

# CART Connection

News from the UCLA Center for Autism Research and Treatment

Fall 2018, Vol. 11

## Introducing Dr. Catherine Lord



Dr. Catherine Lord

UCLA CART is thrilled to welcome our newest member, world-renowned autism spectrum disorder (ASD) researcher, Dr. Catherine Lord! Dr. Lord joins UCLA as a Distinguished Professor in Residence in Psychiatry at the Semel Institute for Neuroscience and Human Behavior. Dr. Lord is a licensed clinical psychologist who specializes in ASD diagnosis, screening, and treatment. She completed degrees in psychology at UCLA and Harvard University, and a clinical internship at Division TEACCH at the University of North Carolina at Chapel Hill. She developed the Autism Diagnostic

Observation Schedule (ADOS) and the Autism Diagnostic Interview – Revised (ADI-R), which are the gold standard assessments for autism diagnosis. Dr. Lord was the Chair of the National Research Council’s Committee on the Effectiveness of Early Intervention in Autism and was a member of the DSM5 Neurodevelopmental Disorders Committee.

### What led you to autism research?

When I was at UCLA as an undergraduate, I took a class that was supposed to be in

*Lord, continued on page 3*

## Did You Know?

Even though ASD can be diagnosed as early as age 2 years, most children are not diagnosed with ASD until after age 4 years.

-Center for Disease Control and Prevention (CDC 2018)

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## Donate to CART

As the end of the year approaches, please consider making a donation to CART. CART’s goal is to change the lives of families impacted by autism by understanding its causes, improving diagnosis, and developing transformative therapies. Contact Elizabeth Trejo, Director of Development, at (310) 367-3482.

# Mission Statement

The mission of the UCLA Center for Autism Research and Treatment is to elucidate the causes of autism spectrum disorders (ASD) and to develop best practices for diagnosis and more effective treatments. We achieve these goals by fostering a strong collaborative environment for basic and clinical research, and supportive environment for trainees from all disciplines.

## Ask the Expert with Dr. Benjamin Schneider

### **Question: How do you approach co-occurring psychiatric conditions in children with ASD?**

*-Parent of an 8-year-old child diagnosed with ASD*

**Answer:** Kids rarely present with “just one thing” and it is common for parents to ask how we identify and prioritize when there is more than one clinical concern. I end up talking to parents about how kids are like onions. There are layers, and sometimes once you peel one thing back you find another layer underneath.

Children with autism spectrum disorders (ASD) often have co-occurring psychiatric disorders, though proper identification can be challenging. Sometimes behaviors (hyperactivity, behavioral dysregulation, repetitive behaviors, impulsivity, etc.) are attributed to “part of autism,” and may not be given proper attention. Other times, historical convention may get in the way of appropriate diagnosis. Take for example, ADHD. In older versions of the Diagnostic and Statistical Manual, one could not simultaneously diagnose a child with ADHD and ASD (a convention that no longer exists – now ADHD is understood to commonly co-occur in patients with ASD). In that case,

treatments targeting ADHD may not be offered. Sometimes, symptoms that are thought of as core features in autism – for example, repetitive behaviors – may indicate an underlying condition depending on the context in which they occur.

The right assessment, followed by appropriate treatment, can be game-changing. As challenging as it may be to appropriately diagnose underlying conditions, doing so may be a huge difference-maker in prognosis and outcome. Take ADHD as an example. Most behaviorists working with this patient population have had the experience of hoping for some control of inattention and hyperactivity as a means of “unlocking” a patient’s potential to make gains in treatment. We now know that medications commonly used to treat ADHD can be very effective in doing just that. Once you gain better control of inattention, poor focus, hyperactivity, and impulsivity, not surprisingly you may also see better gains in behavioral treatments. What’s more, there may even be “bonus benefit.” Recent evidence suggests that pairing some medications used to treat ADHD with behavioral treatments for ASD may yield improvements in social communication as well.

If a parent is concerned about potential co-occurring conditions, I recommend an assessment with a provider well-versed in ASD and other psychiatric conditions. Keep in mind that the presentation of psychiatric conditions in children and adults with autism may look different than the same conditions in neurotypical children and adults. However, if comorbidity is found, treatment can be hugely beneficial.

The Child and Adult Neurodevelopmental Clinic (CAN) may be a place to aid in the appropriate evaluation, diagnosis, and treatment for children with ASD and co-occurring conditions. If you would like to make an appointment for the CAN Clinic, please call (310) 794-4008.



