NEW JERSEY AUTISM CENTER OF EXCELLENCE

Rutgers Brain Health Institute
Center for Autism Research, Education and Services

NJHealth
New Jersey Department of Health
Governor's Council for Medical Research and Treatment of Autism

New Jersey Autism Center of Excellence (NJACE)

&

Rutgers University Center for Autism Research, Education, and Services (RUCARES)

3rd Annual Conference

September 24, 2026

Douglass Student Center at Rutgers University

100 George Street, New Brunswick NJ, 08901

Collaborators of the NJACE

The New Jersey Autism Center for Excellence (NJACE) is sponsored through grant funding by the New Jersey Governor's Council for Medical Research and Treatment of Autism.

We developed the current NJACE to address the complex and unique features of autism spectrum disorder (ASD) by promoting increased communication and collaboration amongst autism researchers, educators, practitioners and autistic individuals and their families. This communication works to improve our understanding of and the ability to diagnose and treat ASD, decrease service disparities, and empower the lives of all New Jersey individuals and families affected by ASD.

The NJACE has three contributing organizations — **Children's Specialized Hospital**, **Rutgers University Center for Autism Research, Education, and Services**, and **Autism New Jersey** — as well as many individual researchers, practitioners, and stakeholders from across the state of New Jersey.

Children's Specialized Hospital (CSH)

With 15 locations throughout NJ, Children's Specialized Hospital (CSH) is the nation's leading provider of inpatient and outpatient care to children with special health needs. As a part of the RWJBarnabas Health system, CSH is the largest provider of services for children and adolescents with ASD in the geographic region, providing a wide array of diagnostic, therapeutic and recreation programs for children and teens with ASD including primary care services within a medical home model. CSH values a family-centered approach to care with an emphasis on early detection and treatment. CSH autism research includes focus on development of screening tools for underserved communities, medication studies, research on how ASD impacts brain functions and studies on the genetic causes of ASD, as well as multiple clinical trials and a distinguished lecture series.

Rutgers University Center for Autism Research, Education, and Services (RUCARES) at the Rutgers Brain Health Institute

Rutgers University Center for Autism Research, Education, and Services (RUCARES) at the Brain Health Institute (BHI) was developed to improve communication and collaboration between autism researchers, clinicians and educators across Rutgers University, and to develop needed programs not currently available at Rutgers or CSH. Since 2020, RUCARES has grown steadily. It has four NIH grants and one Autism Speaks grant generating over $13 million in total research revenue. CSH-RUCARES, the clinical arm of RUCARES, has generated more than $2.5 million in revenue and has grown to include more than 30 faculty, staff and trainees. Additionally, faculty and staff at RUCARES have produced 65 peer-reviewed publications in the 4 years that RUCARES has been open, with many more in preparation. The clinical programs produce excellent outcomes (e.g., a mean reduction of 96 percent in severe problem behavior at the end of treatment in comparison to baseline).

Autism New Jersey

Autism New Jersey (ANJ) is a nonprofit agency focused on supporting individuals with autism and their families through awareness, empirically based information, education and public policy initiatives. They work to guide families and caregivers to information, services, and support. They value dignity, compassion, accessibility, progress, collaboration and excellence. ANJ is committed to supporting individualized services for people with autism and ensuring that they live safe and fulfilling lives. For professionals, they work to enhance knowledge and skills to build a strong, qualified workforce. They recognize the autism community's many contributions to society and work to enhance their resilience, abilities, and quality of life by building communities that embrace and accept people and families with autism.

Keynote Speakers and Presenters

Keynote Speakers:

Dr. Brian Boyd, PhD

Brian Boyd, Ph.D., is the William C. Friday Distinguished Professor in Education and Director of the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. A special educator by training, Dr. Boyd's research focuses on the development and implementation of evidence-based practices that bridge school, home, and community contexts. His scholarship also includes a significant focus on the development of rigorous outcome measures for autistic children, ensuring that progress can be accurately captured across diverse settings. Dr. Boyd's recent work addresses critical gaps in equity, specifically examining risk and cultural resilience for Black autistic children and their families. He currently serves as President of the International Society for Autism Research. His research program has been continuously funded by federal agencies such as the National Institutes of Health (NIH) and the Institute of Education Sciences (IES). He also serves on multiple scientific advisory boards dedicated to improving outcomes for historically underserved and under-researched communities.

