



Annual Conference Highlights

The Seaver Autism Center’s “Advances in Autism Conference” was an “excellent program, and it exceeds my expectations every year,” said one participant who attended the event.

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The Seaver Autism Center’s fifteenth annual conference, held this spring at Mount Sinai School of Medicine, in-

cluded various scientific presentations and breakout sessions, as well as an autobiographical discussion of autism from someone on the spectrum. “We were pleased to host an event where researchers, advocates, and family members can come together and discuss new scientific findings,” said Dr. Alex Kolevzon, Clinical Director of the Seaver Autism Center.

The morning was comprised of four scientific sessions. Dr. Deborah Fein, Board of Trustees Distinguished Professor in the Departments of Psychology and Pediatrics at the University of Connecticut, spoke about “Early Detection of Autism Spectrum Disorders.” Dr. Fein highlighted findings from her own research that point to the importance of routine early screening of children for autism spectrum disorders (ASDs). She explained that this significantly improves the detection of children at risk. This is important because, once a child has an ASD diagnosis, his or her family can receive services that research findings say will lead to a notably improved outcome. With-

out a diagnosis, families are not eligible to participate in Early Intervention programs.

Dr. Joseph Buxbaum, Director of the Seaver



Dr. Alex Kolevzon presents during an afternoon workshop.

Autism Center, presented recent research findings on the genetics of ASDs. He explained the implications of identifying specific genes for autism. Gene discovery makes model systems possible, which, in turn, paved the way for the development of novel therapeutics for ASDs. Dr. Buxbaum used findings from studies of Rett syndrome and tuberous sclerosis, two autism-related disorders, to illustrate the pathway from gene discovery to the creation of model systems and identification of drug targets, and eventually to clinical trials of potential drug treatments. Dr. Buxbaum also presented findings related to the Mount Sinai mouse model that has a loss of one copy of the SHANK3 gene. Because this gene was discovered, and a model system was created at Mount Sinai in 2010, Mount Sinai researchers have been able to propose a potential drug target for treating Phelan-McDermid Syndrome/22q13 deletion syndrome, caused by the loss of the SHANK3 gene.

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Dr. Stephen Shore presents the keynote address.



Dr. Joseph Buxbaum with Lee Rambeau, Senior Vice President of Developmental Disabilities and Home Care Services at F·E·G·S.



Julie Martin and Jonathan Carter represent the Autism Science Foundation.

Dr. Declan Murphy, Professor of Psychiatry and Brain Maturation and the Head of the Department of Forensic and Neurodevelopmental Sciences at the Institute of Psychiatry in London, gave a presentation that focused on biological research in autism in adults. He explained that there are notable anatomical and functional differences in adults versus children with autism. Dr. Murphy also explored the question of

whether biomarkers can be developed to aid in the diagnosis of autism in adults. He explained that this is indeed possible; however the diagnostic utility still needs to be tested. According to Dr. Buxbaum, “Dr. Murphy’s work is extremely important because, as we know, the population of individuals with autism is getting older. In order to be able to better provide care for adults on the spectrum, biological research is crucial.”

Dr. Randy Carpenter, Co-Founder, President and CEO of Seaside Therapeutics, gave the last presentation of the morning, which focused on “Translating Scientific Discoveries into Novel Therapeutics for Autism.” He discussed possible treatments for Fragile X Syndrome, the most common known genetic cause of autism. His presentation echoed the theme of the conference – the importance of bringing scientific discoveries from the laboratory to individuals with autism.

The afternoon began with a keynote presentation by Dr. Stephen Shore, author of *Beyond the Wall: Personal Experiences with Autism and Asperger Syndrome*. He described his personal

account of being on the autism spectrum. Dr. Shore also compared different approaches for living with ASD. His enlightening presentation ended with an audience participation activity that demonstrated what it is like to have autism, and also showcased what it is like to have difficulty with daily socialization and communication skills.

After Dr. Shore’s presentation, conference attendees split into four breakout sessions, each focused on a different way of helping people with autism live their best life. Workshop topics included advocacy, social skills, pharmacological treatments, and transitions for dually diagnosed adults. These were run by faculty from the Seaver Autism Center, as well as fellow experts in the field of ASDs. “These afternoon workshops aim to provide families and professionals with an opportunity to tailor the conference to meet their individual needs, and provide useful tools to attendees in their work with individuals with autism,” said Dr. Latha Soorya, Chief Psychologist of the Seaver Autism Center.

Several of the Seaver Autism Center community partners, as well as other affiliates, joined in the conference through introductory remarks, workshops, and exhibitor tables. Among those present were Autism Science Foundation, YAI/Premier Healthcare, the JCC in Manhattan, UJA-Federation, and F·E·G·S Health and Human Services System. The event closed with a reception on the roof of Kravis Children’s Hospital, overlooking Central Park. The conference presenters and attendees appreciated time to socialize and discuss the day’s activities. According to one participant, “I look forward to attending each year. I always take information back to work that I am able to implement and share with parents, teachers and therapists.” ■

Students Educate and Donate to Autism Research

David Bernheim, a junior at Ramaz Upper School, a private school in Manhattan, was inspired to begin a fund-raiser for the Seaver Autism Center recently because of work he has been doing for the past five years with Matis, a child with autism. According to DeeDee Benel, Educational Director of Student Programs at Ramaz, David has had “wonderful experiences with Matis and wanted to raise funds to support autism research.” After David presented his proposal for the 2011 fund-raiser to Ramaz’s community service committee, they unanimously agreed “that the monies raised should be given to support a research program that

is dedicated to finding a cure or ways to treat autism,” said Ms. Benel.