Dr. Schneider is a child and adult psychiatrist and Health Sciences Assistant Professor of Psychiatry in the David Geffen

School of Medicine at UCLA. He sees patients at the: UCLA Child and Adult Neurodevelopmental (CAN) Clinic, (310) 794-4008; and the UCLA Care and Research in Neurogenetics (CARING) Clinic, (310) 206-7404.

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developmental psychology, but was taught by Dr. Ivar Lovass. At the time, he was very excited about the idea that learning principles could teach anybody anything. He had chosen kids with autism as his target group. The idea was that they were not very sociable and they weren't talking and through learning principles we could teach them. I got to work with Dr. Lovass and I got to work with two kids with autism who were very different from each other. And that just started the whole thing.

### **What excites you about joining UCLA?**

I am really happy to be part of this institution, to be part of a state university and in southern California, and to be part of training at multiple levels from graduate students to post docs to fellows. I am excited to work with all my colleagues at UCLA.

### **Tell me about the research you are bringing to CART.**

We are bringing our longitudinal study in which 200 children were referred to ASD assessment at age 2. They are now in their mid 20s. We are interested in what happens to people as adults. We want to work with Dan Geschwind, and get genetics information from them and their families, and continue to look at what earlier factors predict factors in adult outcomes. We are also bringing a study about medical events including different illnesses that may affect behavior for kids with ASD. We'll be collecting data using smart phones for

children ages 2-7.

### **You created the ADOS. What is the ADOS?**

The ADOS is an assessment tool for autism that is actually a series of different activities. You use different activities depending on the age of the child or the adult and how they communicate. The idea is that you set up situations in these activities that allow us to observe examples of what we think autism is. The most important value from this is to be able to do this with a parent and with little kids, and then as the kids get older sometimes with the teacher or therapist. Together we can watch how a child reacts to these situations and be able to figure out what is actually different for a child, what are his or her strengths, and what we can do next.

### **How early can we now diagnosis autism?**

There are some kids from whom we can diagnosis ASD as early as 18-24 months, maybe a little earlier. However, there are some kids where you can't be sure about autism until they are into later preschool. For many children, we can have enough of an idea about possible autism to begin to work on whatever is needed. Some of those kids get much better. We don't know if they are getting better because of what we are doing or because they are growing out of it.

### **Talk about promising treatment methods you're exploring.**

I was just talking to Connie Kasari about one

of the things I've been trying because of a particular child I was working with in New York. It is something called *Toy Talk*, created by speech pathologist Pamela Hadley. One of the issues is that we know how to teach some kids with autism how to say words and how to understand words. Many of these children with autism move forward in a pretty organized way to develop language. But a fair number of them who seem pretty smart, get stuck not having a diversity of language. *Toy Talk* tries to move beyond just teaching the kids to request, to get them to comment on what is happening around their world with other people joining in. It expands their repertoire. It's the kind of thing that you would do naturally with an ordinary child, but with a child with autism where you are trying to pull out everything you can, often we get so focused on questions like "What do you want?" and "What are you doing?" This means you have to work a little bit harder to get the child interested and excited, but then you can talk about what you and he or she is doing. I hope we can discern whether this helps a child go into more flexible conversation.

### **What lies ahead for autism research?**

I think that what we need and what will happen may not be the same thing. What we need are more comparative studies of different interventions, trying to figure out what works for whom. Approaches like the *SMART* model and the adaptive designs, which Connie Kasari has spearheaded, will make a huge difference. We need more of

*Lord, continued on page 10*

# Three CART Pilot Grants Awarded

The UCLA Center for Autism Research and Treatment (CART) funds one-year pilot and/or feasibility studies for biomedical, epidemiological, or behavioral research. The purpose of these awards is to foster interdisciplinary research projects with a goal of providing pilot data for innovative basic and clinical projects to young investigators focused on autism spectrum disorder (ASD). CART has awarded three pilot grants for 2018-2019.

