



**Issue # 18**  
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***Inside the Institute***  
*Newsletter for the Carolina Institute for Developmental Disabilities*

**Untangling the Complex Web of Neurodevelopmental Disabilities  
One Neural Circuit at a Time**

Neurodevelopmental disorders, such as autism and schizophrenia, are severe brain disorders affecting over one in 50 people. They are notoriously difficult to diagnose and treat, in large part because they manifest differently in different people. A new schizophrenia [study](#) published in *Molecular Neuropsychiatry* helps explain why. Researchers at the University of North Carolina School of Medicine have created a map that shows how specific schizophrenia symptoms are linked to distinct brain circuits. By demonstrating that schizophrenia is not a single disease, but rather a complex constellation of neural circuit problems, the study also reinforces the potential value of brain scans for identifying and understanding schizophrenia symptoms in individual patients, and for finding promising new therapeutic approaches, and tracking individual patients progress during therapy.



*Dr. Aysenil Belger*

"For a long time, we've thought of brain imaging studies as mainly a way to corroborate or confirm aspects of brain function and pathology that we had already identified from studying a patient's behavior," said Aysenil Belger, PhD, professor of psychiatry and psychology at UNC, CIDD Investigator, and the study's senior author. "This approach, where we use brain imaging to dissect the specific neural pathways of complex syndromes, is very novel and important. The imaging can help us distinguish between the different brain networks that contribute to distinct sub-symptoms. These distinctions are not recognizable from behavioral observations alone."

Belger, the director of the UNC Neurocognition and Imaging Research Laboratory, and recent UNC graduate student Joseph Shaffer, PhD, compared brain scans from more than 100 people with schizophrenia against brain scans from people with no psychiatric diagnoses. The scans were acquired as part of a large multi-site national collaborative research project, the Biomedical Informatics Research Network. Researchers imaged participants during a non-invasive test in which subjects were asked to listen to simple tones and detect changes in pitch.

The analysis revealed that while as a group schizophrenia patients showed markedly less brain activity during detection of the tonal changes as compared to the control group, there were striking differences in patterns of brain activity in patients experiencing different symptoms. Specifically, the brain scans revealed that although all patients had "negative symptoms", marked by problems with speech, blunted emotions, lack of motivation, and an inability to experience pleasure, severity of different individual symptom domains were mapping onto different distinct neural circuits. In other words, a close analysis of the brain scans revealed vastly different neural circuitry behind problems that seem similar on the surface. While a clinician may find it difficult to parse whether a patient's stilted conversational manner is rooted in a lack of emotional connection or problems forming words, a brain scan in Belger's study made it clear, for example, that particular symptoms were more closely associated with disruption in the brain's emotional processing areas, whereas other symptoms were more closely associated with regions responsible for language and motor control.

"We were surprised by the degree to which these circuits were connected with different sub-symptoms, and by what was, in some cases, almost a complete lack of circuit overlap between these different sub-symptoms," said Belger.

These findings have implications well beyond understanding the neurobiology of psychosis. There is now ample evidence that other neurodevelopment disorders, and in particular autism, are heterogenous in their clinical expressions, and represent a "final common phenotypic pathway" resulting from multiple distinct pathophysiological mechanisms.

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## Brain and Behavior Development in Autism during the First Two Years of Life

Joseph Piven, MD, Director of the Carolina Institute for Developmental Disabilities (CIDD) and the Thomas E. Castelleo Distinguished Professor of Psychiatry, Pediatrics, and Psychology in the UNC School of Medicine, was the invited key note speaker for the Asia Pacific Autism Conference in Brisbane; Raine Visiting Professor at the University of Western Australia in Perth (where he received the Raine Medical Research Foundation Award) and gave a community talk to the Autism Association of Western Australia. He spoke on data from the NIH Autism Center of Excellence on brain development in infants at risk for autism. Piven also gave the invited Edwin Guildea Lecture at Washington University in St Louis.

The Atlantic logo, featuring the word "The Atlantic" in a white serif font on a dark background with a faint circular pattern.

### *The Atlantic* Tells Story of Adult Autism through Research at the CIDD

*The Atlantic* has published an incredible story on adults with autism, the difficult work of caring for this population, and the research of Joseph Piven, MD and his team at the CIDD. Jessica Wright, PhD, initially published the story in the Simons Foundation's weekly newsletter *Autism Spectrums* with the title "[The Missing Generation](#)." The subtitle gives a sense of the great need for Piven's work: "Left to languish in psychiatric institutions or drugged for disorders they never had, many older adults with autism were neglected or forgotten for decades. Efforts to help them are finally underway."

The help has not come easy, largely due to difficulties in finding adults with autism. This brief excerpt from the article explains some of the work Piven's group has done to bring these men and women out of the shadows:

"... Piven has faced similar challenges in trying to locate "missing" adults with autism. In 2010, he helped organize a [working group in North Carolina](#) to explore aging with autism. The group's first step was to look for adults aged 50 or older with autism. At first, the search seemed easy. By scouring medical records, Piven found 20 adults with autism diagnoses.

"Strikingly, many were in their 80s and 90s. On further digging, Piven found that all of them had a diagnosis of fronto-temporal dementia that had preceded their autism diagnosis. This particular type of dementia can lead to social deficits that look like autism. It was clear, Piven says, that none of the individuals ever had autism at all. Relying on medical records was a bust.