The Ramaz students packed “goodies” into hundreds of gift bags to

“Their donations will be put to good use in our ongoing research programs.”

sell, and also included informational sheets about autism. After selling all the gift bags and speaking with Dr. Jo-

seph Buxbaum, Director of the Seaver Autism Center, the Ramaz students visited the Center at Mount Sinai. The students felt very positive about this visit, and they “felt a personal connection because of David’s involvement with Matis,” Ms. Benel said. As a result of the student’s efforts, they donated \$2,500 toward research activities at the Seaver Autism Center.

“We wish to express our appreciation to David, all the students at Ramaz and to Ms. Benel for the enthusiastic support they have shown to the Seaver Autism Center,” said Dr. Buxbaum. “Their donations will be put to good use in our ongoing research programs.” ■

Research Highlights

EFFECTS OF ARBACLOFEN IN CHILDREN, ADOLESCENTS AND ADULTS WITH ASDs

- This study examines the efficacy, safety and tolerability of STX209 (arbaclofen) administered for the treatment of social withdrawal in subjects with ASDs.
- Participants in this study are individuals with ASDs, ages 5–21.

STUDYING THE EFFICACY OF MEMANTINE IN CHILDREN AND ADOLESCENTS

- This study is designed to evaluate the effects of memantine vs. placebo in children and adolescents with autism targeting memory, language and motor skills.
- Participants in this study are children with ASDs, ages 6–12.

EFFECTS OF OXYTOCIN ON SOCIAL PERCEPTION IN ADULTS WITH ASDs

- This study examines the critical role that oxytocin plays in social behavior and social cognition in adults with ASDs.
- Participants in this study are physically healthy adults (ages 18–45) who meet diagnostic criteria for ASDs.

STUDYING THE EFFICACY OF SOCIAL SKILLS GROUPS IN CHILDREN WITH ASDs

- This study is designed to evaluate changes in behavior and in the brain associated with social skills treatment in children.
- Participants in this study are children with ASDs, ages 8–11.

If you would like more information about these studies, please contact Jessica Zweifach at 212.241.2826 or jessica.zweifach@mssm.edu.

Meet the Faculty

“[This] translational research program is a step toward identifying neural biomarkers and predictors of treatment response that will help in the development of more targeted, effective therapies”

A. **Ting Wang, PhD**, is a developmental psychologist at the Seaver Autism Center and Assistant Professor in the Departments of Psychiatry and Neuroscience at the Mount Sinai School of Medicine. Dr. Wang studies the neural underpinnings of impairments in social communication that characterize autism spectrum disorders (ASDs). She uses neuroimaging techniques to probe brain circuitry and to evaluate changes in brain function as a result of treatment.

Dr. Wang received a PhD in developmental psychology from UCLA, where she acquired expertise using functional magnetic resonance imaging (fMRI) in children with typical development and with ASDs. Dr. Wang’s dissertation research found that, although children with ASDs showed underactivation of the medial prefrontal cortex—a key part of the “social brain”—activity in this region could be “normalized” simply by providing children with ASDs with instructions to pay attention to important social cues, such as the speaker’s facial expression and tone of voice. These results suggested that perhaps the autistic brain could be taught to engage normative neural networks with treatment. This research resulted in several publications in major journals, including *Archives of General Psychiatry* and *Brain*.

Since joining the Seaver Autism Center at Mount Sinai, Dr. Wang has been collaborating with the Center’s faculty to examine how social and pharmacological interventions aimed at improving social deficits in autism impact the neural circuitry involved in processing social information. Together with Dr. Latha Soorya, Chief Psychologist

of the Seaver Autism Center, Dr. Wang is conducting a randomized controlled trial comparing two types of social skills group interventions for high-functioning children with ASDs. The study team is comparing the efficacy of a cognitive behavioral approach and a child-directed approach using both neural (fMRI) and behavioral outcome measures. This research aims to understand if behavioral interventions can be used to “correct” how the brain processes social information in children with ASDs. The study is also examining the relationship between changes in behavior and changes in brain function and whether they can be sustained over time.

In a second set of studies done in collaboration with Dr. Jennifer Bartz, Dr. Wang is investigating the impact of oxytocin on the neural systems supporting social cognition in ASDs. Dr. Wang is interested in the effects of oxytocin on how the brain responds to social reward. Dr. Wang hopes that her translational research program is a step toward identifying neural biomarkers and predictors of treatment response that will help in the development of more targeted, effective therapies.

Dr. Wang is the recipient of grant awards from the National Institute of Mental Health, Autism Speaks, NARSAD, and the Seaver Foundation. She also received the Young Investigator Award (2007) from the International Society for Autism Research. In addition to her research and clinical work, she organizes the Seaver Seminar Series, which is open to the public and features lectures and discussion sessions given by experts in ASD research. If you would like to be added to the Seaver Seminar email notification list, please send an email to theseavercenter@mssm.edu. ■



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