## **Neurochemical Excitatory/Inhibitory Imbalance and Sensory Over-Responsivity in Children with ASD**

**PI: Dr. Shulamite Green**



*Dr. Shulamite Green*

Dr. Green is an Assistant Clinical Professor in UCLA's Department of Psychiatry and Biobehavioral Sciences. This study is part of Dr. Green's overall work

to better understand the neurobiological diversity seen in symptoms, presentations, and outcomes of ASD. A key focus of her research is on sensory over-responsivity (SOR), a severe negative response to sensory stimuli such as noisy environments, scratch clothing, or being touched. SOR is quite impairing as it can be a fundamental limitation to individuals' ability to participate in their community, succeed in school, complete daily living tasks, and interact socially. She says, "There is a need to develop treatments for SOR, which affects

around 50-70% of individuals with ASD. Despite its prevalence, very little is known about the neurobiology of sensory SOR with few empirically-based treatments."

The aim of this pilot project is to examine the role of excitatory/inhibitory balance as a neurochemical process underlying SOR in ASD. Neuroimaging research from Dr. Green's laboratory has identified key correlations in the brain of SOR including 1) over-reactive brain responses in primary sensory brain regions (cortices, thalamus, and amygdala); 2) decreased neural habituation (which is the decrease in an individual's response to stimuli after the stimuli are repeated); and 3) reduced modulation of thalamocortical connectivity. These findings suggest thalamic excitatory/inhibitory imbalance, affecting the thalamic role in integrating, relaying, and inhibiting attention to sensory information.

The study uses Magnetic Resonance Spectroscopy (MRS), which is noninvasive imaging to measure the level of specific neurochemicals in the brain. The study will focus on two brain areas integral to sensory processing: the thalamus and the somatosensory cortex. The study will examine the excitatory/inhibitory balance by measuring GABA/Glutamate ratios in the brains of children with ASD. The study will also capitalize on an ongoing functional magnetic resonance imaging (fMRI) study of SOR in children with ASD, which will allow correlation of the MRS data with a number of other brain and behavioral measures of SOR, including parent and self-

questionnaires, an SOR lab assessment, resting-state fMRI data, and sensory-evoked fMRI data. The study is recruiting children and adolescents between the ages of 7 – 18 years either diagnosed with ASD or who are typically developing to participate in this study. To learn more about this study, call (310) 825-5326.

## **Measuring Infant Motor Skills: A Pilot Study**

**PI: Dr. Rujuta B. Wilson**



*Dr. Rujuta B. Wilson*

Dr. Wilson is an Assistant Professor in Pediatrics and Psychiatry at UCLA. ASD is the most common neurodevelopmental disorder in the United States and

can cause significant social, communication, developmental, and behavioral challenges. Early detection and intervention in infants and toddlers are crucial to provide the best opportunity for optimal outcomes of ASD, but the average age of ASD diagnosis remains much later, after four years of age. "One reason for the delay in diagnosis is the lack of robust clinical measures that can help caregivers and researchers identify risk for ASD in the first year of life. Early motor differences in infants at high-risk for ASD (infant siblings of children with ASD) represent a promising area of early detection," says Dr. Wilson. Motor differences, such as unusual posture and asymmetric movements, are often the first sign of atypical development in high-risk

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## Pilot, continued from page 4

infants, even prior to the presentation of core ASD symptoms. Current standardized assessments of infant motor function are limited by the use of subjective ratings during a brief snapshot of infant behavior. This study will utilize a quantitative and innovative wearable sensor to monitor detailed characteristics of full day infant movements. “We believe that the quantitative measure will provide objective measures of subtle and specific motor differences in infants at high-risk for ASD and other neurodevelopmental disorders. Our preliminary data using the wearable sensors show that high risk infants at 3 months of age, despite scoring in the normal range on a standardized clinical measure of motor development, showed differences in movement compared to typically developing infants and infants broadly at risk for developmental delay,” says Dr. Wilson. Identification of these earliest markers of abnormal development makes prevention of ASD an actual possibility. As the field of ASD research moves from ‘diagnose and treat’ to ‘predict and preempt,’ motor function serves as a promising area of early identification and intervention.

To learn more about this study and to enroll, contact: Beeta Safari (Study Coordinator) at (909) 560-0931 or BSafari@mednet.ucla.edu or Dr. Rujuta B. Wilson, MD (Principal Investigator) at RBhatt@mednet.ucla.edu. The study can be completed at UCLA or at the infant’s home.



### **EEG markers of intervention response in minimally verbal children with ASD**

**PI: Charlotte DiStefano**



Dr. Charlotte DiStefano

Dr. Charlotte DiStefano is a Clinical Instructor in the Department of Psychiatry and Biobehavioral Sciences at UCLA. Her study will use electroencephalography (EEG) to identify brain-based indicators of development in minimally verbal children with ASD who have participated in a recent intervention study at UCLA.