"The team next sent out more than 14,000 emails through an autism society in North Carolina asking for people over age 50 to give them a call. "We didn't get a single call," Piven says, and few email responses. It wasn't until the researchers began recruiting people from group homes and the University of North Carolina's autism programs [and other programs around the state] that they were finally able to identify 19 men older than 50. Scott Hartman, whose mother drove him to Piven's clinic on her own initiative, was one of them . . ."

"Piven's clinic" is a joint effort between UNC's TEACCH Program and the Carolina Institute for Developmental Disabilities.

Read the complete *Atlantic* article here:

<http://www.theatlantic.com/health/archive/2015/12/the-lost-adults-with-autism/419511/>

### CIDD Investigator, Dr. Steven Gray, Featured on CBS News

On October 16, 2015, CBS Evening News aired a story on Lori Sames' search for a cure for her daughter, Hannah, who suffers from Giant Axonal Neuropathy disease (GAN), a rare disease which causes nerves to die and muscles to stop working. Lori and her husband, Matt, founded Hannah's Hope to raise money to fund the research to find a cure. Now, after several years and an enormous level of dedication, the first gene therapy clinical trial for GAN is underway, with the research headed by Dr. Steven Gray at the UNC Gene Therapy Center and the trial being done by Dr. Carsten Bonnemann at NIH.



Watch the CBS news video and read the full story here:

<http://www.cbsnews.com/news/a-mothers-quest-to-find-cure-for-rare-genetic-defect/>

## Gabriel Dichter Receives 2015 Hettleman Prize

Gabriel S. Dichter, Associate Professor in the Department of Psychiatry and Investigator in the Carolina Institute for Developmental Disabilities (CIDD), has been awarded the highly prestigious 2015 Phillip and Ruth Hettleman Prize for Artistic and Scholarly Achievement by Young Faculty.

Dichter's groundbreaking work examined whether brain reward circuits are implicated in autism, as they are in other behavior disorders such as addiction, schizophrenia and depression. This research, which differed from the established approach focused on brain regions that process social information, revealed children with autism may not be motivated to seek social interactions or derive pleasure from them.

His findings have led to novel interventions, including a recent multidisciplinary study at Carolina to investigate the effects of intranasal oxytocin on brain circuits that support social motivation in children with autism.

"This project exemplifies the translational nature of Gabriel's work and his ability to move a mechanistic finding to the context of a neuroimaging experimental therapeutics trial to evaluate a promising novel autism treatment," said David R. Rubinow, chair of the Department of Psychiatry.

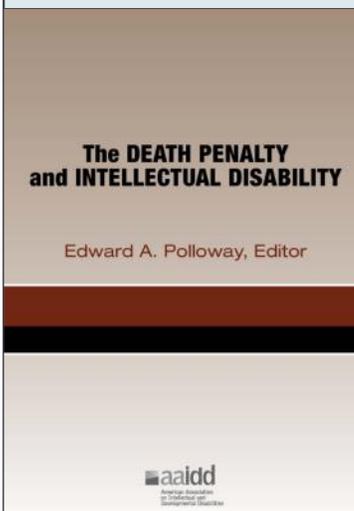
Dichter earned his bachelor's degree in psychology from Haverford College and both his master's and doctorate in clinical psychology from Vanderbilt University. He spent two years as a postdoctoral fellow at the Carolina Institute for Developmental Disabilities before joining the faculty at Carolina's Department of Psychiatry in 2006.



Dr. Gabriel Dichter is recognized by UNC Chancellor Carol Folt at the Faculty Council Meeting.

Prior research faculty award winners from the CIDD include Drs. Garret Stuber, Mark Zylka and Ayse Belger.

## New American Association on Intellectual and Developmental Disabilities Book on Intellectual Disability and the Death Penalty



In 2015 the American Association on Intellectual and Developmental Disabilities (AAIDD) published *The Death Penalty and Intellectual Disability*. The book is the authoritative resource on the application of diagnostic information concerning intellectual disability (ID) in death penalty cases. This has been a topic of significant controversy since the Supreme Court decision in *Atkins v. Virginia* in 2002, prohibiting the execution of individuals with ID, and its 2014 decision in *Hall v. Florida*, requiring the use of scientific and medical consensus concerning intelligence and the nature and diagnosis of ID.

To respond to the important concerns related to ID determination, AAIDD assembled a group of notable scholars and clinicians to bring the best science to this discussion. The group included CIDD psychologist and Clinical Professor, Gregory Olley, Ph.D., who authored two chapters and co-authored a third on Intellectual Functioning and Adaptive Behavior.



Dr. Gregory Olley

## ***Rachel Greene and Maya Mosner Receive Accelerator Grants from the Autism Science Foundation (ASF)***

The Autism Science Foundation (ASF) has awarded Accelerator Grants to two exceptional projects that will study new treatment mechanisms and improve data collection methods in community settings. Principal Investigators on the projects are CIDD graduate research assistants, Rachel Greene (supervised by CIDD Investigators, Garret Stuber and Gabriel Dichter) and Maya Mosner (supervised by Gabriel Dichter). These studies were the only two awards funded by the ASF in this round of selection. Congratulations on this great distinction!

