

The Genetics and Neuroscience of ASD



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CURRENT RESEARCH

Finding the Causes of Autism

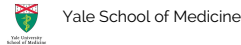
The prevalence of ASD has been steadily rising, for a variety of reasons. One in fifty-nine children in the US have ASD, according to the Center for Disease Control, and the [total cost of caring for these individuals](#) has been estimated to be between \$11.5 and \$60.9 billion per year. These figures require a concerted effort by public and private agencies to fund research programs to better understand what causes ASD, develop targeted and effective treatments, and lessen the burden to families and society.

The Gupta Lab at the Yale School of Medicine's Department of Pediatrics and Child Study Center is investigating some of the most extreme cases of ASD. The lab also expects to discover features of the disorder that could help treat children all over the autism spectrum. One of their major projects is to study late-onset, severe regressive autism, also known as Childhood Disintegrative Disorder (CDD). CDD is a rare type of ASD characterized by late-onset regression of language, social function, and/or motor skills. Children with CDD generally have two years, or more, of normal development before they begin to lose the skills they acquired. The Gupta Lab is the only group in the world studying this demographic using a comprehensive neurogenetic approach.

Funding their research has become very challenging through traditional sources, because CDD was lumped into the umbrella of ASD by the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The rationale was that researchers did not understand the biology well enough to separate different forms of autism into distinct diagnostic entities, and clinical experts could..

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AFFILIATION



EDUCATION

- PhD, University of Pennsylvania School of Medicine (Neuroscience) 2001
- MD, University of Pennsylvania School of Medicine 2001
- BS, Yale College (Molecular Biophysics and Biochemistry) 1993

RESEARCH AREAS

Life Science, Stem Cell, Neurological / Cognitive, Pediatric

FUNDING REQUEST

The Gupta Lab needs your help to raise \$400,000 per year (labor and supplies).

Regarding specific projects:

The Regression in Autism and CDD project (clinical characterization, genetics, MRI, eye tracking) will cost \$500,000 per year for five years, for a total of \$2.5 million in direct costs. This translates to approximately \$10,000 per study subject (labor and supplies).

Creating and characterizing iPSCs and neural cells for CDD (the stem cell project) will cost \$250,000 per year for five years, for a total of \$1.25 million in direct costs. This translates to approximately \$25,000 per subject (labor and supplies, total 50 CDD subjects).