Approximately 25% of children with ASD remain minimally verbal past age 5, although they vary greatly in terms of cognitive and receptive language abilities. We know relatively little about their development and abilities, as they have been frequently excluded from research. Dr. DiStefano says, “The application of a brain-based indicator, also known as a biomarker, holds great promise to shed light on causes of diversity in ASD, and may facilitate prediction of treatment response for minimally verbal children. Such biomarkers can also capture neurobiological change occurring with intervention, which may underlie and precede behavioral gains. This information would provide a more accurate picture of the effects of intervention than behavioral measures alone.”

Electroencephalography (EEG) records the

electrical activity within the brain and provides exquisite information about brain processing in real-time. EEG can gather information on the brain’s internal processing in a way that is minimally invasive, does not rely on children’s ability to understand directions, and requires no overt behavioral response. EEG allows information to be obtained about brain activity, both at rest and while a child is engaged in a task. This study will use EEG to identify brain-based indicators of development in minimally verbal children with ASD who have participated in a recent intervention study at UCLA led by Dr. James McCracken. The intervention study tested the combined effects of behavioral intervention and medication (aripiprazole or placebo), aimed at improving communication for children with low language ability. Looking at the data collected from this intervention study, Dr. DiStefano will determine whether the biomarkers 1) predict treatment response, and 2) change with treatment. Dr. DiStefano will examine oscillatory EEG measures (peak alpha frequency); examine change in oscillatory EEG measures (peak alpha frequency, functional connectivity) after Joint Attention, Symbolic Play, Engagement and Regulation (JASPER) intervention; and investigate the effects of aripiprazole on the EEG signal (spectral power, peak alpha frequency, functional connectivity). This work will contribute to our understanding of the diversity of the brain for the ASD population, with the long-term goal of predicting treatment response and discovering individualized avenues for intervention.

# ASD Genetics: iHART

The Geschwind Lab continues to study the genetic basis of ASD through the Hartwell Autism Research and Technology Initiative (iHART) and to develop further insights into the molecular mechanisms of different genetic forms of autism spectrum disorder (ASD).

Research utilizing families with one or more affected children provides to date the best framework for progress in the identification of de novo (alterations in genes that occur for the first time in the child and not found in the parents) and inherited mutations that confer increase ASD risk. The iHART study performed whole genome sequencing of blood samples from the largest number of multiplex families (families with two or more affected children) allowing for an unprecedented account of inherited genomic variation associated with ASD. This analysis uncovered 16 new ASD-risk genes whose mutations, many of them inherited, are predicted to cause changes in gene expression and/or non-functioning protein products. In addition, it led to the discovery of a new syndromic form of ASD, driven by mutations disrupting the NR3C2 gene, as well as the identification of a recurrent mutation, predicted to affect the expression of DLG2, as a new genetic ASD-risk factor. Interestingly, genes hit by de novo and inherited risk variation converge into protein-protein interaction networks and biological pathways involved in regulating the production of new neurons in the human cortex during embryonic development. The study, "Whole genome sequencing in multiplex families reveals novel inherited and de novo genetic risk in autism" is available online and the data is available through open access repository to further bolster ASD genetic research.

These genetic studies have highlighted mutations within numerous genes and regulatory regions within the genome. How these different mutations converge onto very similar behavioral and/or physiological alterations that define ASD is poorly understood. Current research in the lab utilizes cutting edge techniques that rely greatly on the ASD patients and community to further unravel this complex relationship between mutations and gene expression. One such study uses stem cells derived from over 50 patients that have been cultured to form 3D brain-like structures called organoids. Gene expression was measured at multiple times points during development which illustrated that organoids tightly parallel human brain development and are further being used to identify the shared disrupted pathways between each of the forms of ASD. Despite the genomic complexity, previous work from the lab with donated brain tissue has found a consistent change in gene expression patterns of individuals with ASD. To extend these studies, another current study on gene-regulatory mechanisms, such as mapping of instructional chemical tags that stop or promote gene expression (methylation and acetylation, respectively) has been measured in these same donated tissues. Upon integration of these datasets, the lab is identifying the means through which critical regulatory changes underlie the common genetic pattern of ASD. Both of these present studies are critical steps in the discovery of new therapeutic interventions and increasing our understanding of ASD.



