FOR IMMEDIATE RELEASE

Media Contact: Aaron Blank, The Fearey Group for the Allen Institute for Brain Science
(206) 343-1543 or aaronblank@feareygroup.com

AUTISM SPEAKS SPEARHEADS COLLABORATIVE GRANT WITH THE ALLEN INSTITUTE FOR BRAIN SCIENCE AND LEADING AUTISM EXPERT TO ANALYZE FRONTAL LOBE MICROSTRUCTURE IN AUTISM

Research May Provide Insight into the Biological Causes of Autism

NEW YORK, NY — April 2, 2008 —Autism Speaks, the nation's largest autism advocacy organization along with the Allen Institute for Brain Science and one of the country's leading autism researchers will join forces on a new research grant that will examine the architecture of the autistic brain. Led by Eric Courchesne, Ph.D., Professor of Neurosciences at the University of California, San Diego, School of Medicine and Director of UC San Diego's Autism Center of Excellence, the grant will allow scientists to examine molecular markers of genetic activity in the brain of patients with autism, providing insight into the biological causes that underlie the disorder.

This unique study analyzing frontal cortex microstructure is aimed at identifying the underlying cellular and molecular defects in the autistic brain. "An extensive study of this type has never been attempted in autism," explained Dr. Sophia Colamarino, Vice President of Research for Autism Speaks. "This could give us the very first window into brain development in autism, something about which we know virtually nothing."

The collaborative effort builds on the discovery by Dr. Courchesne and others that autism involves sudden, excessive brain growth during the first two years of life. The abnormal overgrowth is especially pronounced in brain regions, such as the frontal cortex, that regulate social, emotional and language communication.

"Such abnormal early brain overgrowth very likely triggers autistic behavior in infants and toddlers, and so the next major step is to discover the reason for this brain overgrowth," said Courchesne. "Once we pinpoint the specific brain cells and genes involved in the abnormal growth, it will be possible to see more clearly what is causing autism, which will more rapidly lead to novel biomedical interventions to improve the outcome for each child."

To discover the specific brain cells and genes that disrupt the growth and formation of these critical early circuits, the team will use advanced technology developed at the Allen Institute that maps in exquisite detail the precise locations in the frontal cortex where specific genes are most active inside cells. Analyses will be done at both the Allen Institute and the UCSD Autism Center for Excellence. The data from the project will ultimately be made publicly available on the Web to help accelerate progress in autism research by scientists worldwide.

"The resources of the Allen Institute for Brain Science will allow us to better understand how specific genes that regulate brain development contribute to autism," said Autism Speaks Chief Science Officer, Geri Dawson, Ph.D. "We hope that these discoveries will provide clues that will lead to new approaches to diagnosis and treatment of autism."

As a child's brain develops, newly formed brain cells migrate systematically to the appropriate locations in the frontal cortex of the brain, and disruptions in this process can result in subsequent brain dysfunction. Knowing if particular brain cells go to the right place requires a clear way to identify them, like a molecular fingerprint. The Allen Institute has characterized an extensive library of gene markers for specific populations of cells in the cortex. The researchers will study these markers to determine if different cell populations are present in the correct proportions and in the right locations within the cortex.

This collaboration represents the first time the Allen Institute will apply its high-throughput methodology and extensive cortical marker panels derived from the Allen Brain Atlas—Mouse Brain project to characterize human tissue from any disorder. Project leader for the Allen Institute will be Ed Lein, Ph.D., Director of Neuroscience.

"The Allen Institute's goal is to fuel discovery and promote innovation for researchers worldwide, and we're pleased to be collaborating with Autism Speaks and Dr. Courchesne to advance scientific knowledge of the causes of autism," said Elaine Jones, Chief Operating Officer at the Allen Institute for Brain Science.

The team hopes to discover whether there is an excess number of any particular type of brain cell, or whether some specific cell types are missing or abnormally located. This research will use tissue from autistic and control groups provided by the NICHD Brain and Tissue Bank for Developmental Disorders in Maryland as well as Autism Speaks' Autism Tissue Program. Dr. Colamarino concluded, "We have a unique opportunity to look at the autistic brain with finer resolution than has previously been possible. This has the potential to be a very powerful technique for understanding how brains differ in individuals with autism."

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 extreme 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 diagnosis 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 THE ALLEN INSTITUTE FOR BRAIN SCIENCE

Launched in 2003, the Seattle-based Allen Institute for Brain Science is an independent, 501(c)(3) non-profit medical research organization dedicated to advancing brain research. Started with $100 million in seed money from philanthropist Paul G. Allen, the Institute takes on projects at the leading edge of science—far-reaching projects at the intersection of biology and technology. The resulting data create publicly available resources that fuel discovery for countless other researchers worldwide. The Institute's data and tools are available on the Web free of charge at www.alleninstitute.org.

ABOUT THE AUTISM CENTER OF EXCELLENCE

The Autism Center of Excellence at the University of California, San Diego is one of six such centers in the country established by the National Institutes of Health (NIH) in September 2007. The Center is directed by Eric Courchesne, Ph.D., Professor of Neurosciences at the UC San Diego School of Medicine, and brings together the expertise of over 40 nationally and internationally respected scientists. The main focus of the center is a collaborative project to uncover a bio-behavioral "fingerprint" of how autism presents at its earliest stages. Their goal is to discover the causes of autism and facilitate earlier treatment regimes that improve outcomes for all those impacted by the disorder.

ABOUT AUTISM SPEAKS

Autism Speaks is dedicated to increasing awareness of autism spectrum disorders, to funding research into the causes, prevention and treatments for autism, and to advocating for the needs of individuals with autism and their 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. To learn more about Autism Speaks, please visit www.autismspeaks.org.

# # #