### ***The Effects of Oxytocin on Functional Neural Connectivity in Autism***

*Rachel Greene, Principal Investigator with Garret Stuber and Gabriel Dichter, University of North Carolina*



*Rachel Greene*

Recent studies have suggested that intranasal oxytocin administration improves some social behaviors in individuals with an autism diagnosis. Researchers at the University of North Carolina are examining where in the brain oxytocin acts to produce this improvement. Of particular interest are the brain systems involved in reward. While neuroscientists have shown that the areas of the ventral tegmental area (VTA) and nucleus accumbens (NAC) are essential for the rewarding properties of food and drugs of abuse, the role of these brain regions in the rewarding aspects of social interactions and person-to-person connections has been less-studied. This project will build on an existing grant to study the effects of oxytocin on the activity of the VTA and NAC in social reward in adolescents with autism. Ms. Greene will utilize the accelerator grant mechanism to build on the data already collected to understand how this brain region connects with other parts of the brain during different tasks involving social reward, and how oxytocin affects these functional connections. This project will reveal the potential mechanisms of action of a novel ASD therapeutic agent and provide a new neural target by which to evaluate future promising ASD treatments.

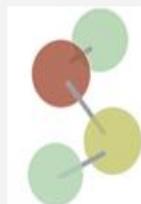
### ***Using Experience Sampling to Evaluate the Effects of Social Skills Treatment***

*Maya Mosner, Principal Investigator with Gabriel Dichter, University of North Carolina*



*Maya Mosner*

Often research studies collect information from individuals at single time points and in settings like clinics or hospitals. These environments may not reflect functioning in real life situations. Recently, researchers outside the field of autism have started to use something called "experience sampling" to study affect and behavior. This method allows people to report back multiple times during the day in contexts in which they live, work or function. This project will piggyback on a trial of a social skills intervention to collect data using experience sampling, where individuals with autism will answer questions about their feelings and emotions during social situations before and after treatment multiple times during the day using a smartphone. The long-term goal of this project is to validate this new, ecologically valid method to evaluate novel social interventions for individuals with autism.



**AUTISM SCIENCE FOUNDATION**

SEARCHING  
SOLVING  
SHARING

## Translational Studies of Neural Circuits That Regulate Social Motivation in Autism

In 2013, the CIDD received a competitive renewal of its Intellectual and Developmental Disabilities Research Center (IDDRC) grant to help support the research infrastructure of the CIDD. This center grant highlighted a signature research project that exemplifies the translational mission of the CIDD to integrate discoveries from preclinical science with clinical neuroscience research to speed the development of novel interventions for individuals with intellectual and developmental disabilities.

This signature research project, "Neural Circuits That Regulate Social Motivation in Autism Spectrum Disorder," was awarded to Dr. Garret Stuber, a CIDD investigator and faculty member in departments of Psychiatry and Cell Biology and Physiology. The project combines a preclinical component under the direction of Dr. Stuber and a clinical functional neuroimaging component under the direction of CIDD faculty member Dr. Gabriel Dichter. The project addresses the "social motivation hypothesis" of autism, a framework that hypothesizes that social impairments in autism are mechanistically linked to impaired brain networks that support social motivation.

The preclinical component of this project uses optogenetic circuit manipulations of brain systems that control dopamine output in the nucleus accumbens in a mouse model of autism to elucidate the functional neurocircuitry connectivity that underlies motivated social behaviors. The clinical component uses functional magnetic resonance imaging to study the effects of acute intranasal oxytocin administration on activation and connectivity in brain networks that support social motivation in adolescents with autism. Collectively, these experiments will provide novel insights into the dynamic interplay between oxytocin and the mesolimbic dopamine system in preclinical and clinical manifestations of social motivation deficits in autism.

CIDD trainees that are involved in the project include Dr. Shanna Resendez who is in Dr. Stuber's lab and is supported by the CIDD T<sub>32</sub> postdoctoral training program in neurodevelopmental disorders and Rachel Greene, a graduate student in Dr. Dichter's lab who is a student in the developmental track of the UNC clinical psychology program.



*Pictured left to right: Rachel Greene, Shanna Resendez, and Gabriel Dichter.*

## Making Sense of Specific Learning Disabilities: Just Follow the Science



*Lynn Makor welcomes Dr. Jack Fletcher.*

On November 18<sup>th</sup>, nationally recognized neuropsychologist and scientist in the field of learning disabilities, Dr. Jack Fletcher, was welcomed to North Carolina to present at the School Psychology Institute. The presentation organized by Lynn K. Makor, MA, CAGS, NC Department of Public Instruction Consultant for School Psychology and CIDD faculty member, was part of the 65<sup>th</sup> Conference on Exceptional Children.

Dr. Fletcher's presentation was titled, *Making Sense of Specific Learning Disabilities: Just Follow the Science*. He spent an entire day with 120 school psychologists from across the state and reviewed the existing research on reliability and validity issues with current methods of identification for Specific Learning Disability (SLD). He also presented a practical approach to the evaluation within the context of an instructional (RtI-based) model, along with evidence-based approaches to intervention for each of the six academically-based disabilities in IDEA 2004 (basic reading, reading fluency, reading comprehension, math calculations, math problem solving, and written expression).

## Advocacy: Leading by Example

Twelve faculty and trainees represented the CIDD at the annual conference for the AUCD (Association of University Centers on Disabilities) in Washington in November. Deborah Zuver, Director of Advocacy Initiatives, and McCafferty Kenmon, CIDD Fellow and Advocacy Liaison, presented on inclusion of people with disabilities in training programs. Deb and McCafferty then facilitated a follow-up networking session on curriculum adaptation and mentorship.

