Adapting research studies to fit emerging needs

A message from the director

DR. JONATHAN HIMMELFARB

We hope that you and your family and friends are staying healthy in light of the current pandemic. Ensuring the safety of our research participants and our outstanding research study staff is our highest priority. We wanted to share with you some of the changes we are making right now. In an effort to reduce the spread of COVID-19, we have paused all in-person contact for our Kidney Research Institute research studies. We will resume in-person contact when it is safe to do so.

Though in-person research is on hold, our investigators and study staff are working diligently to progress their studies. Dr. Pavan Bhatraju and Dr. Mark Wurfel’s research on coronavirus was recently published in the New England Journal of Medicine. This research represents some of the first research on outcomes from severe COVID-19 infection in the United States. Once it is safe to do, Dr. Bryan Kestenbaum will begin his new study on kidney function in critically ill patients.

In recent months, we have celebrated the accomplishments of staff and welcomed a new investigator. Our lab manager, John Ruzinski, was nominated twice for a prestigious University of Washington staff award for his leadership and crisis management. In January, we welcomed biostatistician Dr. David Prince to the Kidney Research Institute. He will serve in a critical data analysis role.

We are appreciative of your continued support of the Kidney Research Institute. During this period of uncertainty, please keep yourself and your loved ones safe.
Kidney Research Institute laboratory manager John Ruzinski receives top honor from the University of Washington

We are proud to announce that our longtime laboratory manager, John Ruzinski, was nominated twice for a 2020 University of Washington Distinguished Staff Award, both as an individual and as a member of the Harborview Relocation Team. This award is the University’s highest staff honor and celebrates the incredible work of staff across campuses and around the world. John was nominated by his Kidney Research Institute peers as well as Dr. Mark Wurfel’s pulmonary research team.

An essential role in kidney research

As laboratory manager at the Kidney Research Institute, John has had an indispensable, central role in all activities. He coordinates personnel and biospecimen movements, implements new and time-tested assays, maintains a large network of freezers full of invaluable samples and ensures the laboratory is always in tip-top shape. John takes on his responsibilities quietly and carefully, very reliably and with great attention to detail.

Without his efforts, much of the work of the Kidney Research Institute simply would not have been possible. We can think of no one more fitting for the Distinguished Staff Award than John, and no timing more appropriate than this year when he’s gone well beyond the call of duty to aid so many members of our research community.

John and other award nominees were honored at a reception on Tuesday, Feb. 25. University of Washington President Ana Mari Cauce celebrated the achievements of all staff members who were nominated. Several additional University of Washington leaders also participated in this year’s event, including Vice President for Human Resources Mindy Kornberg, Dean of the University of Washington Graduate School Joy Williamson-Lott, UW Medicine Chief Medical Officer Dr. Tim H. Dellit, and Dean of the University of Washington Information School Anind K. Dey.

A show of appreciation: co-worker testimonials

"John works assiduously in the background, spends as much time as is necessary for the work to be done, while commuting over 60 miles each way every day. The laboratory, which is extremely productive, owes its output largely to the hard work John does."
- Dr. Rajnish Mehr, investigator

"John works tirelessly to ensure that the most high quality science is performed at all times. He is extremely responsive to questions no matter how busy he is. He always does his work with a wonderful smile that is contagious. He is an asset to the KRI."
- Dr. Ke Wang, nephrology fellow

"John Ruzinski is a can-do guy. When we have tasks, they are often urgent in nature. John jumps in with both feet to solve the problem effectively and efficiently. I'm lucky to work with professionals such as JR!"
- Dawn Lum, research coordinator

"John Ruzinski works tirelessly to keep the lab not only going, but also held to a high standard of excellence. He keeps the staff compliant to University of Washington regulations, meets all deadlines and always agrees to new tasks when already carrying a heavy workload. He comes in early, stays late and even works through lunch as needed to pitch in and get things done. He does all this with a fantastic attitude and respect for all his co-workers. The Kidney Research Institute is better because of him."
- Linda Manahan, research coordinator

"John has a unique skillset that makes him a very valuable member of our scientific research team. He demonstrates incredible dedication to his work. He goes above and beyond to meet critical deadlines and is always the first to step up to new challenges. It is a joy working with John and he is much deserving of this recognition."
- Dr. Nisha Bansal, investigator
Kidney Research Institute investigators publish research on COVID-19 in the U.S.

