

### MacArthur Fellow to Speak on Wearable and Implantable Medical Devices



**John A. Rogers, PhD**

A prolific inventor and entrepreneur will present a state-of-the-art lecture on “Wearable Microfluidic Devices and Implantable Electronic Systems for Kidney Health” on Sunday, November 6.

The speaker will be John A. Rogers, PhD, who is the Louis A. Simpson and Kimberly K. Querrey professor in the Departments of Materials Science & Engineering, Biomedical Engineering, Neurological Surgery, Electrical and Computer Engineering, Mechanical Engineering, and Chemistry at Northwestern University Feinberg School of Medicine in Chicago, IL, where he is also director of the Querrey

Simpson Institute for Bioelectronics.

Dr. Rogers has published more than 850 papers and is co-inventor on more than 100 patents, some 70 of which are licensed and in active use by large companies or startups that he co-founded. His research includes fundamental and applied aspects of nano- and molecular-scale fabrication, as well as materials and patterning techniques for unusual electronic and photonic devices, with an emphasis on bio-integrated and bio-inspired systems.

His research seeks to understand and exploit “soft” materials, such as polymers, liquid crystals, and biological tissues, as well as hybrid combinations of them with unusual classes of micro/nanomaterials in the form of ribbons, wires, membranes, and tubes.

His team has developed wearable electronics that bend and stretch with the human body. These devices include a flexible implant that supplies electrical stimulation to premature infants’ nerves and dissolves after it is no longer needed, as well as a skin-like sticker that monitors babies’ vital signs in Neonatal Intensive Care Units. In partnership with the Bill & Melinda Gates Foundation, Dr. Rogers’ team has deployed thousands of these new devices across countries in Africa and Asia to monitor the health of newborns and their mothers.

His research has been recognized by many awards, including a MacArthur Fellowship, the Lemelson-MIT Prize, the Smithsonian American Ingenuity Award in the Physical Sciences, the Benjamin Franklin Medal from The Franklin Institute, and a Guggenheim Fellowship.

Dr. Rogers received Masters degrees in physics and chemistry and a doctorate in physical chemistry from the Massachusetts Institute of Technology (MIT). From 1995 to 1997, he was a junior fellow in the Harvard University Society of Fellows.

He joined Bell Laboratories as a member of the technical staff in the Condensed Matter Physics Research Department in 1997 and served as director of this department from 2000 to 2002. He then spent 13 years on the faculty of the University of Illinois at Urbana-Champaign, including as director of the Frederick Seitz Materials Research Laboratory. He joined Northwestern in 2016.

### Blagg Lecture to Focus on Dialysis for Undocumented Immigrants



**Lilia Cervantes, MD**

Public health expert and advocate Lilia Cervantes, MD, will deliver the Christopher R. Blagg, MD, Endowed Lectureship in Kidney Disease and Public Policy on Sunday, November 6. The topic will be “Dialysis for Patients in the Undocumented Immigrant Community in the United States.”

Dr. Cervantes is the director of immigrant health and associate professor of medicine at the University of Colorado Anschutz Medical Campus in Denver.

She spearheaded an innovative change to a Medicaid payment rule in Colorado to give undocumented patients with kidney failure access to life-saving maintenance dialysis. One event that crystallized the need for this change was the death of a patient who was ineligible for Medicaid because of her undocumented status and therefore unable to receive regular dialysis treatments. Such patients could receive dialysis only in the emergency room when their health was in critical condition. This policy led Dr. Cervantes to pivot her career from clinical work to research and advocacy for the expansion of access to standard dialysis for undocumented and uninsured immigrants.

Dr. Cervantes conducted research to document the enormous human and economic costs of the exclusionary policy, developed a coalition of allies, and proposed a policy remedy. Thanks to the work of Dr. Cervantes and her team, the state of Colorado in February 2019 announced a policy change that expanded access to standard three-times-per-week dialysis care for patients with kidney failure who previously had to rely on emergency-only treatment.

Her background as a first-generation Latina shaped her commitment to becoming a physician as well as her focus on community service, health policy activism, and health equity research.

“I grew up in a neighborhood that is very poor, where the life expectancy is about 12 years shorter [than it is in] a neighborhood that’s just five miles away,” Dr. Cervantes said. “From a very young age, I knew that I wanted to be a physician. I wanted to improve the well-being of my community.”

Her efforts have garnered national attention and partnerships, leading to efforts to enable routine dialysis for underserved patients in several other states. Following this defining experience, Dr. Cervantes’ research and advocacy have focused on eliminating structural racism to reduce kidney health disparities.

She has received more than 15 awards for her service to her community and is a member of nine civic and community activity boards.

Dr. Cervantes completed her medical degree and internal medicine residency at the University of Colorado School of Medicine. She has worked as a hospitalist at Denver Health, the safety-net hospital for the city of Denver, for more than 12 years.