The CIDD has been a national leader in inclusion of self-advocates in training and leadership development, initiating the first such program in the country in 2010. Self-advocate trainees complete LEND (Leadership and Education in Neurodevelopmental Disabilities) program requirements, individualized leadership training, and participate in a graduate level course with trainees from a broad range of disciplines and programs.



Standing left to right: Deb Zuver and McCafferty Kenmon

## 2016 CIDD Community Talk Series

The CIDD hosts a series of talks to share information about recent advances in developmental disabilities. These sessions are a great opportunity for parents, teachers, professionals, and others to learn more about specific developmental disabilities topics. All talks are free! Join us on Wednesday, **February 10** from 6:30 to 8:00 in the CIDD Castelloe Conference Room 101.

Speakers: Consulting Psychologist, Dr. Kathy Hotelling and Homeschooler, Ms. Becky Brantley

### "Addressing Challenging Behaviors Using the Neurobehavioral Approach"

This presentation will address individuals affected by alcohol in utero, however, the neurobehavioral approach can be effective with other populations. At the crux of this model is the creation of a good fit between the child and the environment which is essential to success. Following an explanation of this approach, participants will be led through a step-by-step analysis of its implementation in specific situations.

To RSVP or for more information, please contact:

Debbie B. Reinhartsen at (919) 966-4138 or [Debbie.Reinhartsen@cidd.unc.edu](mailto:Debbie.Reinhartsen@cidd.unc.edu)

## Untangling the Complex Web of Neurodevelopmental Disabilities One Neural Circuit at a Time *continued*

Indeed, autism spectrum disorder (ASD) is by definition a complex and heterogeneous disorder. Variation in factors such as developmental level, language ability and IQ further complicate the presentation of symptoms, and cloud the ability of neurobiological studies to identify pathophysiological mechanisms.

It is highly likely that in a similar vein the distinct clinical phenotypes of restricted repetitive behaviors, language deficits, and social cognition impairments that define the clinical diagnostic pillars of ASD emanate from distinct neurodevelopmental pathophysiological processes, themselves controlled by distinct genes and molecular pathway ways. It is therefore critical for clinical research and basic science to inform each other's questions to help address the heterogeneity inherent to complex neurodevelopment disorders such as ASD and schizophrenia. Neuroimaging and genetic studies, combined with sophisticated phenotypic evaluations, are promising tools for classifying research populations in terms of both neurobiological, physiological and behavioral markers that will reduce dimensionality and increase homogeneity of clinical expressions. As such, the contribution of state-of-the-art neuroimaging studies such as the one published by Belger et al., along with genetic studies further reducing heterogeneity in sample characteristics are critical for paving the way to interpreting and understanding the complex and variable clinical and behavioral symptoms and expressions of schizophrenia and ASD.

*Brain scans used in the study were acquired from the Function Biomedical Informatics Research Network, a National Institutes of Health-funded network to facilitate data sharing and online collaboration among researchers. Study co-authors include Joseph Shaffer, Michael Peterson and Joshua Bizzell of UNC; Mary Agnes McMahon and Jim Voyvodic of the Duke-UNC Brain Imaging and Analysis Center; Vince Calhoun of the Mind Research Network and the University of New Mexico; Theo van Erp and Adrian Preda of the University of California, Irvine; Judith Ford, Daniel Mathalon and Steven Potkin of the University of California, San Francisco; John Lauriello of the University of Missouri; Kelvin Lim of the University of Minnesota, Minneapolis; Dara Manoach of Massachusetts General Hospital; Sarah McEwen of the University of California, Los Angeles; Daniel O'Leary of the University of Iowa; Jessica Turner of Georgia State University; and Cynthia Wible of Harvard Medical School and VA Medical Center Brockton.*



## Castelloe Conference Room Dedication



*Pictured left to right: Dr. Thomas E. Castelloe and Dr. Joe Piven*

Carolina Institute for Developmental Disabilities (CIDD) benefactor, Thomas E. Castelloe, M.D., was present at the dedication of the large conference facility in conjunction with the CIDD holiday party. CIDD Director, Dr. Joe Piven, took time out to recognize Dr. Castelloe's strong support for the Institute. Some of Dr. Castelloe's family were in attendance, as well. Dr. Castelloe funded the Thomas E. Castelloe Distinguished Professorship, currently held by Dr. Piven. We thank Dr. Castelloe for his generous support of UNC and the Carolina Institute!



## UNC Kenan-Flagler Business School Students Assist the CIDD

The CIDD would like to heartily thank Dr. Ted Zollar and his Dream Team of MBA and undergraduate Business School Students from the UNC Kenan-Flagler Business School. This team, led by Thomas DeSena, put together a fantastic plan for the Institute that will help us in many ways over the next five years and beyond. This is the beginning of a beautiful friendship!

*Pictured left to right: Darrel Chin MBA 2016, Eric Blaser BSBA 2016, Thomas DeSena MBA 2016, Alexandra Turpin MBA 2016, Sean McClung BSBA 2016*



## AUCD Annual Conference

CIDD had great participation at the 2015 AUCD Annual Conference in Washington, D.C.

