KidneyCurrent

The Quarterly KidneyCure e-Newsletter

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In This Issue:

- · 2021 Grant Recipients
- Grant Recipient Spotlight: Nwamaka D. Eneanya
- · Grant Recipients at Work

2021 Grant Recipients

Congratulations to the 24 new investigators joining the esteemed roster of KidneyCure grant recipients this year. These talented researchers are making vital contributions to our understanding and treatment of kidney diseases, including noninvasive disease tracking, improving transplant rejection, and impact of healthcare policy. The announcement can be found here. Be sure to click each recipient's name to link to their individual profiles.

Grant Recipient Spotlight: Nwamaka D. Eneanya, MD, MPH, FASN

Nwamaka D. Eneanya, MD, MPH, FASN, is a practicing nephrologist and Assistant Professor of Medicine and Epidemiology at the University of Pennsylvania. In 2013, Dr. Eneanya received the inaugural Sharon Anderson Research Fellow Award for her project "Discussing End-of-Life: Racial Disparities in End-of-Life Preferences in Chronic Kidney Disease Patients Due to Limited Health Literacy." Her research continues to center on health equity, racial justice, and patient-centered care, particularly in the area of palliative care. She has received funding from the National Institutes of Health and her work has been featured in national media and journals. She also currently serves on ASN's Diversity, Equity, and Inclusion Committee and the ASN-NKF Race and eGFR Task Force.



Click <u>here</u> to learn more about Dr. Eneanya's research, inspirations, and how receiving the fellowship award gave her the confidence to pursue her passions.

Grant Recipients at Work

Current and former KidneyCure grant recipients are working across the research spectrum to advance our understanding and treatment of kidney diseases. Find highlights of recent works and publications as submitted by former KidneyCure grant recipients here.

If you have any questions, please contact us at kidneycure@asn-online.org or 202-640-4660.

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Grant Recipients at Work

Highlights of recent works and publications as submitted by current and former KidneyCure grant recipients. Grant award year is indicated in parentheses.

Matthew K. Abramowitz, MD, MS, FASN (2013)

- Cognitive Dysfunction and Gait Abnormalities in CKD
- Obesity and the Risk of Low Bicarbonate: A Cohort Study

David J. Askenazi, MD, MS, FASN (2011)

- Severe Acute Kidney Injury and Mortality in Extremely Low Gestational Age Neonates
- Acute kidney injury in critically III children and young adults with suspected SARS-CoV2 infection
- Acute Kidney Injury Among Children Admitted with Viral Rhabdomyolysis

Massimo Attanasio, MD (2010)

- Loss of diacylglycerol inase causes thrombotic microangiopathy by impairing endothelial VEGFA signaling
- Detection of pro angiogenic and inflammatory biomarkers in patients with CKD

Carlton M. Bates, MD (2001)

• Loss of fibroblast growth factor receptor 2 (FGFR2) leads to defective bladder urothelial regeneration after Cyclophosphamide injury

Dorin Bogdan Borza, PhD (2003)

 <u>Laminin-521</u> is a Novel Target of Autoantibodies Associated with Lung Hemorrhage in Anti-GBM Disease

Benjamin Charles Bowe, III, MPH (2019)

- High-dimensional characterization of post-acute sequelae of COVID-19
- Many Post-Covid Patients Are Experiencing New Medical Problems, Study Finds

Wei Chen, MD, MS, FASN (2017)

• Use of Peritoneal Dialysis for Acute Kidney Injury during the COVID-19 Pandemic in New York City: A multicenter observational study

Ying Maggie Chen, MD, PhD, FASN (2013)

- <u>Ultrabright Plasmonic-Fluor Nanolabel-Enabled Detection of a Urinary ER Stress Biomarker in Autosomal Dominant Tubulointerstitial Kidney Disease</u>
- <u>Endoplasmic Reticulum-Associated Biomarkers for Molecular Phenotyping of Rare Kidney Disease</u>

Michael D. Donnan, MD (2020)

• The lymphatics in kidney health and disease

Kidney lymphatics: new insights in development and disease

Stuart E. Dryer, PhD (2011)

- and -integrin are essential for suPAR signaling in podocytes.
- Effects of TRPC6 Inactivation on Glomerulosclerosis and Renal Fibrosis in Aging Rats.

