

Weill Cornell Autism Research Program

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Dr. Jeffrey Fisher

WELCOME to the inaugural issue of the Weill Cornell Autism Research Program (WCARP) Newsletter. With the number of diagnosed individuals on the rise and an estimated 1 in 110 children in the United States currently affected, Autism Spectrum Disorders (ASDs) are considered a leading health epidemic in our nation. Years ago, similar epidemics such as polio and HIV seemed hopeless. However, thanks to the dedication of researchers and scientists working together to overcome these major public health concerns, we now have vaccines to prevent polio and people can manage HIV to enjoy long, active lives. While there is presently no proven medication to improve

the symptoms of autism, it is our belief that, as our understanding grows and treatments are developed, it, too, may become a health epidemic of the past. We are proud to highlight some of our team's progress on both clinical and basic science research projects that work toward an improved understanding of autism. The success of our investigators is highlighted by the promising new data, research grants they continue to receive, and the 2011 Autism Symposium, co-sponsored by the Hunter College Autism Center. Plans are underway for our next symposium on May 11, 2012, at Weill Cornell Medical College entitled "Growing Up With Autism: Life Transitions", which will feature many renowned experts emphasizing ways to facilitate positive change in the lives of people with autism. It is through the kind and continued support of families and donors that WCARP is able to continue to meet its research goals. We encourage you to contribute to this promising research by making a donation today.

Autism Symposium 2011

In April 2011, the Hunter College Autism Research Center teamed up with the Weill Cornell Autism Research Program to host an autism symposium, "Understanding Autism Spectrum Disorder: From Basic Science to Intervention." The symposium was attended by over 200 parents, students and professionals, and included interactive panel discussions, break-out groups, and a networking mixer. Featured speakers ranged from basic and translational scientists investigating the biochemical roots of Autism Spectrum Disorders, to researchers involved in clinical evaluations and the development of intervention programs. WCARP faculty presentations included:



Gluten and Casein in Autism Spectrum Disorders, Armin Alaedini, PhD, **How to Access Services for Your Child with Autism through your Local Early Intervention Program**, Jennifer F. Cross, MB, ChB, **The Role of a Pediatrician in Screening for Autism**, Emily K. Forrest, MD, **Alterations in BDNF Metabolism in ASD**, Barbara L. Hempstead, MD, PhD and Francis S. Lee, MD, PhD, **Genetic Fingerprints in Autism**, Joseph J. Higgins, MD, **Current Focus and Findings in Autism Research on Brain Development**, Barry E. Kosofsky, MD, PhD, **Calcium Signaling in Autism Mouse Models** Anjali M. Rajadhyaksha, PhD, **Assessment of ASDs**, Mary J. Ward, PhD, **The Role of the Neurologist in the Evaluation of Autism Spectrum Disorders**, Kaleb H. Yohay, MD

Watch videos of the presentations online at:

<http://nyp.org/komansky/wcarp/>

Focus on our Scientists

The Weill Cornell Autism Research Program (WCARP) supports four different basic science projects. Using mouse models and protein studies, WCARP researchers seek to identify molecular changes that occur in autism and to understand how alterations in genetic material and brain chemistry may translate to the clinical features of individuals on the Autism Spectrum.

WCARP Investigators Dr. Anjali Rajadhyaksha, Dr. Barry Kosofsky, and Dr. Joseph Higgins recently reported their work in mouse models of human intellectual disabilities and autistic behaviors in the journal *Brain Behavioral Research*:



Dr. Barry Kosofsky

• **Rajadhyaksha AM**, Ra S, Kishinevsky S, Lee A, Romanienkoc P, DuBoff M, Yang C, Zupan B, Mark W, **Kosofsky BE**, Toth M and **Higgins JJ**. Behavioral characterization of cereblon forebrain-specific conditional null mice: a model for human non-syndromic intellectual disability. *Brain Behavioral Research* 2012. Epub 2011 Oct 4. 226: 428.

Their research supports the use of mice as models to study the impact of cereblon mutations on memory and learning and may serve as models for human intellectual disabilities and autism.



Dr. Anjali Rajadhyaksha

Dr. Anjali Rajadhyaksha, Ph.D, continues leadership on a project to better understand the critical role of calcium in childhood brain development. The study, "Calcium Signaling in Mouse Models of Autism," aims to identify mutations in genes that are involved in communicating calcium signals in the brain. This study also utilizes mouse models of genes implicated in autism to further understand how aberrant calcium in the brain can result in autism. Recently, Dr. Rajadhyaksha has identified a unique calcium channel (*CACNA1C*)-deficient mouse model of autism-associated anxiety, a condition often observed in children suffering from autism. To explore therapeutic avenues, Dr. Rajadhyaksha is the co-recipient of a new, three-year The Hartwell Foundation Collaboration Award with Dr. Andrew Pieper, MD, PhD from the University of Texas Southwestern Medical Center, Dallas, TX. They will utilize an innovative drug discovery approach developed by Dr. Pieper to identify novel compounds that will ameliorate anxiety in Dr. Rajadhyaksha's mouse model. The collaboration provides an exceptional opportunity to discover new drugs for treating anxiety associated with autism in children.



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AUTISM SYMPOSIUM 2012: FRIDAY, MAY 11th
Weill Cornell Medical College, NYC
TICKETS AVAILABLE

<http://nyp.org/komansky/WCARP>

For more event information, please visit our website and sign up for our e-mail list at:
weillcornellautism@med.cornell.edu

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