*Pictured back row: Rob Christian, McKafferty Kenmon, Jack Roush. Front row: Crystal Miller, Dani Warmund, Ann Palmer, Jean Mankowski, Adrienne Villagomez, Deb Zuber. Not pictured but attended: Becky Pretzel and Donna Yerby*

## Welcome T32 Postdoctoral Trainees

The CIDD T32 Postgraduate Research Training Program develops researchers with expertise in both the biological basis and clinical manifestations of neurodevelopmental disorders. This broad-based and integrated perspective enables researchers to better relate across disciplines and maximizes the potential for major research advances in understanding the pathogenesis and treatment of these disorders.



**Rachel Bailey, Ph.D.** received her doctorate in Neuroscience from the University of Florida under the mentorship of Dr. Jada Lewis. Rachel investigated a putative link between LRRK2 and tau - proteins that are critically involved in the neurodegenerative diseases Parkinson's Disease (PD) and tauopathy, respectively. This research demonstrated that the LRRK2 protein directly phosphorylates tau protein, a critical event in the neurodegeneration observed in tauopathies, and that LRRK2 targets a novel epitope within the tau protein. Importantly, this work challenges the field to recognize tau as a therapeutic target for PD and provides a critical link between PD and Alzheimer's disease and other tauopathies. At CIDD, Rachel is working with Dr. Steven Gray on a gene therapy for Giant Axonal Neuropathy (GAN), a rare pediatric disorder characterized by peripheral neuropathy, including autonomic and enteric dysfunction. Rachel's research involves the characterization of autonomic and enteric pathologies in GAN rodent disease models and the optimization of targeting gene replacement therapies via viral vector delivery to specific parts of the peripheral nervous system in these models. Her findings are immediately relevant to an ongoing GAN Phase 1 clinical trial (NCT02362438) and can be further used for the development of gene therapies for disorders characterized by peripheral and autonomic dysfunction, including neurodevelopmental disorders such as autism spectrum disorders.



**Robert Emerson, Ph.D.**, received his doctorate in Brain and Cognitive Sciences from the University of Rochester. Robert uses longitudinal MRI methods to study how brain development relates to children's emerging math and language skills. His research with school age children links their math skills and ability to estimate numbers with functional and structural properties of their brain. His other projects with infants has shown a link between early lateralization of the brain's language network and children's language skills. Robert joined the CIDD T32 program to work with Joe Piven to study the early brain-behavior development of infants at-risk for developing autism. In addition to gaining a core clinical understanding of autism, Robert plans to study the longitudinal relationships between brain development and behavioral outcomes in infants that have a high risk of developing autism, but ultimately do not develop the disorder. His research aims to increase our understanding of the compensatory mechanisms that underlie brain-behavior relationships in children with neurodevelopmental disorders.



**Jessica Kinard, Ph.D. CCC-SLP**, is a speech-language pathologist who received her doctorate from the University of North Carolina at Chapel Hill under the mentorship of Dr. Linda Watson. For her dissertation, Jessica examined an early social-communication intervention for Hispanic children with autism spectrum disorder (ASD). The study found moderate evidence for the intervention's effectiveness at improving social-communication in Hispanic children with ASD. Overall, the children's parents reported that the intervention was feasible and acceptable for their families, and felt that other Hispanic families of children with ASD would also benefit from the intervention. The dissertation won the Graduate Education Advancement Board Impact Award for having a significant impact on the state of North Carolina. As part of the CIDD T32 program, Jessica will work with Dr. Gabriel Dichter on his Ro1 project, Restricted and Repetitive Behaviors in Autism, which is examining social and non-social reward learning in adolescents with and without ASD. The study will integrate fMRI and eye-tracking data to examine developmental trajectories of the visual and neural systems supporting adolescent reward learning.

## NC-LEND Trainees and Fellows, 2015-2016

### Leadership Education in Neurodevelopmental and Related Disabilities

LEND is an interdisciplinary leadership training program funded by the U.S. Maternal and Child Health Bureau to prepare professionals for leadership roles that enable them to direct and facilitate culturally/linguistically-competent and family-centered interdisciplinary efforts, including systems change, to improve the health status of infants, children, and adults who have, or are at risk for developing, autism spectrum disorders or related developmental disabilities.



**Yolandas M. Alston** is a LEND family trainee and her LEND faculty mentor is Ms. Ann Palmer. She is employed with Durham County Department of Public Health's Dental Division.



**Adam DePrimo** is a licensed, practicing occupational therapist and 2nd-year occupational science PhD student. Interests include working with adolescents and understanding their occupations during the transition from high school to post-secondary life. LEND mentor is Emily Kertcher, PhD.



**Abby Ampil** is a LEND physical therapy fellow at the CIDD. LEND faculty mentor is Catherine Wilson, PT, DPT, MSPH. Abby received her DPT from Northern Illinois University in 2014. Currently, she is the pediatric physical therapy resident at Duke University.



**Erica Fornaris** is a UNC School Psychology PhD student and LEND trainee in special education, mentored by Donna Yerby, Med. Interests include educational supports for students with disabilities, gender differences in autism, and behavioral/emotional health in youth with neurodevelopmental disabilities.



**Julie Anderson** is a 2nd-year doctoral student in the UNC School Psychology Program and a CIDD extern. She has worked as a school psychologist in NC for 14 years and hopes to complete her training in 2017 with an emphasis on nonacademic resilience factors in children.



**Alexandra Galipeau** is a 2nd-year social work student interested in working with children on the autism spectrum and their families. She is also excited about broadening her experience by working with different populations, such as individuals with I/DD. Faculty mentor is Sherry Mergner, MSW, LCSW.



