THE UCLA CENTER FOR AUTISM RESEARCH AND TREATMENT (CART)



NEWS from CART

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Mission Statement

The mission of the UCLA **CART** is to play a leading role, both nationally and internationally, in efforts to develop an improved understanding of the biological basis of autism, so as to improve diagnosis, and develop and disseminate new, more effective, treatments for autism spectrum disorders across the lifespan. We hope to achieve these goals by fostering a strong collaborative environment for basic and applied research, as well as a challenging, but supportive, environment for trainees.

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Message from the CART Director



While the field of autism spectrum disorders (ASD) continues to grow, it still presents numerous challenges to the many families, practitioners and researchers who deal with this very complex neurodevelopmental disorder. Offering hope, our CART scientists continue to collaborate across

disciplines to explore the underlying mechanisms, biological markers and developmental trajectories of ASD and to develop and test effective interventions.

I am proud to report that we've had exceptional success in several areas, including supporting promising junior faculty and trainees, securing renewed as well as new NIH funding, and making important scientific advances. Some examples are highlighted in this issue. Dr. Amanda Gulsrud, a clinical psychologist working in the Kasari lab, is featured as a new CART faculty member who focuses on novel interventions for young infants at-risk for developing an ASD. In the Jeste lab, Kevin McEvoy, a graduate student pursing an M.D., Ph.D., has been awarded the Dennis Weatherstone Predoctoral Fellowship through Autism Speaks to study electro-encephalography (EEG) as biomarkers to predict language function in ASD children. Both Drs. Connie Kasari and Jeffrey Wood have secured additional grant funding for evidence-based intervention studies for school-aged children with ASD. And in the Geschwind lab, we have received NIH funding for another five years for our ACE Network genetics grant which involves six research sites nationwide, collaborating in a systematic, comprehensive investigation of ASD genetics in order to identify rare mutations, chromosomal abnormalities, and common variation contributing to ASD susceptibility in the underserved African-American population.

While we're excited about our research, training mission and scientific advances, the challenge of declining federal and state budgets at a time when there's so much possibility and hope is disappointing. Thus, now more than ever, we are more reliant on philanthropy to get cutting-edge research off the ground.

With best wishes and many thanks for your support,

Daniel H. Geschwind, M.D., Ph.D.

Director, UCLA CART, Semel Institute Gordon and Virginia MacDonald Distinguished Professor, Neurology, Psychiatry & Human Genetics

UCLA CART Receives New Major NIH Awards

The National Institutes of Health (NIH), recognizing UCLA CART's preeminence in both research and clinical care for children with autism, announced in September of 2012 multiple awards as part of the agency's Autism Centers of Excellence (ACE) research program. UCLA CART was the only NIH ACE Center in the nation to be awarded renewed funding for the next five years (PI: Bookheimer). CART also was awarded a new ACE Treatment Network grant (PI: Kasari) and was funded as a study site in a new ACE Network grant led by Yale University. Respectively, this funding will support ongoing research focused on examining genes' link to behavior, developing clinical interventions for those severely affected by the disorder, and explain-



ing why autism affects more boys than girls. The goal of this work is to understand the full range of autism spectrum disorders, the brain condition that causes a continuum of social deficits, communication difficulties and cognitive delays. Amanda Gulsrud, PhD, a clinical psychologist and CART researcher, was recently promoted to Assistant Clinical Professor in the Department of Psychiatry at UCLA.

A long-standing Bruin, Dr. Gulsrud received her B.A. in Psychology and History from UCLA in 2002. During her undergraduate studies, she volunteered at the Early Childhood Partial Hospitalization Program (ECPHP) at UCLA and gained her first experiences working with children with autism. Upon graduation, she worked in the program as a teacher and as an educational consultant for inpatient children at the Resnick Neuropsychiatric Hospital. In 2003, she began a graduate degree under the mentorship of Dr. Connie Kasari, and in 2007 she received her Ph.D. in Psychological Studies in Education.