# Sigman Scholars



*Tiffany Fung and Fernanda Castellon*

The UCLA Center for Autism Research and Treatment (CART) selected Fernanda Castellon and Tiffany Fund as the 2018 Sigman Scholars to work in a research position with UCLA CART for 8-10 weeks this past summer. The Sigman Scholars program is supported by the generous donations in memory of our former colleague and world leader in autism research, Dr. Marian Sigman. This program is designed to provide a rigorous, in-depth research experience for those interested in pursuing a career focused in autism spectrum disorder (ASD). For more information and to make a donation to support the Sigman Scholars program, visit [www.autism.ucla.edu](http://www.autism.ucla.edu).

**Fernanda Castellon** moved from Mexico to the United States at a young age when her family decided to relocate to seek

services for her brother, who was diagnosed at the age of two with ASD. She recognized at an early age that cultural and language differences contributed greatly to the difficulties she and her family encountered when trying to seek services for her brother. “Comparing his lack of success to the success of a white-middle-class child made me wonder if the therapies my brother received weren’t designed for children like him,” she said. Ms. Castellon recently graduated from University of California, Santa Barbara in the spring with a Bachelor of Arts degree in Psychology and Chicana and Chicano Studies. During her work as a CART Sigman Scholar, Ms. Castellon worked under the mentorship of Dr. Connie Kasari. She was trained to conduct standardized language and cognitive evaluation assessments for children

diagnosed with ASD. She also assisted Dr. Kasari’s AIR-B research project, which aims to help children diagnosed with ASD transition more successfully throughout school. She coached Spanish speaking families by preparing and presenting modules to parents of children with ASD.

**Tiffany Fung** is an undergraduate student at UCLA, majoring in Biochemistry. As a CART Sigman Scholar, Ms. Fung worked under the mentorship of Dr. Shafali Jeste. Ms. Fung studied the development of circuit-level brain function in infants at high-risk for ASD. She was trained to process and analyze data collected using high-density electroencephalography (EEG), and to extract and interpret meaningful neurobiological signals from EEG data. She was able to track the development of large-scale functional networks longitudinally during infancy and investigate whether the trajectories of peak alpha frequency development during the first year of life can predict later ASD diagnoses and other neurodevelopmental outcomes. She says, “Increased understanding of the early neurobiological changes that precede ASD will inform the individualization of appropriate clinical interventions. By identifying children who would benefit from such optimized interventions earlier, we will be better placed to capitalize on a period of enhanced neuroplasticity for improved outcomes across the spectrum.”

# Summer Scouts Provides Support and Summer Fun



Photo credit: Jonah Light Photography

Every summer the UCLA Lab School hosts a summer school program for students from preschool through 6th grade emphasizing growth in social-cognitive, academic, and pre-academic skills. For the past three years the Kasari Research Lab has worked closely with the UCLA Lab School to provide a variety of educational supports and accommodations for students with autism spectrum disorder (ASD) who attend the summer school program. The “Summer Scouts” program has provided support ranging from establishing a specialized classroom for the preschool aged students to scaffolding social interactions within inclusive general education classrooms.

This year’s team was led by Caitlin McCracken and included staff and graduate students from the Kasari Research Lab including Lauren Chiang, Maria Pizzano, Fernanda Castellon, Andy Schlink, Kyle Sterrett, Nicole Muldoon, and Lauren Hughart. The team supported 20 children with ASD. All of the “Summer Scouts” spent over 80% of their time in general education classrooms during the 4-week summer program. The primary focus of the “Summer Scouts” program this year was to provide and test a sustainable model of support in the inclusive classroom settings with minimal 1:1 intervention time. This model of support began with a team meeting and working with each parent to set two to three clear, concrete and individualized educational goals for their child to accomplish over the 4-weeks. Once the goals were set for each child, the Kasari Lab team developed individualized intervention plans based on the goals for each child. These interventions and supports were diverse and eclectic ranging from environmental interventions to create positive social climates such as *Remaking Recess* (<http://www.remakingrecess.org/>) to strengthening executive functioning skills through targeted lessons based on the *Unstuck and On Target* (Cannon, Kenworthy, Alexander, Werner, & Anthony, 2011), and *Social Thinking Curriculums* (Winner, 2006).