Dr. Xinyu Zhao, PhD

Dr. Xinyu Zhao graduated from Peking University (Beijing) with a B.S. degree in Biology and then earned her Ph.D. degree in Pharmacology from the University of Washington (Seattle). She obtained postdoctoral training on neural stem cells from Dr. Fred Gage at the Salk Institute for Biological Studies (La Jolla, California). Dr. Zhao started her own independent research at the University of New Mexico and then moved to the University of Wisconsin-Madison in 2011. She is currently the Jenni & Kyle Professor in Novel Neurodevelopmental Diseases in the Department of Neuroscience and an investigator of the Waisman Center. Dr. Zhao's research focuses on understanding the genetic and metabolic regulatory mechanisms underlying brain development with the goal of developing novel therapeutic targets for neurodevelopmental disorders such as fragile x syndrome, autism, and Rett syndrome. Dr. Zhao uses both animal models and human pluripotent stem cells and employ gene-editing, single cell and multi-omics, and quantitative fluorescent imaging methods to interrogate the roles of genes, epigenetic regulators, RNAs, and proteins in neurodevelopment. She has been continuously funded by NIH for over 20 years and has published over100 peer-reviewed manuscripts. She has served on many NIH and other grant review committees and task committees that set research priorities in developmental disorders at national levels.

Presenters:

Dr. Ethan Goldberg, MD, PhD

Ethan Goldberg, MD, PhD, is Professor in the Division of Neurology at the Children's Hospital of Philadelphia (CHOP) and Departments of Neurology & Neuroscience at the University of Pennsylvania School of Medicine. He received an undergraduate degree in Neurobiology from Harvard; MD and PhD in Neuroscience from New York University; pediatric neurology training at CHOP and the University of Pennsylvania; and postdoctoral fellowship training in experimental epilepsy. He is Director of the Epilepsy Neurogenetics Initiative at CHOP specializing in the diagnosis and care of children with complex neurodevelopmental disorders; he is also Director of the Center for Brain Research in Development, Genetics, and Engineering (BRIDGE Center), focused on the study of basic mechanisms of developmental brain disorders including childhood epilepsy, autism, and their overlap. His lab uses human and mouse genetics; electrophysiology; human induced pluripotent stem cell-derived neurons and brain organoids; mouse behavior; computational modeling; and imaging; in preclinical model systems. He is a member of the American Society of Clinical Investigation (ASCI) and recipient of the Fritz E. Dreifuss Award (American Epilepsy Society 2021), Derek Denny-Brown Neurological Scholar Award (American Neurological Association 2025), and Distinguished Research Mentor Award (The Children's Hospital of Philadelphia 2026).

Dr, William Graves, PhD

Will Graves is a cognitive neuroscientist and associate professor in the psychology department at Rutgers University in Newark. His lab studies the brain basis of language and reading. They do this in both healthy, typical participants and those with conditions such as stroke-based aphasia or autism, using techniques such as functional magnetic resonance imaging (fMRI), behavioral testing and treatments, and computational cognitive modeling. He earned his bachelors degree at Hampshire College in western Massachusetts. After graduating, he worked for a few years as a research assistant at New York University School of Medicine. From there he moved to the University of Iowa for his PhD, back when Antonio Damasio was still leading their neurology department, then did his postdoc at the Medical College of Wisconsin in Milwaukee. Securing a K99/R00 award from the NIH helped him transition to a faculty position at Rutgers – Newark, where he has been happily running his lab ever since.

Dr. Brian Greer, PhD, BCBA-D

Brian D. Greer, PhD, BCBA-D is Director of the Children's Specialized Hospital–Rutgers University Center for Autism Research, Education, and Services (CSH–RUCARES); a tenured Associate Professor in the Department of Pediatrics at Robert Wood Johnson Medical School; and a core member of the Brain Health Institute at Rutgers University. His research in behavioral science focuses on assessing and treating safety-compromising behavior and reducing treatment relapse in laboratory and clinical settings. Dr. Greer has authored over 100 peer-reviewed publications and invited book chapters. He has received several awards and honors recognizing his work, including the Baer, Wolf, and Risley Outstanding Graduate Student Award (2013); the Heartland Association for Behavior Analysis Award of Excellence (2019); the B. F. Skinner Foundation New Researcher Award (2019); the *Journal of Applied Behavior Analysis* (*JABA*) Contribution of the Year Award (2020); the National Institutes of Health Loan Repayment Program Award (2016–2021); the Brain Health Institute's Mid-Career Faculty "Shining Star" Research Excellence Award (2025); and the NJBIZ People to Watch in Healthcare List (2026). Dr. Greer is the current Editor of Translational Research for *Journal of the Experimental Analysis of Behavior* (*JEAB*), and he is as a former Associate Editor of *JEAB*, *JABA*, and *Behavioral Development*.

