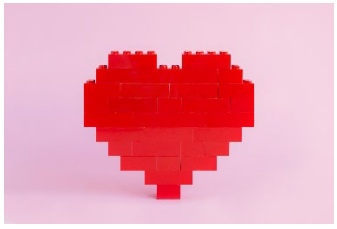
Divison of Nephrology and Hypertension
Newsletter

February 2022 – Issue 5

Love is in the air for February…

Check out some of our wonderful news and significant highlights!



Division Announcements

Fri, Feb. 4	NOCKS seminar – Valeriia Rudomanova, MD, PhD Post-doctoral Fellow, University of Cincinnati Children's Hospital Medical Center
Mon, Feb. 14	Valentine's Day (not official VUMC Holiday)
Mon, Feb. 14	Deadline for employee COVID-19 booster

Clinical News:

Podcast Release:

On Monday 1/24/22 a new NKF podcast called Kidney Commute was launched. Dr. El Shamy is the co-chair of the podcast as well as the moderator for 2 of the first 3 episodes.

It is a conversational podcast format with each episode having a **physician, nurse, dietitian, social worker and a patient** discussing a particular topic for approximately 30 minutes. We also offer **CE credit** for those who listen. The questions are very easy, **usually 2 questions** that are multiple choice.

It is available on **Apple Podcast** and **Spotify** – **Kidney Commute**. The podcast is supported by the National Kidney Foundation.

https://www.kidney.org/podcasts/kidney-commute

From the desk of Dr. Burgner:

Inpatient Dialysis Unit: The inpatient dialysis unit has been training last week and this week on our brand-new dialysis machines. We are retiring our old machines and replacing them with the Baxter AK98.

Diversity News:

The February diversity poster will be sent separately as soon as it becomes available.

Fellowship News:

Transplant Fellowship Program: We are accepting applications for our 2022-23 Transplant Fellowship Program. Here is the website to the application and for more information https://medicine.vumc.org/renal-transplantation-fellowship

Research News:

Research Publications:

One of our research fellows, **Javier Jaramillo-Morales**, in collaboration with Drs. Ikizler and Gamboa, recently published in the American Journal of Physiology-Renal Physiology titled "Effects of caloric restriction and aerobic exercise on circulating cell-free mitochondrial DNA in patients with moderate-to-severe chronic kidney disease". They hypothesized that aerobic exercise, with or without diet calorie restriction may reduce circulating cell-free mitochondrial DNA (ccf-mtDNA) and systemic inflammation. Contrary to the initial hypothesis, exercise and caloric restriction increased ccf-mtDNA and there was no association between ccf-mtDNA and systemic inflammatory markers.

Dr. Bethany Birkelo in Dr. Edward Siew's lab has had a research letter accepted for publication in Clinical Journal of the American Society of Nephrology titled "Renin-Angiotensin-Aldosterone System Inhibitors and the Risk of Acute Kidney Injury in COVID-19 Compared to Influenza", in which they retrospectively compared the risk of acute kidney injury (AKI) associated with renin-angiotensin-aldosterone inhibitor medications (RAASi) among a propensity-matched cohort of US Veterans with COVID-19 or seasonal influenza. They found that RAASi use was associated with an increased risk of AKI that was proportionally similar in both illnesses. These findings do support the hypothesis of direct infectivity of the kidney by SARS-CoV-2 via upregulated ACE2 expression as a major mechanism of COVID-associated AKI."

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Dr. Lauren Woodard's lab recently had one of their review articles accepted to JASN (Journal of the American Society of Nephrology, Manuscript JASN-2021-05-0693.R2) titled "Tissue culture models of acute kidney injury: from tubule cells to human kidney organoids." Human kidney tissue culture systems can complement animal models of AKI and/or address some of their limitations. This review explores the mechanisms and detection of AKI in tissue culture with an emphasis on bioengineered approaches such as human kidney organoid models.

Andrew Terker, MD, PhD recently had his manuscript accepted for publication to JCI Insight, titled "Macrophage interferon regulatory factor 4 deletion protects against aristolochic acid nephropathy via reduced migration and increased apoptosis" (JCI reference 150723-INS-RG-RV-3). In this study we showed that aristolochic acid (AA), a nephrotoxin known to damage proximal tubule cells, also directly stimulates macrophages to become more inflammatory and contribute to AA-mediated kidney injury. Additionally, we demonstrated that deletion of the transcription factor, interferon regulatory factor 4 (IRF4), from macrophages prevents this AA-mediated activation and reduces kidney damage.

Spotlight Newsletter Recipients

Lauren E. Woodard, Ph.D

Lauren Woodard, Ph.D. is Assistant Professor of Medicine in the Division of Nephrology and Hypertension at Vanderbilt University Medical Center and has a secondary appointment in Biomedical Engineering at Vanderbilt University. Her laboratory is located at the Nashville VA within the Tennessee Valley Veterans Affairs Healthcare System. Dr. Woodard is a faculty member of the Vanderbilt Center for Stem Cell Biology and active participant in the Stem and Progenitor Cell Interest Group. She serves on a committee for the American Society of Gene and Cell Therapy and enjoys mentoring students at all levels in different Vanderbilt programs. The Woodard Lab engineers gene and cell therapies for kidney regeneration.

When she is not in the lab, Dr. Woodard serves as Garden Coordinator at Eakin Elementary where she helps students discover both the history and practical aspects of growing their food. Depending on the weather she can be found hiking the gorgeous state parks of the Southeast or baking cookies with her kids. Dr. Woodard is a Texas Longhorn who often visits family in Austin, the Live Music Capital of the World, and lives in Music City, so naturally she has a deep appreciation for college football and live music.

Antoine Marlowe

Antoine Marlowe is a Lab Technician in the Division of Nephrology and Hypertension at Vanderbilt University Medical Center. He has been at Vanderbilt for 12 years. In Antoine's primary role, he provides support to all the research labs within the Division. Our research labs are on and off campus so you might find him in MCN, RRB, PRB, Med Arts, 2525 or even the VA. Antoine is usually kept busy sterilizing lab recyclables, but he also finds time to assist with lab supply and mail deliveries, equipment inventory and moves, conferencing needs, and numerous other Divisional tasks. Antoine has also been a recipient of the NEPHRON award for his exceptional service to the Division.

When Antoine is not working, he enjoys watching sports (especially the Titans) and hanging out with his family.