During her graduate career, Gulsrud worked in early intervention research helping to test innovative treatments for young children with autism. She served as an interventionist on an R-34 Pilot grant that utilized a parent-mediated design to teach parents of toddlers with autism to use strategies to increase joint engagement and child joint attention, play and language. A publication resulting from this study was awarded one of the Top 10 Research Achievements of 2010 by Autism Speaks. In addition, she also worked on a school-based intervention study for children in first through fifth grades that tested the efficacy of different social intervention models in a randomized controlled trial. This study found that children randomized to a social intervention that utilized typical peer models provided the most improvement in social status and engagement on the playground (Kasari et al., 2011).





Dr. Amanda Gulsrud is a Co-Investigator on CART's NIH ACE Center grant.

Through her work with toddlers and elementary school children with autism, Gulsrud developed a focus on emotion regulation. Her dissertation examined the emotion co-regulation of caregivers and their children during intervention. She found that both parents and children with autism use specific strategies to regulate emotional distress episodes and that negativity decreased, and maternal use of emotion co-regulation increased, across the course of intervention (Gulsrud et al., 2009).

In 2008, Gulsrud was awarded a two-year postdoctoral training grant from Autism Speaks to continue her work at the Semel Institute for Neuroscience and Human Behavior. Gulsrud furthered her work in early intervention and the study of emotion regulation by coordinating the NIH funded ACE center project awarded to Dr. Connie Kasari. This study examined the effects of a parent-mediated socialcommunication and engagement intervention compared to a parent education treatment. Families participating in the study were recruited from the very same program, ECPHP, where Gulsrud got her start in autism as an undergraduate.

Currently, Gulsrud is a Co-Investigator on the recently renewed NIH ACE Center grant to CART for a project led by Dr. Kasari. This study will extend the parent-mediated intervention framework to young infants at-risk for developing an autism spectrum disorder.

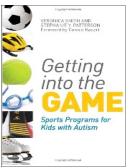
Dr. Gulsrud also sees patients in the UCLA Autism Evaluation Clinic, providing comprehensive diagnostic and treatment evaluations for children with autism spectrum disorders.

New Autism Books by **CART Researchers**

Tanya Paparella Ph.D., a leading expert with more than 20 years of autism intervention, and director of UCLA's Early Childhood Partial Hospitalization Program, an internationally recognized treatment program for young children with autism, has published More Than Hope: For Young Children on the Autism Spectrum. The new book empowers parents, caregivers and professionals with critical knowledge and intervention tools towards long-lasting benefits for autistic children and their families.

Dr. Paparella examines significant areas of childhood development, explains why children with autism learn differently, and provides step-by-step





Stephanie Patterson

"Children with [autism] often experience difficulties with motor coordination."

Stephanie Patterson, a CART doctoral student in educational psychology at UCLA's Graduate School of Education & Information Studies (GSE&IS), co-authored the recently published book, "Getting Into the Game: Sports Programs For Kids With Autism." Co-author, Veronica Smith, associate professor at the University of ASD RESOURCES **NORE THAN HOPE**

FOR YOUNG CHILDREN ON THE AUTISM SPECTRUM



Dr. Tanya Paparella

"My intention is not to overload the reader with details, but rather to explain essential intervention strategies that are easy to follow."

intervention strategies to develop communication, social interaction and normal behavior. The practical teaching strategies developed through cutting-edge research can be used in everyday activities by parents and professionals alike.

Alberta, ran the skating program with Patterson. The book's forward was written by Patterson's doctoral adviser, GSE&IS Professor of Education and CART Faculty member Connie Kasari, who has done extensive research and clinical work with children with autism.

The book, based on recreational programs for children with autism throughout the United States and Canada, describes the benefits of participation in skating and other sports, including soccer, biking, tennis, swimming and martial arts. Patterson observes from her years of experience as an in-home aide and interventionist that many families did not have positive experiences in trying to place their children with autism in community recreational or sports programs. She notes that learning a sport in this nurturing environment also enhanced the children's academic and socialization skills because of the inclusive nature of the program.



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The Social Network for parents of children with autism



www.MyAutismTeam.com

...makes it easier to find local providers best suited to meet your child's needs while providing you with a social network of support from other parents like you.

