KIDNEY RESEARCH INSTITUTE

A collaboration between Northwest Kidney Centers and UW Medicine

ON THE HORIZON

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LEFT: Scientific Advisory Committee member Dr. Thomas M. Coffman, chief of the division of nephrology at Duke University School of Medicine, provides feedback to KRI investigators at the annual SAC meeting Oct. 8 in Seattle. RIGHT: Investigator Dr. Yoshio Hall updates the committee on his research program.

A summary of the first 5 years and our plans for the future

A message from the director

DR. JONATHAN HIMMELFARB

2013 has been a dynamic year at the Kidney Research Institute. Much of our success is due to involvement from the community and those interested in our mission to conduct research that can improve the lives of people with kidney disease. We've enrolled over 500 subjects in our dialysis patient registry and established a unique biosample repository that collects blood and urine samples from people with kidney disease. These samples are highly useful for discovering molecular pathways that cause kidney disease, and are being used by multiple KRI investigators in the search for new diagnostic tests and therapies. The KRI now has 46 active funded research studies and more than 2,000 subjects enrolled in clinical studies and trials, the majority from Seattle and the surrounding King County. Other notable highlights include the considerable national press coverage for our kidney on a chip, wearable artificial kidney, vitamin D, muscle function projects and other studies. Our 5th annual Scientific Advisory Committee Meeting was also a success, held over two days in early October. The committee continues to be highly supportive of the KRI's growth. More about the SAC in the next newsletter.

Dr. Bob Roshanravan, KRI fellow and new UW faculty, was recently awarded a Patient-Oriented Research Career Development Award from the NIH. Bob is the first UW nephrology fellow to receive this award in 5 years (read more on the back page). We've also recruited Dr. Nisha Bansal from University of California San Francisco (more on page 3) and we've enhanced our analytical team. Our full time analysts now include Dr. Ronit Katz and Dr. Cassianne Robinson-Cohen. Our former biostatistician, Dr. Michael Sachs, accepted a position with the Office of the Director at the National Institutes of Health in Bethesda.

Our goals and plans for 2014 and beyond are to maintain a consistent **Purpose**, **Mission** and **Vision**, stay on course with high impact studies, continue to enhance the depth and breadth of our research portfolio, stick with scientific themes geared to public health, and increase community outreach and philanthropic efforts.

We appreciate your continued support of the Kidney Research Institute.

TRANSFORMING LIVES THROUGH INNOVATION AND DISCOVERY

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Advisory leaders convene, provide feedback to investigators

Photos from the 5th annual Scientific Advisory Committee meeting, held Oct. 7 and 8 in Seattle.

Top row: Dr. Raj Mehrotra talks about his first year at the KRI; Dr. Catherine Yeung speaks about her work on the role of uremic toxins in the acceleration of CKD; Dr. Bryan Kestenbaum talks about the regulation of parathyroid hormone. **Bottom row:** SAC member, Dr. Carla Greenbaum of the Benaroya Research Institute; Dr. Yoshio Hall presenting, Dr. Bernadette Thomas speaking about global health and nephrology.

Study finds vitamin D deficiency poses bigger heart risk for people of certain ethnicities

Dr. Cassianne Robinson-Cohen.

In a recent study, Kidney Research Institute investigator Dr. Cassianne Robinson-Cohen looked at data from 6,436 participants who had never had a cardiovascular event before. After 8 and a half years of follow-up, 361 participants had experienced a heart attack or another cardiovascular event. Robinson-Cohen and her team then looked at these patients' ethnicity, vitamin D levels and their risk of a heart attack, to see if there might be differences in risk between ethnicity groups.

The results, published in the Journal of the American Medical Association and covered by the Wall Street Journal and other notable media outlets, showed that low concentrations of vitamin D were associated with a higher risk of coronary heart disease in Caucasian and Chinese participants, but not in Black or Hispanic participants.

"These results show us that vitamin D deficiency may affect people differently, depending on race or ethnicity," says Robinson-Cohen. "Although further research is needed, the potential impact of this is encouraging. If we can identify which patient populations are more affected by vitamin D deficiency, we may someday be able to tailor relevant treatment plans to individual patients."

New investigator Dr. Nisha Bansal arrives from UCSF, focuses on heart disease

Dr. Nisha Bansal.

Dr. Nisha Bansal, an east-coast native and former University of California, San Francisco faculty member, arrived at the Kidney Research Institute in September to continue her research on cardiovascular diseases in patients with chronic kidney disease.

After medical school at the University of Connecticut and residency at Tufts, it was a nephrology fellowship at UCSF that brought Bansal out west.

"I always loved nephrology, even as a medical student," says Bansal. "One of the first things I learned about kidney disease is that people with it are actually more likely to die of cardiovascular disease before they ever need dialysis. This stuck with me and I knew then that I wanted to focus on cardiovascular disease."

Specifically, Bansal wants to better understand the epidemiology and pathophysiology of cardiovascular disease in patients with chronic kidney disease, as well as mechanisms and treatment of hypertension in these patients. She eventually plans to explore treatment options for cardiovascular diseases in CKD patients.

In addition to her research at the KRI, Bansal, an assistant professor of medicine in the Division of Nephrology at the University of Washington, will also work with fellows, residents and medical students there.

"I'm very inspired by the passion and energy at UW and the KRI," says Bansal. "There are a lot of ideas and ways to actually bring those ideas to fruition. I see lots of opportunity to help patients who have really devastating diseases. It's exciting."

Bansal presents her research findings to the Kidney Research Institute's Scientific Advisory Committee Oct. 8, 2013.

Kidney Research Institute strategic retreat

Approximately 40 KRI investigators, collaborators and staff convened on Oct. 25 in Seattle to discuss current research projects and determine specific goals to focus on in the future.

Left to right: KRI director Dr. Jonathan Himmelfarb leads a discussion on the institute's long-term goals; Dr. Jeremy Duffield, Dr. Hualin Qi and Dr. Zhican Wang take note of his ideas; Dr. Kathy Tuttle reports back after a small group session; Monica Alfonzo and Dr. Ann O'Hare listen to Dr. Tuttle's presentation.

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We know that chronic kidney disease patients with a slower walking speed have a greater risk of death.
Now we want to dig deeper.

Kidney Research Institute investigator receives prestigious grant

Dr. Bob Roshanravan, a senior fellow at the KRI, was recently awarded a 5-year NIH-funded K23 grant, allowing him to continue his research on the impact decreased muscle function has on people with chronic kidney disease.

"Chronic kidney disease is characterized by metabolic abnormalities that adversely affect multiple organs systems and serves as a model of accelerated aging," says Roshanravan. "My research applies fundamental concepts in aging research toward the identification of risk factors and mechanisms underlying the loss of mobility and independence in patients with CKD."

Previous research done at the KRI set the stage for Roshanravan's current project as it showed that walking speed can indicate kidney disease burden.

"In short, we know that chronic kidney disease patients with a slower walking speed have a greater risk of death," says Roshanravan. "Now we want to dig deeper. Using novel magnetic resonance spectroscopy technology, I will be investigating the impact of CKD on the energy-producing units of the muscle cell called the mitochondria."

In the future, Roshanravan plans to take his research even further through a clinical trial that tests the impact aerobic and resistance exercise training has on a patient's muscle mitochondrial energy production, muscle strength and fatigue as well as overall physical function.

"I feel fortunate to be able to continue working with study participants during the duration of the award and am looking forward to sharing our study findings with the kidney community."