Beyond the clinical work and in conjunction with Dr. Amanda Gulsrud and the UCLA CAN REACH program ([www.uclacanreach.com](http://www.uclacanreach.com)) the Kasari Lab provided training and structured observations at the Lab School to teach more than 20 teachers, aides, and community clinicians the various strategies and supports used throughout summer program. These trainings help make evidence based interventions more accessible to practitioners and provides access to high quality interventions to more children who need them. We want to thank each of the families and staff who made the “Summer Scouts” program so successful this year!

# Research at CART

## Are you interested in participating in a research study?

Research studies advance our knowledge of autism spectrum disorder (ASD), leading to earlier diagnosis and better treatment. Research at CART focuses on a variety of topics surrounding ASD, including early identification of brain and behavioral signs underlying autism and effective treatments and intervention practices for people with ASD. Participation in research studies is free! To learn more about our research studies and how to enroll, please visit the CART website: [www.autism.ucla.edu](http://www.autism.ucla.edu), contact the study coordinator directly, or call our general information line at (310) 825-9041.



## TREATMENT RESEARCH:

### **Joint Engagement in Infants at Risk for ASD: Integrating Treatment with Biomarkers (Baby Bears) (PI: Connie Kasari, PhD)**

JASPER intervention to improve social and communication skills in children who have early signs of autism.

**Age range:** 12 - 36 months

**Contact:** (310) 825-4775

### **JASPER Early Intervention for Infants with Tuberous Sclerosis Complex (JETS) (PI: Shafali Jeste, MD)**

JASPER intervention to improve social communication for children with clinical diagnosis of TSC.

**Age range:** 12 - 36 months

**Contact:** (310) 825-8738

### **Mind the Gap (PI: Connie Kasari, PhD)**

Intervention for caregivers of children between ages 2-8 years of age to provide caregivers with information and educational materials about ASD and the service system.

**Age range:** 2 - 8 years

**Contact:** (310) 825-4775

### **Building Better Bridges (BBB) (PI: Connie Kasari, PhD)**

Intervention for families, which will provide families with a package of tools to aid their child in successful transition process throughout the school system.

**Age range:** 4 - 16 years

**Contact:** (310) 825-4775

### **Treatment with Aripiprazole and Behavior Intervention for Children with Autism who have Low Language Ability (PI: James McCracken, MD, Connie Kasari, PhD)**

Language intervention and the combined effects of medication (Aripiprazole or placebo), aimed at improving communication for children with low language ability.

**Age range:** 5 - 11 years

**Contact:** (310) 825-6170

### **Proof of Mechanism Study for the Treatment of Social Anhedonia in ASD (PI: James McCracken, MD)**

Behavioral intervention (UCLA PEERS®) examining the combined effects of medication (L-DOPA or placebo), aimed at increasing social skills.

**Age range:** 13 - 30 years

**Contact:** (310) 267-4798

## BIOMARKERS AND GENETICS RESEARCH:

### **SPARK: Simons Foundation Powering Autism Research and Knowledge (PI: Amanda Gulsrud, PhD)**

Examines genetics of individual diagnosed with ASD.

**Age range:** All ages

**Contact:** (310) 206-7478

### **Baby Brain Imaging and Behavior Study (Baby BIBS) (PI: Shafali Jeste, MD, Co-I: Carrie Bearden, PhD)**

Examines early brain development in infants at high-risk for ASD to identify children for early intervention.

**Age range:** < 6 months

**Contact:** (310) 825-3478

### **Motor Skills in Autism Spectrum Disorder (PI: Rujuta Wilson, MD)**

Examines motor function, social communication, and behavior in children with ASD.

**Age range:** 10 months - 17 years

**Contact:** (310) 825-1746

### **Brain and Behavior in Genetics Syndrome (B-BIGS) (PI: Shafali Jeste, MD)**

Examines cognitive and social communication of children with intellectual disability or global developmental delay using EEG.

**Age range:** 1 - 18 years

**Contact:** (310) 825-8738

### **Autism Genetics and Human Diversity Study (PI: Daniel Geschwind, MD)**

Examines genetics of African American families.

**Age range:** 3 + years

**Contact:** (310) 794-4090

### **Autism Biomarkers for Clinical Trials (PI: Shafali Jeste, MD)**

Examines social function and communication in children with autism, involving EEG, eye tracking, and behavioral measures.

**Age range:** 6 - 11 years

**Contact:** (310) 825-0180

# Study Spotlight: JETS

## Research at CART, continued from page 9

### **Sensory Over-Responsivity in Autism Spectrum Disorder and Early Adversity (PI: Susan Bookheimer, PhD)**

Neuroimaging and behavioral assessments for children interacting with their sensory environment.