**Bekki Buenviaje** is a former educator, school counselor, behavior therapist, and mother of a 10-year-old son with autism. Bekki hopes to help families overcome obstacles which prevent their neurodiverse children from realizing their potential. She is a LEND family fellow mentored by Ann Palmer.



**Conner Haring** is a 3rd-year audiology student interested in newborn hearing screenings and reasons for delay of diagnosis. Her LEND project is focused on newborn hearing screening performed outside the hospital setting.



**Ashley Costner** is a 3rd-year PhD student in UNC's School Psychology Program. She is completing her pre-doctoral internship at the CIDD and Charlotte TEACCH Center under the supervision of Jean Mankowski, PhD. Research interests relate to evaluation, diagnosis, and support services for individuals with I/DD.



**Brendan Hendrick** is beginning his 4th year in the School Psychology PhD Program at UNC. His research interests include school-based mental health service provision and universal social emotional learning intervention.



**Samantha Croffut** is a 2nd-year MPH/RD student in nutrition. LEND faculty mentor is Janice Sommers, MPH. Interests include infant and young child health, and specifically in Sub-Saharan Africa. She hopes to serve as an advocate for those living with DD in developing and low-income countries.



**Laura Hiruma** is a clinical psychology post-doctoral fellow at the CIDD. Her clinical and research areas of interest include interdisciplinary diagnostic assessment, behavioral interventions, and social skills interventions for individuals with developmental disabilities.

## NC-LEND Trainees and Fellows, 2015-2016 *continued*



**Kim Holden** is a 3rd-year student in the Audiology PhD Program at UNC and a 2nd-year LEND trainee. She is focused in pediatrics and has a particular interest in the clinical management of children with auditory neuropathy spectrum disorder.



**Maria Martinez** is a post-doctoral fellow at the Cecil G. Sheps Center for Health Services Research. She has a clinical psychology background and research experience developing screening measures and interventions for families in community and clinical settings at-risk for chronic healthcare needs.



**Lillian Howard** is a graduate assistant for the genetic counseling program at UNCG and is the first NC-LEND genetic counseling trainee.



**Heather Mazzola** is a 3rd-year UNC audiology student interested in working with patients across the lifespan. She has been a Special Olympics Healthy Hearing Program volunteer for many years and her LEND project is focused on the specific challenges unique to those with intellectual disabilities and hearing loss.



**Lauren Johnson** is a 3rd-year audiology PhD student at UNC interested in pediatric audiological management, specifically for the teenage population. She is currently working on a review of North Carolina's regional birthing hospital's newborn hearing screenings models and outcomes.



**Lia McNeilly** is a LEND family trainee and her LEND faculty mentor is Ann Palmer. Lia has two children, ages 9 and 11. She hopes to turn her passion for helping people into a leadership role in the I/DD community.



**Kenneth Kelty** is a 2nd-year LEND trainee and self-advocate. He is a motivational public speaker on his experience with autism and social inclusion on a college campus. In the future, he hopes to move to Washington and advocate for social inclusion and social justice.



**Allison Meyer** is a 5th-year PhD student in clinical psychology at UNC. She is a psychology extern and LEND trainee at CIDD. Research interests include atypical development of attention skills in ASD and how these impairments in attention relate to ASD symptoms.



**McCafferty Kenmon** is a 3rd-year LEND fellow, featured artist, and public speaker with a local and national presence in the field of self-advocacy. She provides education coaching and support at the CIDD.



**Crystal Miller** is a 2nd-year MPH healthcare administration student at UNC. Her goal is to increase the quality and efficiency of healthcare systems in the midst of the changing regulatory environment.



**Heather Lam** is a 2nd-year MA student in speech-language pathology. Interests include developmental disabilities, aphasia, dementia, and interventions in literacy, AAC, and social communication. She hopes to work in therapy services for children and adults with developmental and acquired communication disorders.



**Tabatha Moore** is a 2nd-year MA communication disorders student at North Carolina Central University and will graduate in May of 2016.



**Sarah Lineberry** is a 2nd-year MSW student. Her faculty mentor is Sherry Mergner, MSW, LCSW. Sarah is interested in improving access to education, healthcare, and housing for children and adults with I/DD.



**Natalie Murr** is currently working as a post-doctoral fellow at the CIDD. She also serves as the 2015-2016 AUCD Virtual Trainee Representative for NC-LEND. Interests include educational policy and legislation, advocacy, and improving educational and learning outcomes for all students, including those with developmental and intellectual disabilities.

## NC-LEND Trainees and Fellows, 2015-2016 *continued*



**Paul Offen** is a self-advocacy trainee in the LEND Program at CIDD and working in collaboration with Deb Zuver and Donna Yerby.



**Brittney Peters-Barnes** is a 2nd-year social work student at UNC. She is interested in early intervention and education with families who have a child recently diagnosed with a disability, transition-age youth with intellectual disabilities, and promoting community inclusion.



**Orah Raia** has a 30-year-old son who has fragile X syndrome and autism. For the past 25 years, she has worked as an advocate and consultant with a focus on including individuals with disabilities in the general education classroom.



**Teri Travisano** received her doctorate of physical therapy at the University of Colorado. She joins the CIDD after working for 6 years across multiple practice settings, predominantly in pediatrics. Teri is a physical therapist in the LEND program in conjunction with UNC's Pediatric Physical Therapy Residency program.



