

Public release date: 26-Feb-2009

[ [Print Article](#) | [E-mail Article](#) | [Close Window](#) ]



Contact: Jane E. Rubinstein

[jrubinstein@rubenstein.com](mailto:jrubinstein@rubenstein.com)

212-843-8287

[Autism Speaks](#)

## Autism Speaks funds \$5 million to studies on genetic and environmental risk factors for autism

### *Combines 2 projects to research risk from prenatal development*

NEW YORK, NY (February 26, 2009) – Autism Speaks, the nation's largest autism science and advocacy organization, today announced that it has committed \$5 million to investigate genetic and environmental risk factors for autism. The project will expand and link two large-scale, multi-site studies focusing on a collaborative prospective study of more than 2000 infant siblings of children with autism, who are at higher genetic risk for developing the disorder. Many of these infants will be followed from close to conception through early childhood. In a subset of high risk infants, detailed measures of brain development will be taken using state-of-the-art neuroimaging. This support will allow these two projects to expand data collection in each project during critical periods of development, including genetic, neurobiological, diagnostic and environmental information on families recruited. These studies will provide new insights into the genetic and environmental risk factors that contribute to autism, as well as contributing data useful to studies searching for the earliest possible diagnosis of autism spectrum disorder (ASD). This funding, made possible by an anonymous donation to Autism Speaks, is expanding two complementary multi-site, network studies both Autism Centers of Excellence funded through the National Institute of Health. The funding for this project represents one of the largest public-private partnerships focused on understanding the causes of autism to date. The Autism Speaks funding will support at least five years of these studies. A number of the researchers involved in these two projects are also members of the Autism Speaks- and National Institute of Child Health and Human Development (NICHD)-supported High Risk Baby Siblings Research Consortium. This cross-project collaboration represents a major expansion of the scope of the individual projects, and provides evidence of the enhancement of the interdisciplinary nature of projects of infant sibs at risk for autism.

One of the two projects is the Early Autism Risk Longitudinal Investigation (EARLI) network ([www.earlistudy.org](http://www.earlistudy.org)) lead by Drexel University. EARLI is led by principal investigator Craig Newschaffer, Ph.D. from the Drexel University School of Public Health ([www.publichealth.drexel.edu](http://www.publichealth.drexel.edu)) and also involves leading autism researchers from the Children's Hospital of Philadelphia, University of Pennsylvania, Johns Hopkins Bloomberg School of Public Health, Kennedy Krieger Institute, Kaiser Permanente Division of Research in Oakland, California and University of California Davis. EARLI will explore possible risk factors and biological indicators for ASD during the prenatal, neonatal and early postnatal periods. The project will enroll and follow up to 1200 mothers of children with autism at the start of a new pregnancy and document the development of their newborn siblings through age three. This groundbreaking study will provide a unique opportunity for studying possible autism environmental risk factors and biomarkers during different developmental windows as well as an opportunity to investigate the interplay of genetic susceptibility and environmental exposure. EARLI will begin enrolling subjects in the spring of 2009.

In the second project, researcher Joseph Piven, M.D., University of North Carolina (UNC) at Chapel Hill, hopes his multi-site effort, Infant Brain Imaging Study (IBIS) ([www.ibis-network.org](http://www.ibis-network.org)), will help to identify brain differences in children who develop ASD using brain imaging techniques to monitor and analyze the brain development of 544 very young infant siblings of children with autism. Some of these infants may go on to develop ASD. Their brain images will be compared to those of other "typical" infants, to identify differences between children who develop autism and those who do not. This study involves examination and correlation of the brain and behavioral changes in very early life that may mark the onset of autistic symptoms. Little is known about the abnormal processes during early brain development in children with ASD and this research could offer new insights that lead to earlier diagnosis of ASD.

"These comprehensive studies will help us better understand the onset of ASD and hopefully capture the earliest possible indicators of autism. Both of these studies will also significantly add to our knowledge about the causes of autism by looking at the interaction between genetic susceptibility and environmental exposures. It is our hope that this collaborative effort will facilitate early screening and hopefully lead to effective prevention and treatment strategies," noted Geraldine Dawson, Ph.D., Chief Science Officer at Autism Speaks. "Autism Speaks, through the funding it provides, seeks to enhance the capacity of some established core research efforts by allowing DNA and additional exposure data to be collected, supporting longitudinal research over time, and facilitating collaboration among separate research institutions to maximize the scientific opportunities available and the impact of their findings." Environmental exposures during pregnancy and infancy are another significant aspect of the EARLI study. A number of environmental

exposures, including dietary and lifestyle factors, medications and personal care product use, and suspected neurotoxicants including persistent organic pollutants will be investigated with data and samples collected in EARLI.