Participate in a CART Study

Are you interested in learning more about our research Recruitment coordinator, projects, including how to enroll in a study? If so, please visit our website:

www.autism.ucla.edu Or email us at: info@autism.ucla.edu

Call JONI, CART 310-794-2215 To see if you are eligible



Spotlight on CART Research Trainee





"Electroencephalography Kevin McEvoy has the potential to add vital information to our understanding of children with autism."

CART research trainee Kevin McEvoy, a UCLA graduate student in Dr. Shafali Jeste's laboratory, has been awarded the Dennis Weatherstone Predoctoral Fellowship through Autism Speaks. The goal of this prestigious fellowship is to support the training of young scientists interested in devoting their careers to autism research.

Kevin's project, titled *Electrophysiologic Biomarkers of Language Function in Autism Spectrum Disorders*, utilizes electroencephalography (EEG) to investigate high-frequency oscillatory activity in the brains of young children with an autism spectrum disorder (ASD), both while they are at rest and while engaging in a language task. High frequency oscillations have been shown to correlate with language and, in some studies, to predict language function in typically developing children. For children with ASD, language ability distinguishes itself by being one of the key prognostic factors for determining their long-term outcomes. However, there exists a great deal of heterogeneity in language outcomes for these children, and there currently is no reliable way to predict which children will make language gains.

Kevin hypothesizes that high-frequency oscillations, specifically the gamma range (~ 30-50 Hz), could serve as an important biomarker in children with ASD, and that the amount of these gamma oscillations will predict language function in children with ASD. Kevin says, "This project and EEG have the potential to add vital information to our understanding of ASD in terms of its mechanism(s) of language dysfunction, identification of various subgroups, and methods of personalizing treatment to best help each child with autism. In turn, clinicians could use this biomarker to identify children most at risk for developing language difficulties later in life and begin targeted, preventative treatment in these children at an early age."

As a member of UCLA's Medical Scientist Training Program, Kevin is working towards both his M.D. and Ph.D. After completing his graduate thesis, he will return for his final two years of medical school, and then he will begin medical residency in child neurology. Prior to attending UCLA, Kevin completed his undergraduate work at UC Berkeley in 2005, where he double majored in Cognitive Science and Molecular & Cellular Biology. He graduated with highest honors for his research on changes in top-down control of attention during typical aging.

CART congratulates Kevin for receiving this impressive award and wishes him the best in his promising research and future career.

UCLA Researchers exploring effects of ancestry and gender in ASD susceptibility

"Autism Genetics, Phase II: Increasing Representation of Human Diversity" -The UCLA NIH-funded ACE Genetics Network grant (PI: Geschwind) was renewed for another five years (2013-2018) and will fill a significant gap in the ASD research by examining genetic factors in the underserved population of African-Americans with ASD. Investigators at Washington University, Emory, University of California, San Francisco (UCSF), Albert Einstein and Johns Hopkins are key collaborating sites in this network.

Donna Werling, a Ph.D. student working with Dr. Geschwind, has been studying sex

differences in brain, behavior and ASD. Donna reviewed recent studies that continue to report a male bias in ASD prevalence, but also suggest that sex differences in phenotypic presentation, including fewer restricted and repetitive behaviors and externalizing behavioral problems in females, may contribute to this bias. Understanding the biological basis of female protective factors may be helpful in treatment development. <u>Werling DM</u>, <u>Geschwind DH</u>. Sex differences in autism spectrum disorders. <u>Curr Opin Neurol.</u> 2013 Apr;26(2):146-53.





