WAYNE STATE UNIVERSITY
news release

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Wayne State researcher obtains grant of nearly $5.8 million to find new treatments for Autism

DETROIT—Autism, one of the most pervasive development disorders that is characterized by the impairment of social interactions and communication, severely restricted interest levels and highly repetitive behavior, is prevalent in nearly one to two per 1,000 people. Autism affects many parts of the brain, but how it happens is not clearly understood. Signs of autism become noticeable in the first three years of a child's life, and early intervention can help children gain important social, communication and self-care skills they would otherwise lack. There is no single known cause of autism and currently there is no cure for the disease that requires a lifetime of support.

Dr. Diane Chugani, professor of Pediatrics and Radiology at Wayne State University's School of Medicine and director of the Translational Imaging Laboratory at Children's Hospital of Michigan, was recently awarded a $5.79 million grant from the National Institute of Neurological Disorders and Stroke of the National Institutes of Health for a study that may open doors to finding a treatment for improving those afflicted with autism.

The grant, "Early Pharmacotherapy Guided by Biomarkers in Autism" will continue earlier research which showed that the brain serotonergic system is abnormal during critical periods of brain development in children with autism. In this study, Dr. Chugani and her team demonstrated that serotonin synthesis capacity in children less than the age of six years was significantly altered when compared to non-autistic children. Serotonin, an important factor involved in postnatal synaptogenesis – or specialized junctions through which neurons signal to each other and other non-neuronal cells to form interconnected

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circuits within the central nervous system that are crucial to the biological processes that underlie perception and thought – is thought to be one potential target to treatment of autism. Through use of the 5hT1A serotonin agonist, buspirone, in children less than the age of six, Dr. Chugani hopes to uncover a new and safe treatment in groups or subgroups of autistic children.

"Dr. Chugani is one of the leading scientists in the field of autism," commented Dr. Joseph Dunbar, associate vice president for Research at Wayne State University. "Her previous work utilizing positron emission tomography (PET) imaging studies has led to the discovery of potential mechanisms involved in the pathogenesis of autism that may someday lead to new treatments for the growing number of children diagnosed with this complex disability," Dunbar added.

Dr. Chugani is a member of the Scientific Advisory Boards of Autism Speaks and the Tuberous Sclerosis Alliance. She was a founding board member of the International Society for Autism Research. She received her Ph.D. in Pharmacology from the University of California, Los Angeles and her B.A. (cum laude) in Psychology from the University of Maryland, College Park. She joined Wayne State University in 1993.

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Wayne State University is one of the nation's pre-eminent public research universities in an urban setting. Through its multidisciplinary approach to research and education, and its ongoing collaboration with government, industry and other institutions, the university seeks to enhance economic growth and improve the quality of life in the city of Detroit, state of Michigan and throughout the world.