"The EARLI study is designed explicitly to collect accurate information on a wide range of exposures during the most important times for brain development," said Dr. Newschaffer, a professor and department chair at the Drexel University School of Public Health. "We are optimistic that this unique study, which also incorporates genetic information from parents and children, will give us an excellent chance of untangling some of the complex causes of autism."

The UNC-Chapel Hill brain imaging study will not only examine the brain but also behavioral changes through MRI imaging and behavioral assessments at 6, 12 and 24 months of age. This study builds on two key research findings from the researchers involved in the IBIS Network. Subject children for this study are determined through the IBIS Network participants including clinical partners Washington University in St Louis, University of Washington in Seattle and Childrens Hospital of Philadelphia, as well as the Montreal Neurological Institute serving as data coordinating center). Depicted at <http://www.unchealthcare.org/site/newsroom/autism>, one Clayton North Carolina family participates in this study hoping to find that missing piece to the autism puzzle.

UNC researchers have previously found that children with autism have larger brains, from five to 10 percent larger at two years of age than children without autism, and this enlargement or overgrowth of the brain starts around the end of a child's first year of life. Also at the end of the first year of life, behavioral researchers led by Lonnie Zwaigenbaum, M.D., from University of Alberta in Edmonton, have identified the onset of the social symptoms associated with autism.,

"The generous support from Autism Speaks allows us to undertake an unprecedented study of the genetic underpinnings of early behaviors as they become evident in infants and toddlers with autism and will allow us to study the genetic basis for early changes in brain volume and neural circuitry concurrent with the emergence of autistic behavior," explained Dr. Piven Professor of Psychiatry and Director of the Carolina Institute for Developmental Disabilities who directs IBIS at UNC-Chapel Hill. "It is our hope that this study will lead to a much deeper understanding of the pathophysiology underlying the development of autism, and will eventually lead to rational approaches to early intervention."

###

### **About Autism**

Autism is a complex brain disorder that inhibits a person's ability to communicate and develop social relationships, and is often accompanied by behavioral challenges. Autism spectrum disorders are diagnosed in one in 150 children in the United States, affecting four times as many boys as girls. The prevalence of autism has increased tenfold in the last decade. The Centers for Disease Control and Prevention have called autism a national public health crisis whose cause and cure remain unknown.

### **About Autism Speaks**

Autism Speaks is dedicated to increasing awareness of Autistic Spectrum Disorders, to funding research into the causes, prevention, treatments and cure for autism, and to advocating for the needs of affected families. It was founded in February 2005 by Suzanne and Bob Wright, the grandparents of a child with autism. Bob Wright is Vice Chairman, General Electric, and served as chief executive officer of NBC for more than twenty years. Autism Speaks has merged with both the National Alliance for Autism Research (NAAR) and Cure Autism Now (CAN), bringing together the nation's three leading autism advocacy organizations. To learn more about Autism Speaks, please visit [www.autismspeaks.org](http://www.autismspeaks.org).

### **About UNC**

The UNC Health Care System is a not-for-profit integrated health care system owned by the state of North Carolina and based in Chapel Hill. It exists to further the teaching mission of the University of North Carolina and to provide state-of-the-art patient care. UNC Health Care is comprised of UNC Hospitals, which is ranked among the top 50 in the nation in six specialties by U.S. News & World Report and ranked one of the country's 41 best on the Leapfrog 2007 Top Hospitals list; the UNC School of Medicine, a nationally eminent research institution; community practices; home health and hospice services in seven central North Carolina counties; and Rex Healthcare and its provider network in Wake County. UNC Health Care also manages Chatham Hospital in Siler City. For information about the UNC Health Care System visit <http://www.unchealthcare.org>. For information about the IBIS Network, visit <http://www.ibis-network.org>.

### About Drexel University School of Public Health

The Drexel University School of Public Health promotes the health of communities through education, research, service and practice. As the only school of public health in Greater Philadelphia, Drexel's innovative academic and research programs integrate real-world experience with classroom learning in one of the most diverse and culturally rich communities in the United States. Drexel's School of Public Health is built on a foundation of understanding that health and human rights are inextricably entwined. This unique, community-collaborative approach fosters leadership and provides students with the critically necessary hands-on experience to meet today's public health demands. For more information about the School of Public Health visit <http://publichealth.drexel.edu>. For more information about the EARLI Network visit <http://earlistudy.org>.

---

[ [Print Article](#) | [E-mail Article](#) | [Close Window](#) ]