CART OUTREACH

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CART Annual Symposium - "Autism 2013"

On February 1st, UCLA CART held it's 5th annual full-day autism symposium for physicians, psychiatrists, psychologists, other health professionals, teachers, autism service providers, parents, and any others interested in learning of the latest break-throughs in research and treatment in autism spectrum disorders. Nationally-renowned CART faculty (including Drs. Geschwind, Bookheimer and McCracken), and keynote speakers Dr. Robert Koegel and Dr. Lynn Koegel from the University of California, Santa Barbara, provided an overview of the latest scientific findings about etiological factors, core deficits, early screening and diagnosis, and innovative treatment models for children with autism spectrum disorders. The role of genetics, and the use of brain imaging and electrophysiology as state-of-the-art methods for understanding and developing treatments for autism, also were presented. New this year were a panel format to encourage more interactive discussion, and Dr. McCracken's live audience response polling of key clinical practice issues and an update



on the UCLA Autism Clinic. Videos of the lectures are posted at the <u>CART website's Media page.</u>

Autism Affinity Lecture Series

UCLA CART Autism Affinity Group Distinguished Lecturer Series 2012–2013

As an ongoing commitment to education and dissemination of scientific research findings, CART hosts monthly Autism Affinity Group Distinguished Guest Lectures in which world-renowned research experts present recent scientific breakthroughs and treatment issues about autism spectrum disorders. Lectures are free and open to the public.

For more information, please visit the <u>CART website Events page</u> (www.autism.ucla.edu). Upcoming lectures for the remaining academic year are:

April 5, 2013 – Charles Nelson, Ph.D., Boston Children's Hospital, Harvard Medical School

"A Cognitive Neuroscience Approach to the Early Identification of Autism"

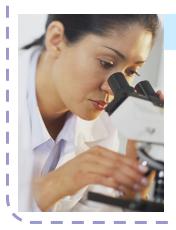
May 10, 2013 - Matthew Goodwin, Ph.D., Northeastern University, Boston

"Computational Behavioral Science: Developing Innovative Technology to Enhance Research and Practice"

June 7, 2013 – Alice Kuo, M.D., Ph.D. UCLA CART Faculty

"Early Identification and Services for ASD: Primary Care and Public Health Considerations"

****New this year:** Each quarter, one of the guest speakers for the Friday morning monthly Affinity lecture also presents an Autism Community Talk on the Thursday evening for parents and practitioners. CART was pleased to host Dr. Catherine Lord, and Dr. Karen Pierce, who each presented a lecture and an evening talk earlier this year. CART's Dr. Alice Kuo will present the final evening talk this Spring (June 6th).



CART Pilot Grant Program

Purpose: Outreach to UCLA scientific community to stimulate innovative and relevant autism research that attracts new researchers to the autism field, encourages interdisciplinary collaboration, and leads to external funding and future productivity.

> 20 Pilot grants funded to date > Basic and clinical research

CART Pilot Grant Funding available for 2013-14: Applications due March 25th Request for Applications (RFA) is available at CART website.

For more information about CART's Scientific Outreach programs, please contact : Candace J. Wilkinson, Ph.D. Director of Operations & Outreach 310-825-9041

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Memorial Tributes to UCLA CART Co-Founder Dr. Marian D. Sigman (1941-2012)





In Memoriam - Marian Sigman, Ph.D., a valued colleague and

friend to many at UCLA was a developmental and child clinical psychologist and Professor Emeritus of Psychiatry and Biobehavioral Sciences and of Psychology. She was an internationally acclaimed scholar, generous teacher and colleague, and a pioneer in the fields of autism and developmental risk. Dr. Sigman has left her mark on the field with a rich legacy of significant scientific contributions.

Dr. Sigman's research program was instrumental in understanding the early deviations of development in autism and longitudinal prediction to later outcomes. Late in her career, she launched a seminal study of infant siblings of children with autism to examine early risk factors and the developmental course of autism prior to the age at which it was commonly diagnosed. Throughout her career, Dr. Sigman provided outstanding and distinguished teaching and service to the University and the academic community. For 18 years, she served as training director for the NIMH-funded UCLA Interdisciplinary Research Training Program in Childhood Psychopathology. Her trainees are among today's leaders in autism research. She was the first President of the International Society for Autism Research (INSAR), Chair of the Advisory Committee of the National Childcare Study, and founding President of the International Society for Infant Studies (ISIS). She served as Associate Editor of *Child Development*, the leading journal in the field of developmental psychology. **Marian was co-founder and co-director of the UCLA Center for Autism Research and Treatment (CART).** In May 2009, she received the

Lifetime Achievement Award from the International Society for Autism Research (INSAR), and retired in 2010. Marian died on April 30, 2012; she was 70 years old. All who had the pleasure to know Marian will miss her always.

