Nemours Children's Health Neurologist Receives Prestigious NIH Grant to Study Brain Patterns Underlying Autism, Epilepsy, and Alzheimer's Disease

The NIH Director's Transformative Research Award supports high-risk, high-reward projects

WILMINGTON, Delaware (October 15, 2025)— Rodney Scott, MBChB, MRCP, DipStat, PhD, Division Chief of Neurology, Nemours Children's Health, Delaware Valley, has received a prestigious National Institutes of Health (NIH) Director's Transformative Research Award. Dr. Scott will use the $2.6 million, five-year grant to investigate malfunctions in the brain's hippocampal region, aiming to identify patterns that could lead to shared therapies for patients with autism, epilepsy, and Alzheimer's disease.

"In disorders like autism, epilepsy, and Alzheimer's, the part of the brain called the hippocampus doesn't function properly. Current treatments target each disease separately, often with limited success," Dr. Scott explained.

"Instead, our research will look for shared abnormal brain activity patterns across conditions. If found, we will develop novel methods of brain stimulation that could restore healthy hippocampal function across a range of disorders," Dr. Scott said.

The NIH Transformative Research Awards promote cross-cutting, interdisciplinary approaches, supporting high-risk, high-reward research that could potentially create new paradigms for understanding disease and developing new therapies and preventive strategies.

Dr. Scott's project will analyze patterns of dysfunction in the hippocampus, the region of the brain that regulates memory and emotions. The research is based on the theory that autism, epilepsy, and Alzheimer's may share the same faulty mechanism—specifically, a disruption in the brain's neural networks. Through his NIH award, Dr. Scott and co-principal investigator Matt Mahoney, PhD, Principal Computational Scientist with the Jackson Laboratory in Bar Harbor, Maine, will devise living and computer models to pinpoint the disruption. Dr. Scott's research team will collect biological data, while Dr. Mahoney and colleagues will lead the effort to develop mathematical models. Together, the investigators will be able to examine a high volume of data and potentially accelerate the pace of discovery.

Dr. Scott joined Nemours Children's in 2021, continuing an accomplished career that has spanned hospitals in Zimbabwe, England, and the United States. He has made groundbreaking advances in the treatment and management of epilepsy, as well as the application of complex adaptive systems theories to neurological disease. In addition to his post at Nemours Children's, he is a Professor of Neurology and Pediatrics at Sidney Kimmel Medical College, Thomas Jefferson University; and a Professor of Biomedical Engineering at the University of Delaware.

"This high-risk, high-reward support from the NIH allows investigators like Dr. Scott to develop and rigorously test innovative ideas that are not in the mainstream," said Matthew M. Davis, MD, MAPP, Executive Vice President, Enterprise Physician-in-Chief, and Chief Scientific Officer, Nemours Children's Health. "Through this research, it may be possible to improve cognitive function and quality of life for patients with a broad range of neurological conditions, in childhood and adulthood. This project demonstrates Nemours Children's commitment to research and academic excellence in the pursuit of advancing science and improving health outcomes for generations to come."

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About Nemours Children's Health

Nemours Children's Health is one of the nation's largest multistate pediatric health systems, which includes two freestanding children's hospitals and a network of more than 70 primary and specialty care practices. Nemours Children's seeks to transform the health of children by adopting a holistic health model that utilizes innovative, safe, and high-quality care, while also addressing children's needs well beyond medicine. In producing the highly acclaimed, award-winning pediatric medicine podcast Well Beyond Medicine, Nemours underscores that commitment by featuring the people, programs and partnerships addressing whole child health. Nemours Children's also powers the world's most-visited website for information on the health of children and teens, Nemours KidsHealth.org.

The Nemours Foundation, established through the legacy and philanthropy of Alfred I. duPont, provides pediatric clinical care, research, education, advocacy, and prevention programs to the children, families and communities it serves. For more

information, visit Nemours.org.

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