Research by investigators Dr. Pavan Bhatraju and Dr. Mark Wurfel on critically ill patients with COVID-19 was recently published in the New England Journal of Medicine. The article discusses clinical outcomes from 24 patients with confirmed COVID-19 who were admitted to nine Seattle-area hospital intensive care units. The patients ranged in age from 23 to 97 and had a severe form of the illness. The study team looked at clinical records from the patients for two weeks to identify their symptoms and clinical outcomes. It found that the most common early symptoms of patients in the study were cough and shortness of breath. This research is of critical importance as the Seattle area saw the first known cases of COVID-19 in the United States.

“I hope the findings will help hospitals better manage limited resources, knowing patients may spend weeks fighting the virus,” says Dr. Bhatraju, lead author.

Diabetes was the most common comorbidity in the study, with chronic kidney disease second. Dr. Bhatraju and investigators Dr. Rajnish Mehrotra and Dr. Nisha Bansal are currently looking further at kidney disease and dialysis patients who have COVID-19.

Dr. Bryan Kestenbaum launches study on kidney tubules

Kidney Research Institute investigator Dr. Bryan Kestenbaum was recently funded to study kidney function and acute kidney injury. His study, “Role of Kidney Tubular Secretion in Critical Illness (ROKT),” has developed a new test to measure function in the kidney tubules, an important component of the kidneys. The study team will enroll critically ill patients who are at high risk for developing acute kidney injury, using the newly developed test to determine whether a patient’s type of kidney function has associations with illness length, complications and recovery.

“If successful,” says Dr. Kestenbaum, “the study could change the ways that kidney function is measured in the intensive care unit.”

This research builds on previous research from the PROCLAIM study, conducted by Dr. Kestenbaum and Kidney Research Institute research coordinators. The study team hopes to enroll 500 patients at the University of Washington and Vanderbilt University.

Also in the news

- Drs. Cathy Yeung, Jonathan Himmelfarb and Ed Kelly’s article “Tissue Chips in Space – Challenges and Opportunities” was published in Clinical and Translational Science in September 2019. Read the full article to learn how studying tissue samples in space can help expand our understanding of how we could improve human health on earth.

- Dr. Nisha Bansal’s research on “Hospitalization Rates in Older Adults with Albuminuria: The Cardiovascular Health Study” was published in the Journals of Gerontology: Series A in January 2020.

- Dr. Bessie Young’s work “At the Research-Clinical Interface: Returning Individual Genetic Results to Research Participants” was featured in the February 2020 issue of the Clinical Journal of the American Society of Nephrology.

- Dr. Rajnish Mehrotra’s article “‘Can I go to Glasgow?’ Learnings from patient involvement at the 17th Congress of the International Society for Peritoneal Dialysis (ISPD)” was featured in the January 2020 issue of the Journal of the International Society for Peritoneal Dialysis.

- Dr. Rajnish Mehrotra and Dr. Matthew Rivara’s work on “Advancing American Kidney Health – New Opportunities for Collaborative Care” was featured in the March 2020 issue of the American Journal of Medicine.
Dr. David Prince completed his doctorate at the University of Washington and worked on clinical trials at Axio Research before arriving at the Kidney Research Institute in January. As a biostatistician, he helps research investigators make sense of all the data collected, whether it’s deciding on the impact of a study or identifying factors that contribute to disease outcomes. At the KRI, he collaborates with investigators at all stages in the research process. His data analysis skills are vital for a research study to be successful. Biostatisticians work on a research study from the initial stages of study design and grant writing to data collection and management and, finally, analysis and publication of results.

For example, in the early stage of a project that will enroll participants, Dr. Prince will work with an investigator to refine hypotheses, select statistical methods and perform calculations to determine the sample size. Getting the sample size correct is important: too large and the study may waste valuable resources, too small and the study will not be able to answer the scientific question. Dr. Prince recently worked with Kidney Research Institute investigator Dr. Nisha Bansal on sample size calculations for a grant application for a clinical trial to investigate whether the use of SGLT2 inhibitors leads to greater risk of kidney injury in patients with Type 2 diabetes.

Once data is collected, a biostatistician conducts initial analyses. This includes reviewing extreme values, determining if anything is missing and assessing data quality. Any issues identified need to be resolved before proceeding. The biostatistician then recodes the data, if necessary, performs the primary analysis to answer key research questions, conducts additional analyses and contributes to the writing and publication of results. Dr. Prince is currently finishing a project led by research fellow Dr. Alex Kula to investigate the association between blood pressure and outcomes in patients with chronic kidney disease. The project uses data from the Chronic Renal Insufficiency Cohort (CRIC).