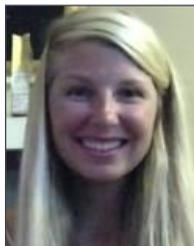
**Adrienne Villagomez** is a pre-doctoral psychology intern specializing in developmental disabilities. Clinical interests include assessment and intervention with individuals with I/DD. Research interests include self-determination and comorbid autism spectrum disorder in fragile X syndrome.



**Dani Warmund** is a 3rd-year doctoral student in audiology. Her interests include pediatric audiology with a specific emphasis in assessment and intervention for children with multiple developmental disabilities.



**Sarah Webster** is a 3rd-year doctoral student in audiology. She is interested in the early identification, diagnosis, and treatment of children with hearing loss, particularly those from Spanish-speaking families. Sarah's LEND project is focused on creating EHDI materials for Hispanic families to help them access pediatric audiology services.



**Anna Wilkins** is a pediatric primary care nurse practitioner student with an interest in NP curriculum surrounding children with I/DD. She has experience as a nurse in pediatric oncology and case management for CAP/C.



**Julie Williams-Swiggett** has 10 years of early childhood education experience. She is also a parent of a child with bilateral sensorineural hearing impairment. Interested in becoming a stronger advocate for her child and leading other parents in their roles as advocates for children with special healthcare needs.



**Stephanie Wolfe** is an MD/MPH, 5th-year Pediatric Neurology resident and 2nd-year LEND fellow. Clinically, she strives to provide developmentally- and functionally-relevant neurologic care. She is also interested in translational and diagnostic research for neurodevelopmental disabilities.



**Loren Wright** is a school psychology doctoral student at UNC. She is completing her advanced externship in school psychology at the CIDD. Her area of interest is the intersectionality between race, disabilities, and mental health.

### Former LEND Trainees Now Part of an Award Winning Clinical Team

The Pediatric Audiology program at UNC Hospitals has been selected to receive the Richard Seewald Award, an international award conferred annually by Hear the World Foundation to recognize an exemplary program specializing in the diagnosis and treatment of hearing loss in children. The pediatric audiology team includes three former LEND trainees, from left to right - Dr. Laurel Thompson Okulski (Class of 2010), Dr. Shana Jacobs (Class of 2008), and Dr. Mallory Baker (Class of 2013).

Read more about the UNC Pediatric Audiology team:

<http://news.unchealthcare.org/news/2015/september/pediatric-audiology-receives-international-honor>



## 2 Trainees Successfully Defend Dissertations



**Ashley Costner**, a third-year school psychology student, recently defended her dissertation, "Assessing the Cognitive Functioning of Students with Intellectual Disabilities: Practices and Perceptions of School Psychologists." She surveyed 209 North Carolina school-based school psychologists to explore the status and range of their previous training, the nature of their assessment practices, and their perceptions as they relate to working with students with ID. Ashley is collaborating with Lynn Makor to develop a best practice guidance tool for school psychologists, which they hope to release later this school year. Ashley is currently completing her pre-doctoral internship at the CIDD and Charlotte TEACCH Center. She also serves as the 2015-2016 LEND Graduate Assistant and the project coordinator for the Translational and Clinical Sciences (TraCS)-funded repetitive motor behaviors sensor study with Drs. Rob Christian and Anne Wheeler.



**Adrienne Villagomez**, UNC-CIDD psychology intern, recently defended her dissertation, "Self-determination in adolescents and adults with fragile X syndrome: The relationship between self-report, parent perceptions, and individual characteristics." This study found that adaptive behavior was the most consistent predictor of parent- and self-reported self-determination. Findings also indicated discrepancies between self- and parent-report for individuals with more impairment. Findings from the present study highlight the importance of considering functional skills in predicting and ultimately promoting the development of self-determination in individuals with I/DD. Upon completion of internship, she plans to continue her clinical training and research in I/DD through a postdoctoral fellowship.

## Our Social Skills Group for Teenagers and Young Adults With Optional Compensated Research Component Begins Soon!

We are pleased to announce the next session of our group-based social skills clinic for teenagers and young adults. This clinical service consists of 8 hour-long weekly sessions, with the next session scheduled to begin on **February 2nd at 4:00 PM**.

Sessions will be led by Gabriel Dichter, PhD, an Associate Professor of Psychiatry at UNC and a licensed clinical psychologist. Dr. Dichter co-developed this treatment approach and has been running this group three times per year at the CIDD since 2011. Dr. Dichter has extensive clinical experience working with individuals with autism spectrum disorder in both individual and group settings. He will co-lead this group with a trainee who is receiving specialized training in neurodevelopmental disorders.

The group will focus on improving social cognition and social skills. The class is open to those with a formal diagnosis that impacts their social abilities (such as autism spectrum disorder) as well as to those simply wishing to improve their social skills. Because much of the class relies on back-and-forth between class members, participants must have sufficient verbal skills to participate in a group setting. Sessions will have up to 12 participants.

### Optional Research Component:

We will also have an optional research component available for those enrolled in this social skills group that involves three additional visits to the CIDD. These research visits will involve a diagnostic interview, questionnaires, neuropsychological testing, and a brief eye tracking session. Participants will be compensated for these visits. Additionally, participants will be asked to complete 8 brief mood checks via a smartphone or computer following each visit. This compensation will be in the form of a gift card.