Amaka Eneanya, MD, MPH, FASN (2013)

- Publications:
 - o Race-Free Biomarkers to Quantify Kidney Function: Health Equity Lessons Learned from Population-Based Research
 - o <u>Is It Time to Move On? Reexamining Race in Glomerular Filtration Rate Equations</u>
 - Age and Racial Inequities in Telemedicine Internet Support Among Nephrology Outpatients During the COVID-19 Pandemic
- Press:
 - o How scientists are subtracting race from medical risk calculators
 - o How a clinical tool meant to predict kidney function could be hurting Black patients

Kevin F. Erickson, MD, MS (2017)

- Publication:
 - Patient-Reported Experiences with Dialysis Care and Provider Visit Frequency
- Press:
 - For Individuals Undergoing Dialysis, More Frequent Visits with Kidney Specialists Does Not Improve Patient-Reported Experiences
 - o People with renal failure who require dialysis in the United States automatically qualify for Medicare. Is there a need for safety-net dialysis providers?

Alexander H. Flannery, PharmD (2020)

- Publication:
 - Sepsis-Associated Acute Kidney Disease and Long-term Kidney Outcomes
- Press:
 - Pharmacy Professor in Search of Treatments for Acute Kidney Injury
 - Alex Flannery and David Feola Receive Inaugural Clinical Research Catalysts Pilot Award

Lakshmi Ganesan, MD (2019)

https://pubmed.ncbi.nlm.nih.gov/34233922/

Rasheeda K. Hall, MD, MS, MBA (2015)

- Publications:
 - o Less is More: Deprescribing Medications in Older Adults with Kidney Disease: A Review
 - Risks Associated with Continuation of Potentially Inappropriate Antihypertensive Medications in Older Adults Receiving Hemodialysis
 - Risk of Potentially Inappropriate Medications in Adults with CKD: Findings From the Chronic Renal Insufficient Cohort (CRIC) Study
- Press:
 - Potentially inappropriate medication linked to three adverse results for patients with CKD
 - Inappropriate Medications May Increase Hospitalization, Death Risk in CKD

Mary Hannan, PhD, NP (2021)

- Risk Factors for CKD Progression
- <u>Sedentary Behavior and Change in Kidney Function: The Hispanic Community Health Study/Study of Latinos (HCHS/SOL)</u>

Mark R. Hanudel, MD, MS, FASN (2020)

- Amelioration of chronic kidney disease-associated anemia by vadadustat in mice is not dependent on erythroferrone
- Associations among erythropoietic, iron-related, and FGF23 parameters in pediatric kidney transplant recipients

Sarah C. Huen, MD, PhD (2016)

- Metabolism as Disease Tolerance: Implications for Sepsis-Associated Acute Kidney Injury
- Survey of Current Practices of Outpatient Hemodialysis for AKI Patients
- Hepatic FGF21 mediates tissue tolerance during bacterial inflammation by preserving cardiac function

Nishank Jain, MBBS, MPH, FASN (2018)

- Role of Platelets in Chronic Kidney Disease
- Comparative Effectiveness and Safety of Oral P2Y12 Inhibitors in Patients on Chronic Dialysis

Malgorzata Kasztan, PhD (2016)

Hydroxyurea improves nitric oxide bioavailability in humanized sickle cell mice

Farrukh M. Koraishy, MD, PhD, FASN (2012)

- Publications:
 - The Association of Post-Traumatic Stress Disorder with longitudinal change in Glomerular Filtration Rate in World Trade Center responders
 - Clinical Characterization and Prediction of Clinical Severity of SARS-CoV-2 Infection Among US Adults Using Data from the US National COVID Cohort Collaborative
 - o Challenges in defining Long COVID: Striking differences across literature, Electronic Health Records, and patient-reported information
- Press:
 - Dr. Farrukh Koraishy Receives SUNY Research Grant

David E. Leaf. MD. FASN (2018)

- Hospital-Level Variation in Death for Critically III Patients with COVID-19
- Identification of Distinct Clinical Subphenotypes in Critically III Patients With COVID-19

Seolhyun Lee, MD (2020)

• Improving Clearance for Renal Replacement Therapy

Eugene Lin, MD, MS, FASN (2021)

- Challenging Assumptions of Outcomes and Costs Comparing Peritoneal and Hemodialysis
- Payment for Dialysis Services in the Individual Market

George Maliha (2014)

• To Spur Growth in Al, We Need a New Approach to Legal Liability

Artificial Intelligence and Liability in Medicine: Balancing Safety and Innovation

Roy O. Mathew, MD, FASN (2000)