Dr. Tracy Tran, Ph.D.

Dr. Tracy S. Tran earned her B.Sc. degree in Neuroscience, M.Sc. and Ph.D. degrees in Physiological Sciences and Molecular, Cellular & Integrative Physiology, respectively, from the University of California, Los Angeles (UCLA) with Dr. Patricia E. Phelps. Dr. Tran conducted her postdoctoral training in neuroscience at the Johns Hopkins University School of Medicine, with Drs. Alex Kolodkin and David Ginty. Then, Dr. Tran joined the Department of Biological Sciences at Rutgers University-Newark campus, starting as an Assistant Professor in September 2010 and was promoted to Associate Professor with tenure and Professor. In addition, Dr. Tran has served as the Director of the Undergraduate Program in Biology since 2017 and recently (August 2026) moved her research group/lab to the Department of Biology at the University of Vermont (UVM) as Professor with tenure and a secondary appointment in the Department of Neurological Sciences at UVM Larner College of Medicine. Dr. Tran's laboratory investigates the molecular and cellular mechanisms that control neuronal morphogenesis and wiring in the mammalian nervous system. Her research aims to elucidate the molecular signaling involved in how neurons assume their diverse morphologies, the axons and dendrites, which enables the assembly of neural circuits required for complex behavior and cognitive function. When not doing research, Dr. Tran collaborates with colleagues to develop creative STEM learning materials to make learning about science and research fun for students. Finally, in her spare time, she enjoys traveling to visit her research collaborators' labs or going on adventures to meet new people and try new things.

2026 NJACE & RUCARES Conference

September 24, 2026

Program Overview

8:30 a.m. Dr. Wayne Fisher: Introduction and Welcome

8:55 a.m. Keynote Address: *Charting a New Path Forward for Repetitive Behavior Research in Autism*

Presented by: Dr. Brian Boyd

Repetitive behaviors are a defining feature of autism, yet whether they should be targeted for intervention remains a topic of active debate. This presentation will examine current controversies surrounding behavioral interventions for repetitive behaviors and discuss how these debates are shaping the future of autism research. Drawing on our intervention development and clinical trial program, I will describe an approach that incorporates stakeholder perspectives, individualized goals, and meaningful outcomes while advancing a more nuanced framework for intervention research.

10:15 a.m. *Mechanisms of Convergence and Divergence of Epilepsy and Autism*

Presented by Dr. Ethan Goldberg

Autism and childhood epilepsy are both prominent neurodevelopmental disorders with significant overlap. Underlying mechanisms of these disorders exhibit both convergent and divergent features. This presentation explores the overlap between childhood epilepsy and severe autism mainly through a focus on the gene SCN1A, which encodes the voltage-gated sodium channel NaV1.1 and is implicated in a spectrum of neurodevelopmental conditions, including Dravet syndrome and autism spectrum disorder (ASD). Both loss-of-function (LoF; decreased activity of NaV1.1) and gain-of-function (GoF; increased activity of NaV1.1) mutations in SCN1A disrupt normal brain signaling by altering the excitability of specialized GABAergic inhibitory neurons, known as parvalbumin-positive interneurons (PV+INs), in key brain regions linked to the pathogenesis of ASD. The discussion will highlight key themes of dynamic circuit changes that evolve across development as well as the axon as a critical, underappreciated locus of dysfunction.

