promote the KRI, promote research and just talk with patients and their families," says Laura Curtin, team captain and a research coordinator at the KRI for seven years. "Hearing people with diabetes tell their stories—it's inspiring."

In addition to participating in the walk, team members handed out materials and spoke to patients and their family members about research.

"A lot of times family members want to help," says Laura, "and don't realize they can be control subjects in a study."

A number of current Kidney Research Institute studies are investigating diabetes and chronic kidney disease; two—CANDY and CANDYCANE—are specifically looking at blood glucose management in people with type 2 diabetes and CKD.

"Diabetes is the number one cause of kidney disease," says Dr. Ian de Boer, KRI investigator and an associate professor of medicine at University of Washington, "so if we're going to try to prevent it and prevent dialysis, we need to tackle diabetes and kidney disease."

Kidney-on-a-chip investigator speaks to high school students about importance of research

For Dr. Ed Kelly, associate professor in the Department of Pharmaceutics at University of Washington and an investigator at the Kidney Research Institute, introducing research to the younger generation is key.

"I've been giving presentations to high school groups for five years and for the past two I've talked about our kidney-on-a-chip work," says Ed, who leads a team building the tiny kidney models. "I can tell by the reaction of the students that this really interests them. They can all relate to understanding how a kidney functions and responds to toxic insult."

On average, Ed speaks to several groups per quarter.

"I think high school students are old enough to have a basic understanding of our research and while only a fraction of these students will end up in some research or health-related field, they will all eventually be part of the tax-paying public. Communicating to them at an early age the value of government-funded research is important and something we as scientists aren't always that

effective at. As long as one or two of them asks me a question, I know I have made a difference."



Dr. Ed Kelly spoke about his work on the kidney-on-a-chip, a dime-sized chip that uses human tissue to mimic the function of a real kidney, to a group of students from Bellevue, Wash. earlier this year.

Dr. Dan Lam awarded grant to study palliative care for dialysis patients



Dr. Dan Lam.

Congratulations to Kidney Research Institute investigator Dr. Dan Lam who was named a Cambia Health Foundation Sojourns Scholar in early September for his work to enhance the patient experience by integrating outpatient palliative care into routine dialysis care at Northwest Kidney Centers. Dr. Lam is one of 10 recipients awarded a two-year, \$180,000 grant.

"Palliative care is all about seeing the person beyond the disease," says Dan. "Every patient has a different need. We want to work

with patients and their family members to determine the best way to maximize quality of life and relieve patient suffering. Outpatient palliative care is being utilized in many other patient populations to improve quality of life, and it is my goal to ensure that dialysis patients have access to this important resource too."

With the grant, Dan will continue to expand his work to better identify patients with the highest palliative care needs and develop ways to improve access to formal outpatient palliative care services for dialysis patients. Through the Sojourns Scholars program, he'll also have the opportunity to be mentored by and learn from international leaders in the fields of palliative and kidney care.

New clinical research space at UW Medical Center, Scribner Kidney Center

In early summer, our newly renovated research space at UW Medical Center became fully operational. A former basic-science laboratory, the 12th floor research space has six work stations and storage to complement the patient encounter space. Primary studies being worked on in this space include the:

- Seattle Kidney Study
- CANDY (Continuous Glucose Monitoring to Assess Glycemia in Chronic Kidney Disease)
- MEND (Muscle Mitochondria Energetics in Chronic Kidney Disease) and
- Cystic Fibrosis-Vitamin D, among others.

We'll soon have additional clinical research space for our dialysis studies at Scribner Kidney Center in north Seattle. These new additions have shored up the strength of our many multi-site research studies and our ability to connect with patients in the Seattle area.



Kidney Research Institute space at UW Medical Center.

RETURN SERVICE REQUESTED

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Dr. Benjamin Freedman arrives, focuses research on stem cells and kidney regeneration

For Dr. Benjamin Freedman, “Beno” for short, an interest in stem cells began early in his career.

“As I was finishing my Ph.D., I was looking to do research that had a biomedical side to it,” says Beno. “That plus the fact that some of my family members have kidney disease led me to focus on induced pluripotent stem cells and kidney regeneration.”

Beno, who moved his lab from Harvard to the University of Washington in July, is encouraged by progress made to date.

“In the last five years, we’ve figured out how to coax stem cells to mature into kidney tissue. Being able to study human kidney tissue in the lab will help us figure out how kidney diseases differ, and eventually allow us to screen drugs first in the dish.”

Beno is optimistic that, 10 to 20 years from now, this research could lead to an

alternate treatment for kidney disease.

“The long-term vision is to collect a urine sample from a patient, turn the urine cells into stem cells, manipulate them and put them back into the patient. In that sense, these cells could be not only a lab tool but potentially a therapeutic one as well. The cells would be highly immunocompatible as they’d come from patients themselves, making this treatment potentially even better than transplant.”

Beno’s work will benefit from bioengineering efforts already underway at the KRI.

“What I’ve been working on is a kidney-in-a-dish—what [director] Jonathan and others at the KRI have is the kidney-on-a-chip. Now we’re trying to combine these two technologies. There are so many collaborative opportunities at the KRI. It’s a very natural fit.”

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