Mount Sinai Scientist Awarded $8 Million for Visionary Research on Environmental Influences on Health and Disease

A theory that proposes the existence of a dynamic interface between the environment and human physiology over someone’s lifetime has earned a leading Mount Sinai researcher the prestigious Outstanding Investigator Award from the National Institute of Environmental Health Sciences (NIEHS). Manish Arora, PhD, will receive a total of $8 million over eight years to complete research into his theory, known as the Biodynamic Interface.

NEW YORK (PRWEB) June 05, 2019 -- A theory that proposes the existence of a dynamic interface between the environment and human physiology over someone’s lifetime has earned a leading Mount Sinai researcher the prestigious Outstanding Investigator Award from the National Institute of Environmental Health Sciences (NIEHS). Manish Arora, PhD, will receive a total of $8 million over eight years to complete research into his theory, known as the Biodynamic Interface.

This award is supported by the NIEHS through the “revolutionizing innovative, visionary environmental health research” (RIVER) program. The program recognizes outstanding investigators in the field of environmental health, offering up to $750,000 per year over the next eight years.

Dr. Arora and his team will use this award to combine the theory with newly developed technology to develop predictive models that may prevent diseases decades before any clinical signs are apparent. Dr. Arora’s team will study disorders that include autism, attention-deficit/hyperactivity disorder, schizophrenia, and amyotrophic lateral sclerosis (also known as ALS or Lou Gehrig’s disease), which appear at different stages of life under influences from the environment and genetics.

“I am grateful to the National Institute of Environmental Health Sciences for this award that will help unlock the environmental underpinnings to diseases with causes and therapies that remain largely unknown,” said Dr. Arora, the Edith J. Baerwald Professor and Vice Chair of the Department of Environmental Medicine and Public Health at the Icahn School of Medicine at Mount Sinai. “Understanding the environmental factors in autism, schizophrenia, and ALS could identify specific pathways related to the diseases’ pathology and could lead to an early warning system for these and other neurodevelopmental disorders. The earlier these diseases are diagnosed or predicted, the earlier people can take advantage of therapies.”

The team that has developed the Biodynamic Interface Theory includes Paul Curtin, PhD, and Christine Austin, PhD, Assistant Professors of Environmental Medicine and Public Health at the Icahn School of Medicine; Austen Curtin, PhD, Data Analyst; Lisa Maroski, a consultant with expertise in language and philosophy; and Alessandro Giuliani, PhD, Professor of Environmental Health at the University of Rome.

This award is one of six RIVER program awards announced in June to innovative researchers in the field of environmental health sciences. The RIVER program is part of an ongoing effort to support pioneering, independent scientists’ research programs, as opposed to research projects, which is typically how NIEHS has awarded research funds in the past.

“The program is designed to give researchers intellectual and administrative freedom, as well as sustained support for up to eight years, to push their research in new and important directions,” said Jennifer Collins,
program coordinator for RIVER. “Now in its second year, the RIVER program seeks to fund researchers from the NIEHS grantee community who have previously demonstrated a broad vision and exhibited the potential for continuing their impactful research through a research award that emphasizes scientific flexibility and stability.”

Dr. Arora is known for his innovative work on biomarkers that utilize human baby and permanent teeth to reconstruct the timing of exposure to various harmful chemicals and essential nutrients, and the biological response to those environmental factors. Dr. Arora developed the method of using teeth to reconstruct prenatal and early-life exposures to nutrient and toxic elements in children with neurological conditions.

Methods such as tooth analysis have provided the Mount Sinai Institute for Exposomic Research a wide-net approach to observe multiple exposures and patterns at a time. A member of the Mount Sinai Institute for Exposomic Research, Dr. Arora is examining early-life environmental exposures and their effects on health, disease, and development. Exposomics research takes a large-scale systematic approach to understanding how the environment affects health outcomes across the lifespan.

The grant number for this award is R35ES030435.

About The Institute for Exposomic Research

The Institute for Exposomic Research at the Icahn School of Medicine at Mount Sinai is the world’s first research institute devoted to the intensive study of the exposome, or the totality of environmental influences on human health. The mission of the Institute is to understand how the complex mix of nutritional, chemical, and social environments affect health, disease, and development later in life and to translate those findings into new strategies for prevention and treatment. For more information, visit http://icahn.mssm.edu/exposomics.

About the Mount Sinai Health System

The Mount Sinai Health System is New York City's largest integrated delivery system, encompassing eight hospitals, a leading medical school, and a vast network of ambulatory practices throughout the greater New York region. Mount Sinai's vision is to produce the safest care, the highest quality, the highest satisfaction, the best access and the best value of any health system in the nation. The Health System includes approximately 7,480 primary and specialty care physicians; 11 joint-venture ambulatory surgery centers; more than 410 ambulatory practices throughout the five boroughs of New York City, Westchester, Long Island, and Florida; and 31 affiliated community health centers. The Icahn School of Medicine is one of three medical schools that have earned distinction by multiple indicators: ranked in the top 20 by U.S. News & World Report's "Best Medical Schools", aligned with a U.S. News & World Report's "Honor Roll" Hospital, No. 12 in the nation for National Institutes of Health funding, and among the top 10 most innovative research institutions as ranked by the journal Nature in its Nature Innovation Index. This reflects a special level of excellence in education, clinical practice, and research. The Mount Sinai Hospital is ranked No. 18 on U.S. News & World Report's "Honor Roll" of top U.S. hospitals; it is one of the nation's top 20 hospitals in Cardiology/Heart Surgery, Gastroenterology/GI Surgery, Geriatrics, Nephrology, and Neurology/Neurosurgery, and in the top 50 in six other specialties in the 2018-2019 "Best Hospitals" issue. Mount Sinai's Kravis Children's Hospital also is ranked nationally in five out of ten pediatric specialties by U.S. News & World Report. The New York Eye and Ear Infirmary of Mount Sinai is ranked 11th nationally for Ophthalmology and 44th for Ear, Nose, and Throat. Mount Sinai Beth Israel, Mount Sinai St. Luke's, Mount Sinai West, and South Nassau Communities Hospital are ranked regionally.
For more information, visit http://www.mountsinai.org/, or find Mount Sinai on Facebook, Twitter and YouTube.
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