All potential patients or caregivers please contact Twyla Peoples at 919-843-1529 or [Twyla.peoples@cidd.unc.edu](mailto:Twyla.peoples@cidd.unc.edu) for more information about scheduling and registration. **If you are interested in being a part of the group, the deadline to enroll is January 26th, one week before the first social skills session.**



# Greensboro AHEC Continuing Education Programs

The Carolina Institute for Developmental Disabilities (CIDD) jointly with the Greensboro Area Health Education Center (GAHEC) present continuing education on:

## Evidence-Based Services for ASD and Related Disorders Across the Lifespan

Date: Friday, April 29, 2016 | Time: 8:30am-4:30pm (Check-in: 8:00am) | Location: Moses H. Cone Memorial Hospital

There is increasing recognition of the high prevalence of autism in our communities as well as the substantial costs to individuals, families and communities. For example, studies from the Centers for Disease Control have indicated that one in 68 school age children has an autism spectrum disorder. Additionally, the lifetime costs to the community for an individual with autism are estimated to be \$3.2 M. There is also widespread recognition of the inadequacy of autism services and research, and nowhere is this problem more apparent than in NC where the crisis in mental health care is now widely recognized.

The target audience for this workshop is clinical psychologists, speech-language pathologists, school psychologists, nurses, nurse practitioners, clinical social workers, physical therapists, occupational therapists, audiologists and other healthcare clinicians who work with individuals with autism and related disorders. The program will feature leading researchers and clinicians from the CIDD who will discuss the latest developments in research and practice relevant to autism and related disorders. This workshop will be eligible for 6.0 category A continuing education for NC Psychologists, contact hours, and CEUs.

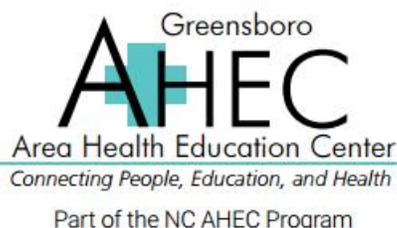
### Topics and Presenters Include:

1. School-based Interventions for Preschoolers with Autism – Brian Boyd, PhD
2. Interventions for Autism Beyond the Preschool Years – Ann Cox, PhD
3. Behavioral and Medication Management of Autism and Related Disorders – Rob Christian, MD, FAAP and Jean Mankowski, PhD
4. Augmentative and Alternative Communication Strategies for Individuals with Autism and Related Disorders – Debbie Reinhartsen, PhD, CCC-SLP and Margaret DeRamus, MS, CCC-SLP
5. Social Cognitive Interventions for Individuals with autism and Related Disorders – Sherry Mergner, MSW, LCSW; Morgan Parlier, MSW, LCSW; Laura Hiruma, PhD; and Margaret DeRamus, MS, CCC-SLP

Registration Fee (morning beverages and lunch provided): \$115.00

**Registration for this program will close on Thursday, April 28th at noon!**

[Accreditation Information](#) | [Check/Fax Registration Form](#)



## Congratulations to Teresa Buckner on Her Retirement

*Thank you to Teresa Buckner for her many years of dedicated service to the University.*

*We wish her much happiness in her retirement!*



*Teresa Buckner (center in yellow) with family members at her retirement party.*

On October 29th, the CIDD celebrated Teresa Buckner's retirement with a picnic held at Southern Community Park. We were honored to have several members of Ms. Buckner's family attend the event.

Ms. Buckner was a longstanding, much loved, valued and respected, vital member of the CIDD. She began working for our department on February 1st, 1986. At that time, we were the Division of Disorders of Development and Learning (DDDL, referred to by some as "Diddle") and we were located in the old BSRC building. Initially, Ms. Buckner served as the assistant for the pediatrics section, then assisted in the file room, and later moved to the business office, where she assisted with just about anything and everything, as she completed 29 years, 4 months of service. During her tenure, Ms. Buckner saw 3 department names, and 4 different locations.

Ms. Buckner is relishing her retirement, "What's not to love about retirement!" she says. She is enjoying not waking up before dawn, spending more time with her family - kids and grandkids - and visiting friends in her community.

While she is loving retirement, she does miss being around the people at the CIDD. "The CIDD has been very good to me, my second family," said Ms. Buckner. "I was very fortunate to work for a great bunch of people. I have made and still have many good friends." We enjoyed having Ms. Buckner at our annual holiday luncheon in December, and look forward to seeing her again soon.



**UNC**  
CAROLINA INSTITUTE FOR  
DEVELOPMENTAL DISABILITIES

## Your Support

The programs of the Carolina Institute for Developmental Disabilities provide innovative, high-quality clinical, research, and training activities supporting individuals with developmental disabilities. Now, more than ever, we need well-trained practitioners, teachers, and researchers. State funds pay only part of the costs to recruit and retain the best faculty and support the unique training and programs that are the hallmarks of the Carolina Institute for Developmental Disabilities experience. It is private funds that sustain and enhance these extraordinary opportunities for students, patients, families, and faculty. We can't do it without you!

A gift to the Carolina Institute for Developmental Disabilities is an investment in the lives of thousands and in the future of our communities. Join us by giving today. To make a donation by credit card, please visit the Medical Foundation of North Carolina's gifting page and choose "Carolina Institute for Developmental Disabilities:" [Click Here.](#)

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*Newsletter Editor—Keath Low*