- Concepts and controversies: lipid management in patients with chronic kidney disease
- Evaluation and Management of Aortic Stenosis in Chronic Kidney Disease: A Scientific Statement From the American Heart Association

Alicia A. McDonough, PhD (2009)

- Impact of casein- versus grain-based diets on rat renal sodium transporters' abundance and regulation
- Local and downstream actions of proximal tubule angiotensin II signaling on Na+ transporters in the mouse nephron
- Sex differences in solute and water handling in the human kidney: Modeling and functional implications

Madhav C. Menon, MD, MBBS (2012)

- <u>Influence of patient characteristics and immunosuppressant management on mortality in kidney</u> transplant recipients hospitalized with coronavirus disease 2019 (COVID-19)
- Podocyte Autophagy in Homeostasis and Disease
- Chronic transplant glomerulopathy: New insights into pathogenesis

Tanecia Mitchell, PhD (2021)

- Publications:
 - <u>Dietary Oxalate Loading Impacts Monocyte Metabolism and Inflammatory Signaling in</u> Humans
- Press:
 - o Interview with Society of Redox Biology and Medicine

Kana N. Miyata, MD (2019)

- Angiotensin II up-regulates sodium-glucose co-transporter 2 expression and SGLT2 inhibitor attenuates Ang II-induced hypertensive renal injury in mice
- Overexpression of Nrf2 in Renal Proximal Tubular Cells Stimulates Sodium-Glucose
 Cotransporter 2 Expression and Exacerbates Dysglycemia and Kidney Injury in Diabetic Mice

Sho Morioka, PhD (2020)

Sweeping Up Dying Cells during Tissue Injury

Naoka Murakami, MD, PhD, FASN (2019)

- Publications:
 - A multi-center study on safety and efficacy of immune checkpoint inhibitors in cancer patients with kidney transplant
 - Immunoregulatory and lipid presentation pathways are upregulated in human face transplant rejection
 - Osmotic Tubulopathy in a Patient With COVID-19 Treated with Remdesivir
- Press:
 - o <u>Immunotherapy and Novel Cancer Target Therapies in Kidney Transplant Recipients</u> with Cancer

Lama Nazzal, MD, MS (2017)

- 40 Years of Oxalobacter formigenes, a Gutsy Oxalate-Degrading Specialist
- Effect of Vancomycin on the Gut Microbiome and Plasma Concentrations of Gut-Derived Uremic Solutes

David Donald McTavish Nicholl, MD, MS (2012)

• Nocturnal hypoxemia severity influences the effect of CPAP therapy on renal reninangiotensin–aldosterone system activity in humans with obstructive sleep apnea

Javier A. Neyra, MD, MS, FASN (2014)

- The Impact of Angiotensin-Converting Enzyme Inhibitors or Angiotensin II Receptor Blockers on Clinical Outcomes of Acute Kidney Disease Patients: A Systematic Review and Meta-Analysis
- <u>Hypophosphatemia in acute liver failure of a broad range of etiologies is associated with phosphaturia without kidney damage or phosphatonin elevation</u>
- Association of phosphate containing solutions with incident hypophosphatemia in critically ill
 patients requiring CRRT

Sarah E. Panzer, MD (2019)

- B-cell Deficiency Attenuates Transplant Glomerulopathy in a Rat Model of Chronic Active Antibody-mediated Rejection
- Macrophages in Transplantation: A Matter of Plasticity, Polarization, and Diversity
- High Burden of Premature Arteriosclerosis on Renal Biopsy Results in Incident Lupus Nephritis

Uptal D. Patel, MD (2009)

Urinary Single-Cell Profiling Captures the Cellular Diversity of the Kidney

Meghan Pearl, MD (2018)

 Endothelin Type A Receptor Antibodies Are Associated With Angiotensin II Type 1 Receptor Antibodies, Vascular Inflammation, and Decline in Renal Function in Pediatric Kidney Transplantation

Aneta J. Przepiorski, PhD (2019)

- Regenerative Nephrology, Chapter 32- Small molecules in regeneration
- A Simplified Method for Generating Kidney Organoids from Human Pluripotent Stem Cells

Ghazal Z. Quinn, MD (2021)

• Case report: Combined use of emapalumab and ruxolitinib in a patient with refractory hemophagocytic lymphohistiocytosis was safe and effective

Nirupama Ramkumar, MD, MPH, FASN (2012 and 2015)