**Age range:** 7 - 17 years

**Contact:** (310) 825-5326

### **Sensory Over-responsivity in Children with Anxiety, ASD or in Typically Developing Children (PI: Shulamite Green, PhD)**

Examines brain and psychological responses of children with ASD and sensory-over-responsivity (SOR), and anxiety, using brain scans.

**Age range:** 7 - 17 years

**Contact:** (310) 825-5326

### **Neural basis of social cognition in youth with autism and schizophrenia (PI: Susan Bookheimer, PhD)**

Examines social cognition differences in youth with and without ASD or schizophrenia spectrum disorder (SSD), using brain scans, surveys, and behavioral and IQ testing.

**Age range:** 12 - 18 years

**Contact:** (310) 794-4042

*Reach more about research at the CART lab websites:*

**Gandal Lab:** <https://gandalab.dgsom.ucla.edu/pages/>

**Geschwind Lab:** <https://geschwindlab.dgsom.ucla.edu/pages/>

**Golshani Lab:** <https://golshanilab.neurology.ucla.edu/>

**Jeste Lab:** <http://jestelab.org/>

**Institute for Neuroscience and Human Behavior:**

<https://www.iddrc.ucla.edu/iddrc/>

**Kasari Lab:** <http://www.kasariilab.org/>



Early infant research suggests that autism affects 55% of children with Tuberous Sclerosis Complex (TSC), a rare genetic disorder resulting in widespread tumorlike growths. Moreover, most infants are diagnosed with TSC before birth, allowing us

to follow them closely before they show signs of developmental delay. In a study conducted several years ago by CART investigator, Dr. Shafali Jeste, we identified red-flags for autism in infants with TSC as early as 9 months of age (McDonald, 2017). Based on this finding, we now have the first clinical trial of behavioral intervention for infants with TSC. We are using JASPER, a behavioral intervention developed and widely studied by Dr. Connie Kasari, to ask whether weekly JASPER sessions improves outcomes in infants with TSC. Because TSC is a rare condition, and families often live far away from our study sites, the intervention is delivered remotely, via iPads and web conferencing. This study design allows all families access to this opportunity. We are very excited about this effort, as it shows how studies of early markers of autism can lead directly to early intervention. For more information, visit our website at [www.JETSstudy.org](http://www.JETSstudy.org).

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these studies because we don't know what works for whom. The field has moved away from seeing genetics as a simple answer, we are moving to more complex models of what genetics means. We hope to build on these ideas to figure out what is going awry and what we can change. I have high hopes for Dan Geschwind and neurobiologists such as Mirella Dapretto and Susan Bookheimer to put this all together with what they are learning about the brain and how the brain works.

My particular vision for the next ten years is to try to create more practical, better measures of treatment change that are to some degree independent of what the treatment is, to see if skills generalize. If we can make these measures efficient, inexpensive and easy to use, maybe we can learn more about how and why kids are changing or not changing.

### **What don't we know about Cathy Lord?**

I got a series of scholarships for acting in high school and I actually am a terrible actress, but I loved theater. When I run into people that I haven't seen since high school, they ask me "How are you doing? Are you on Broadway?" I was also a huge child. I was in the 99th percentile for height and predicted to be 6'2" as an adult. I was so tall in kindergarten that they moved me into second grade. Luckily, I stopped growing when I was about eleven.

# Clinical Services at CART

## All Ages

### Child and Adult Neurodevelopmental (CAN) Clinic

The UCLA Child and Adults Neurodevelopmental Clinic (CAN Clinic) is our outpatient clinic located at UCLA's Westwood Medical Campus. The CAN Clinic provides multidisciplinary assessments and evidence-based treatment for individuals with suspected disorders of social, cognitive, language, and motor development, including ASD.

The services provided at the CAN Clinic include:

- Evaluation
- Treatments
- Long-term medical and psychiatric care
- Referrals for genetic testing

Contact: (310) 794-4008

### Care and Research in Neurogenetics (CARING) Clinic

The Care and Research in Neurogenetics (CARING) Clinic is a multidisciplinary clinic that evaluates and treats children with neurodevelopmental disorders (including autism, global developmental delay or intellectual disability) and a known genetic syndrome or variant. Directed by Dr. Shafali Jeste, a pediatric neurologist, the clinic provides comprehensive evaluations and care for children with complex needs, with the team of specialists including neurology, genetics, psychiatry and psychology.