On September 24th, a memorial service celebrating the life of Dr. Sigman was held at UCLA and co-hosted by CART and the

Psychology Department. Colleagues, former students, friends and Marian's daughter and son, Drs. Hilary and Daniel Sigman, came to honor and share memories of Marian. Guest speakers included UCLA Semel Institute Director Dr. Peter Why-



Peter Mundy, Ph.D. & Connie Kasari, Ph.D. - Dec. 7

brow, CART Director Dr. Dan Geschwind, other CART faculty including Drs. Susan Bookheimer, Jim McCracken, Connie Kasari, Mirella Dapretto and Ted Hutman, and some of Marian' former trainees: Drs. Pat Levitt, Sarah Spence, Martha Jura and Laura Romo.



Susan Bookheimer, Ph.D., Peter Whybrow, M.D. & Candace Wilkinson, Ph.D. - Sep. 24

On December 7th, Dr. Peter Mundy presented the 1st Annual Marian D. Sigman Memorial Lecture

at UCLA CART - "Attention and the Social-Cognitive Phenotype of Autism." Dr. Mundy, a postdoctoral trainee mentored by Marian, currently is Professor and Lisa Capps Chair for Neurodevelopmental Disorders and Education at the UCLA Davis M.I.N.D. Institute.

The UCLA CART established the Sigman Scholars Fund to honor Marian's memory and continue her legacy by providing support to train the future researchers in the autism and developmental disabilities field in which Marian was a great pioneer. Donations may be given through the CART website (<u>http://www.semel.ucla.edu/autism</u>). We wish to recognize and thank the following people for their generous gifts to the Sigman Scholars Fund in 2012.

Ms. Rosanne Altshuler	Dr. Daniel H. Geschwind	Dr. Erum Nadeem & Ms. Sam Retzer
Dr. Martha Bates-Jura & Mr. Michael Jura	Dr. and Mrs. Ted Hutman	Ms. Susan Orr
Dr. Andrew Christensen	Dr. Follin Armfield-Key & Mr. Ronald Key	Dr. Tracy Sherman-Yaffe & Mr. Alan Yaffe
Dr. Rosalie Corona & Dr. Chris Thurber	Dr. Mark Killingsworth	Dr. Hilary Sigman & Dr. Howard Chang
Dr. and Mrs. Edward Dennis	Dr. Terry Kit-Fong Au	Dr. Sarah Spence
Mr. Stephen Diamond	Dr. Eva Lefkowitz	Mr. and Mrs. William Stein
Ms. Ellen Ellickson	Dr. Peter Mundy & Dr. D. Kim Fuller	Ms. Evelyn Stern
		Dr. Jeffrey Wood

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CART Research Highlights from the WOOD & KASARI Labs



CART scientist, Jeffrey Wood, Ph.D., a clinical child psychologist and Associate **Professor** in the departments of Child Psychiatry and Education at UCLA, has dedicated his research career to finding effective treatments for children with Autism Spectrum Disorders (ASD). He has received grants from the National Institutes of Health and

Autism Speaks to investigate the efficacy of evidencebased treatments to target mental health and core symptoms in school-aged children with ASD. The research treatments target emotion and behavioral regulation skills, core symptoms related to autism (e.g., social skills), as well as adaptive behaviors (e.g., self-care). Core autism symptoms are linked with significant functional impairment in youth with ASD. Individuals with fewer core autism symptoms have a better overall prognosis with regard to adaptive functioning, independence, school achievement, employment, and social adjustment. Thus, achieving a significant reduction of autism symptoms is a noteworthy goal. Dr. Wood recently began the Schema, Emotion and Behavior-Focused Therapy for Children study (SEBASTIEN), which tests a promising, experimental treatment designed to reduce core autism symptoms and improve peer relationships in children (6-13 years old) with ASD. Dr. Wood and his team are studying the treatment's impact on children's social and emotional functioning; they target autism symptoms such as difficulty initiating interactions with other children; acting shy or nervous in social situations; behaving rigidly and wanting to do things the same way; and having a hard time understanding other people's perspectives. Eligible families have a 50% chance of being randomly assigned to the experimental intervention or to a treatment program based on standard community treatment approaches. Both treatments last for 32 weeks and provide parent training to encourage the continued development of new skills. For more information, call 310-206-2586.