 Loss of Soluble (Pro)renin Receptor Attenuates Angiotensin-II Induced Hypertension and Renal Injury

Yuvaram N.V. Reddy, MBBS (2020)

- <u>Funding Innovative Dialysis Technology in the United States: Home Dialysis and the ESRD</u> Transitional Add-on Payment for New and Innovative Equipment and Supplies (TPNIES)
- <u>Tips and Tricks for the 2021 Nephrology Fellows-A Curated List of Fellow-Friendly Resources in the United States</u>

Rhiannon D. Reed, DrPH (2018)

- The Living Donor Navigator Program Provides Support Tools for Caregivers
- Cognitive mapping as an approach to facilitate organ donation among African Americans
- Self-advocacy is associated with lower likelihood of living donor kidney transplantation

Meredith Posner Schuh, MD (2021)

- The Rhesus Macague Serves as a Model for Human Lateral Branch Nephrogenesis
- Omentectomy reduces the need for peritoneal dialysis catheter revision in children: a study from the Pediatric Nephrology Research Consortium

Moshe Shashar, MD (2014)

- Humoral Response to the Pfizer BNT162b2 Vaccine in Patients Undergoing Maintenance Hemodialysis
- Reduced humoral response to mRNA SARS-CoV-2 BNT162b2 vaccine in kidney transplant recipients without prior exposure to the virus
- Study examines antibody response to COVD-19 vaccination in patients with kidney failure

Tomokazu Souma, MD, PhD (2019)

- Ferroptotic stress promotes the accumulation of pro-inflammatory proximal tubular cells in maladaptive renal repair
- Hypoxia signaling in renal pericytes-is it safe to activate?

Ken Sutha, MD, PhD (2019)

ASN/AST COVID-19 Kidney Transplant Roundtable: Life After Vaccination (Webinar)

Sri Lekha Tummalapalli, MD, MBA (2019)

- Racial and Neighborhood-level Disparities in COVID-19 Incidence Among Patients on Hemodialysis in New York City
- Nephrologist Performance in the Merit-Based Incentive Payment System

Dan Wang, PhD (2021)

- A Biomimetic In Vitro Model of the Kidney Filtration Barrier Using Tissue-Derived Glomerular Basement Membrane
- Mechanical characterization of native and sugar-modified decellularized kidneys

Qinzhe Wang, MS, PhD (2020)

- Engineering of a critical membrane-anchored enzyme for high solubility and catalytic activity
- Comparative analysis of sialic acid —3/6 galactose glycan-binding proteins in human saliva and serum

Yanhua Wang, PhD (2021)

• Downregulation of let-7 by electrical acupuncture increases protein synthesis in mice

Jin Wei, PhD (2018 and 2020)

• <u>acula ensa</u> <u>odulates enal emodynamics and lood ressure uring regnancy</u>
Role in Gestational Hypertension

Crystal A. West, PhD (2016)

- Preliminary study of ovariectomy and chronic losartan-induced alterations in brain AT 1 receptors
- <u>Proteinase-activated receptor-2 (PAR2) on blood pressure and electrolyte handling in the late pregnant rat</u>
- 125 I-Angiotensin 1-7 binds to a different site than angiotensin 1-7 in tissue membrane preparations

Yan Xie (2020)

- Publications
 - High-dimensional characterization of post-acute sequelae of COVID-19
 - o Comparative Effectiveness of Sodium-Glucose Cotransporter 2 Inhibitors vs Sulfonylureas in Patients with Type 2 Diabetes
 - o <u>Clinical Implications of Estimated Glomerular Filtration Rate Dip Following Sodium-</u> Glucose Cotransporter-2 Inhibitor Initiation on Cardiovascular and Kidney Outcomes
- Press
 - o Patients with long Covid face lingering worrisome health risks, study finds
 - o 'Long Hauler' Study Shows Covid Can Kill Months After Infection
 - o Two Pandemics Clash as Doctors Find That Covid Spurs Diabetes
 - o Washington U researcher raises concern about pain treatments for 'long COVID'

Rabi Yacoub, MD, FASN (2014)

- Unconjugated p-cresol activates macrophage macropinocytosis leading to increased LDL uptake
- Immunoglobulin G Is a Novel Substrate for the Endocytic Protein Megalin

Jie Zhang, PhD (2018 and 2020)

• <u>acula ensa</u> <u>odulates enal emodynamics and lood ressure uring regnancy</u> Role in Gestational Hypertension