Contact: (310) 206-7404

## Young Children

### Early Childhood Partial Hospitalization Program

The ECPHP is a short-term integrated day treatment program for young children who have been diagnosed with, or may have, autism, developmental disabilities, and behavior disorders. ECPHP is a five-day a week, six-hour a day program. All aspects of the program are fully integrated and coordinated to create an individualized, comprehensive, consistent, interdisciplinary, and therapeutic environment.

Contact: (310) 206-2695

## Elementary School & Early Adolescents

### Parenting and Children's Friendship Program

The program offers parent-assisted social skills group programs for children in elementary school (beginning at end of 1st grade) who are having problems making and/or keeping friends. We also offer parent training/behavior modification programs for parents with children (starting at age 2) and early adolescents (age 12½-15½).

Contact: (310) 825-0142

## Ages 6 - 12

### ABC Partial Program

The Achievement, Behavior, Cognition (ABC) Child Programs in the Neuropsychiatric Hospital at UCLA provides psychiatric services through the Partial Hospitalization Program and the Intensive Outpatient Program. ABC Child Programs are time-limited, integrated programs dedicated to assisting children ages 6-12 and their families to promote positive emotional and behavioral health.

Contact: (310) 825-0415

## Preschool, Teens & Young Adults

### Program for the Education and Enrichment of Relationship Skills (PEERS®)

PEERS is a manualized, social skills training intervention for preschool aged children, adolescents and young adults. It has strong evidence-base for use with preschool aged children, teens, and young adults with autism spectrum disorders, but is also appropriate for teens and young adults with ADHD, anxiety, depression, and other socioemotional problems.

Contact: (310) 267-3377



# Upcoming Events at CART

## UCLA CART Distinguished Lecture Series

UCLA CART offers the distinguished scientific lecture series on the first (*\*or other*) Friday of each month from October through June. This lecture series brings scientific experts from around the country and internationally to present and discuss multidisciplinary topics of autism spectrum disorders (ASD). The lectures are free and open to the public.

**Location:**

All lectures will take place at UCLA. See the postings below for each lecture's location.

**Time:**

Doors open and coffee served: 8:30AM  
Lecture: 9:00AM–10:00AM  
Questions & Discussion: 10:00AM-10:30AM

**October 19, 2018\*****Speaker: Andrew Pickles, PhD**

King's College London

**Title:** *A developmental perspective on ASD: the role of methodology*

**Location:** UCLA Semel Auditorium, C8-183 NPIH, 720 Westwood Plaza, Los Angeles, CA 90095

**November 2, 2018****Speaker: Carissa Cascio, PhD**

Vanderbilt University Medical Center

**Title:** *At the Intersection of Sensation, Perception and Affect in ASD*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**December 7, 2018****Speaker: Alison Singer**

Autism Science Foundation

**Title:** *Autism From Generation to Generation*

**Location:** UCLA NRB Auditorium  
635 Charles E Young Drive S, Los Angeles, CA 90095

**January 11, 2019\*****Speaker: Kevin Pelphrey, PhD**

George Washington University

**Title:** *Toward Biomarkers for Autism Spectrum Disorders*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**February 1, 2019****Speaker: John Constantino, MD**

Washington University of St. Louis

**Title:** *TBA*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**March 8, 2019\*****Speaker: Jeremy Veenstra VanderWeele, MD**

Columbia University

**Title:** *Pathways to New Treatments in Autism Spectrum Disorder*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**April 5, 2019****Speaker: Sarkis Mazmanian, PhD**

Caltech

**Title:** *Human Microbiomes from Autism Spectrum Disorder Induce Behavioral Symptoms in Mice*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**May 10, 2019\*****Speaker: Jana Iverson, PhD**

University of Pittsburgh

**Title:** *Early Motor and Communicative Development in Infants with an Older Sibling with ASD*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095

**June 2, 2019****Speaker: Somer Bishop, PhD**

University California San Francisco

**Title:** *TBA*

**Location:** UCLA Gonda (Goldschmied) Neuroscience & Genetics Research Center  
1st Floor Conference Room  
695 Charles E. Young Drive South  
Los Angeles, CA 90095



From left to right: Dr. James McCracken, Dr. Edward Ritvo, and Dr. Fred K. Volkmar at the CART Distinguished Lecture / Annual Ritvo Lecture with speaker, Dr. Fred K. Volkmar in June 2018