Dr. Jeffery Wood (top left) and his CART research team.

providers and school and district administrators. Based on the findings and discussions with stakeholders during community partnership meetings, the AIR-B 2 team designed interventions to specifically address the needs of the community.

Currently in the second year of the study, the research teams are actively recruiting schools and participants. Using a randomized control trial study design, schools and classrooms are assigned to treatment or waitlist conditions. Students with ASD who are included in the general education classroom for a majority of the school day receive a social engagement intervention on the playground, and students with ASD in a special day class for a majority of the school day receive a classroom engagement intervention. This study differs from prior studies in its use of a coaching and consultation model to support and teach the school personnel that work with children with ASD during the school day. In addition to measuring student outcomes, social and classroom engagement, the study will measure how school personnel utilize the evidence-based strategies. Interventions in the schools began in



January and recruitment will continue with a second phase to begin next school year.



Deploying evidence-based strategies into the school setting.



UCLA CART's Dr. Connie Kasari leads The Autism Intervention Research for Behavioral Health (AIR-B 2), a three-year multi-site study, funded by HRSA. It's focus is to bring efficacious and costeffective interventions for students with ASD into underserved and under resourced schools. The other principal investigators are David Mandel, Ph.D. (Univ. of Pennsylvania) and Tristram Smith, Ph.D. (Univ. of Roches-

ter). The study's primary goal in the first year was to improve our understanding of how schools currently provide special education services for students with autism in a public school setting, and to develop a community partnership with the school district and community stakeholders. The focus in the second and third year is on the deployment of evidence-based practices into schools.

In order to better understand the strengths and challenges that school personnel and parents of students with autism face, the AIR-B 2 team conducted focus groups with parents, paraprofessionals, and general and special education teachers of students with autism, and interviewed related service

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Help us solve the puzzle of autism





Semel Institute for Neuroscience and Human Behavior at UCLA 760 Westwood Plaza, Suite 68-237 Los Angeles, California 90024-1759

Telephone: 310-794-4090 Fax: 310-825-2682 E-mail: info@autism.ucla.edu

PLEASE VISIT OUR WEBSITE: www.autism.ucla.edu

Support Autism Research

You may <u>make an online gift to CART</u> at https://giving.ucla.edu/cart or at the CART website's home page (to access the donation form). If you would like more information about making a gift to CART (Fund #618040), please contact: Alan Han, Director of Development for Neuroscience



CART thanks the Martha J. Weiner Charitable Foundation for its continued & generous support.



The establishment of UCLA CART in 2003 marked an exciting advancement, particularly for the new and upcoming generation of autism researchers. Since then, CART has concentrated its efforts, developing strong collaborations across disciplines and making major scientific breakthroughs to clarify the mechanisms underlying autism and related disorders. CART has also led the field in designing evidence-based treatment interventions. Your support will help UCLA CART continue as well as expand its research, training, and community outreach activities to improve the lives of countless children and their families affected by autism spectrum disorders.

AUTISM Treatment - Clinical Resources at UCLA:

Details and full contact information for the following clinical programs can be found by calling or visiting their websites at the links below:

Autism Evaluation Clinic

310-794-4008

Early Childhood Partial Hospitalization Program 310-206-2695

ABC Program for the Enhancement of

Achievement, Behavior & Cognition

310-825-9989 (ACCESS Center) Parenting and Children's Friendship Program

310-825-0142 <u>PEERS program for Teens &</u> <u>Young Adults</u>

310 26-PEERS (310-267-3377)







CALL 310-794-2215 to see if you are eligible to participate in any of our ongoing research studies