11:05 a.m. *Balancing the Circuit: Neuropilin-2's Roles in Excitatory and Inhibitory Neuron Development and Autism-Epilepsy Risk".*

Presented by: Dr. Tracy Tran

The cell surface receptor Neuropilin2 (Nrp2) has an established and essential role in early nervous system development; however, emerging evidence implicates new roles for Nrp2 signaling in postnatal circuit assembly and adult nervous system maintenance/plasticity. Crucially, recent findings link Nrp2 signaling to risk for seizures and autism spectrum disorder (ASD) with an SFARI candidate gene score of 2 (strong candidate). Identifying Nrp2's less studied roles in postnatal development and adult plasticity is essential to understand comorbid conditions in neurodevelopmental disease (NDD). Nrp2 is expressed in both excitatory and inhibitory neurons where it can have distinct functions in development and adult circuit maintenance. Yet, the cell-specific mechanisms through which Nrp2 regulates circuit function and behavior are currently unknown. We recently showed that mice with global *Nrp2* knockout (*gNrp2KO*) exhibit increased seizure susceptibility, abnormal social interactions, and deficits in cognitive flexibility. Loss of Nrp2 alters inhibitory and excitatory cell populations in cortical and hippocampal circuits, including excitatory cortical and hippocampal CA1 pyramidal neurons and granule cells of the dentate gyrus (DG), a circuit central to multimodal information processing and implicated in epilepsy. The hippocampus of *gNrp2KO* mice has fewer somatostatin (SOM)- and parvalbumin (PV)-positive inhibitory neurons, and CA1 pyramidal cells receive fewer inhibitory synaptic inputs. Furthermore, in excitatory DG granule cells, loss of Nrp2 increases dendritic spine density and excitatory synaptic inputs. These findings illustrate Nrp2's essential role in both excitatory and inhibitory synapse connectivity in the hippocampus. Our working model is that embryonic deletion of Nrp2 (from conditional inducible-KO mice) will disrupt circuit formation, producing lasting excitatory/inhibitory (E/I) imbalance, abnormal network activity, increased seizure susceptibility, and ASD-relevant behavioral deficits. While postnatal/adult Nrp2 signaling primarily regulates synaptic connectivity and activity-dependent plasticity in established circuits. By elucidating the embryonic versus postnatal mechanisms of Nrp2 function, our overarching goal is to delineate a timeline of potential cellular targets for NDD management and illustrate Nrp2-dependent effects on E/I imbalance, network activity, and behavior beyond its previously examined role in axon guidance.

11:55 a.m. Lunch & Poster Session

1:05 p.m. Keynote Address: *Multimodal Approaches to Interrogate Critical Genes for Neurodevelopmental Disorders*

Presented by: Dr. Xinyu Zhao

Advances in the genome sciences have implicated many risk genes in human brain disorders. Yet, translating genomic discoveries into treatments requires an in-depth understanding of the function of these risk genes across the molecular, cellular, synaptic, circuit, and behavioral levels. Using human pluripotent stem cells, mouse genetics, and nonhuman primate models, we have interrogated functions of genes such as FMR1 in brain development. We have uncovered species-specific regulatory mechanisms such as mitochondrial regulations that may contribute to pathogenesis of fragile X syndrome and autism.

2:25 p.m. *Language, Reading, and the Neural Noise Theory of Autism*

Presented by: Dr. William Graves

Rates of autism diagnosis rates are rising, yet there remains little understanding of the brain mechanisms underlying autism. Of the numerous theories, one that has the potential to integrate findings from the genetic, neural, and behavioral levels in the neural noise theory of autism. Noisy firing of neurons may have cascading effects as basic perceptions are combined into higher-order percepts, such as combining letters into words, and works into phrases. This presentation will show results from my lab using functional neuroimaging with phrase- and word-level tasks of participants with and without autism. Interpretation will focus on the extent to which results are consistent with the neural noise theory, and discuss near-term plans for a more direct evaluation of the theory.

3:15 p.m. *Autism Care Team (ACT) Model: A Multidisciplinary Approach to Improve Care Quality and Access*

Presented by: Dr. Brian Greer

This presentation highlights a coordinated, multi-grant research program funded by the National Institute of Child Health and Human Development aimed at understanding and reducing treatment relapse following efficacious behavioral interventions for destructive behavior in individuals with intellectual and developmental disabilities. By bridging the historical gap between the experimental analysis of behavior and applied practice, this work leverages quantitative frameworks, such as Behavioral Momentum Theory and Resurgence as Choice, to systematically evaluate clinical variables affecting relapse. Specific translational lines of inquiry will be presented, including the impact of treatment duration, downshifts in alternative reinforcement, and cycling alternative reinforcement on and off. Finally, the presentation challenges traditional, linear translation pipelines in favor of an iterative, bidirectional model where basic research informs clinical practice and clinical realities continually refine laboratory paradigms.

4:05 p.m. Dr. Wayne Fisher: Closing Remarks

Poster Session

A novel workplace social communication assessment tool for youth with Autism Spectrum Disorders (ASD)

Authored by: Katarina Reduzzi, Daniel Sullivan, Heba Elsayed, Helen Genova, Peter Meulenbrock

An Evaluation of a Trial-Based Competing Stimulus Assessment for the Treatment of Pica

Authored by: Chai Kim, Todd Frischmann, Megan Dent, Margaret Mateyka, Michaela Gisinger, Selenne Jiminez, Josephine, Graff, Robert H. LaRue

An Evaluation of FCT in Conjunction with Protective Equipment for the Treatment of Type III Self-Injurious Behavior

Authored by: Rachel Davis, Kathryn Bergenty, Eugenie Park, Kayla Fittipaldi, Danielle Paolello, Nia Baird, Robert LaRue

Astroglia Carrying Neuroligin-3 R451C Drive Enhanced Neuronal and Synaptic Function in Human iPSC-Derived Astroglia-Centric Assembloids

Authored by: Rui Dang, Mengmeng Jin, Hasit Shah, Peng Jiang

Evaluation of Preference Assessment Methodology and Preference Stability

Authored by: Natalie Riggio, Samantha Breeman, Brian Greer

Modeling Prenatal Immune Activation in Human Brain Organoids Uncovers IL-6 Dependent Interneuron Dysmaturation

Authored by: Ava V. Papetti, Ziyuan Ma, Michelle Ng, Mengmeng Jin, Steven W. Levison, Peng Jiang

NDD-associated G3BP1 mutations disrupt stress granule homeostasis and local translation in developing neurons

Authored by: Meghal Desai, Manasi Agrawal, Shruti Ghumra, Yashashree Bhorkar, Robert Palmere, Vlad Kholodovych, Pabrita K. Sahoo

Purkinje cell development, survival, and adaptive motor behavior in mice require the redundant function of the small GTPases Rab11a and Rab11b

Authored by: Jack DeLucia, Edward Martinez, Haniya Naveed, Jenny Gao, Michael W. Shiflett, Tracy S. Tran

Teaching Graduate Trainees to Deliver Feedback Across Professional Relationships Using a Modified Behavioral Skills Training Package

Authored by: Yirun Zhou, Ming Liu, Mackenzie Farar, Chantal Taluba, Debra Paone, Catriona Francis, Robert W. Isenhower

The Neurodevelopmental Disorder-Associated 3q29 Deletion Impacts Embryonic Mouse Cerebral Cortex Development

Authored by: Asma Mahjabeen, Aarhan Chakraborty, Luna Wang, Xiaofeng Zhou, Rebecca Pollak, Jennifer Mulle, Emanuel DiCicco Bloom

The Use of Conjunctive Schedules to Mitigate Skill Loss in an Adolescent Diagnosed with ASD

Authored by: Michaela Gisinger, Selenne Jiminez, Todd Frischmann, Megan Dent, Margaret Mateyka, Chai Kim, Josephine Graff, Robert H. LaRue

Recent Developments and Future Directions for Competing Stimulus Assessments

Authored by: Spencer Evelyn, Samantha Breeman, Casey Iwin Helvey, Brian Greer

Sex-Specific Metabolic Effects of CC2D1A Reduction in Developmental Mouse Model

Authored by: Pallavi Routray, Abigail Heller, Vinitha Uppalapati, Medha Singireddy, Susanna Weiss, Chiara Maria Manzini

Treating Self-Injurious Behaviors in Autism Spectrum Disorder: A Review of Current Interventions

Authored by: Kiley Liss

Understanding Housing Experiences for Neurodivergent Adults and their Families: A Mixed-Method Study

Authored by: Elaine Clarke, Melanie Wellmann, Sanaa Jennings, Vanessa Bal

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Special thanks to all NJACE and RUCARES collaborators for helping plan and implement this conference!

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