



## **UCLA Center for Autism Research and Treatment (CART) Pilot Grant Research Program**

### **PROJECTS FUNDED TO DATE**

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The goal for the UCLA CART Pilot Research Program is to foster interactions and interdisciplinary research projects in the basic and clinical areas of autism spectrum disorder (ASD) and to attract investigators to study ASD so as to broaden the scope of ASD research at UCLA. Major funding for the CART pilot grants This funding has been made available through support by the UCLA Department of Psychiatry and Biobehavioral Sciences, the UCLA Clinical and Translational Science Institute (CTSI), UCLA Intellectual and Developmental Disabilities Research Center (IDDRC) (2017-present), and the National Institutes of Health (NIH) Autism Centers of Excellence (ACE) program (2007-2017). CART has successfully attracted excellent research proposals and has funded diverse and innovative projects, including human studies\* as well as neurobiological studies using molecular and animal models.

#### YEAR 1 (2004-2005)

- Towards a neurochemistry of sociability - D. Jentsch, Ph.D.
- Low-level perceptual processing in autism - O. Rosenthal, Ph.D. and L. Shams,
- The molecular basis for songbird learning as a model for speech-language acquisition - S. White, Ph.D. Ph.D.\*

#### YEAR 2 (2005-2006)

- Recognition of social contact in *Drosophila* - A. Simon, Ph.D. and D. Krantz, M.D., Ph.D.
- Study of cognitive behavior therapy (CBT) for children with autism and comorbid anxiety disorders - Jeff Wood, Ph.D.\*

#### YEAR 3 (2006-2007)

- Probing the mirror neuron system in children with autism spectrum disorders – Imaging Mirella Dapretto, Ph.D.\*
- Potential involvement of microRNAs in the autistic trait of Rett syndrome: Methylation and epigenetics - Yi Sun, Ph.D.



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### YEAR 4 (2007-2008)

- Efficacy of an evidence-based parent-assisted social skills intervention for teens with ASD - Elizabeth Laugeson, Psy.D.\*
- Next generation massively parallel sequencing applied to resequencing genomic regions linked to autism - Stanley Nelson, M.D.
- An Investigation of the role of PTEN signaling on the structure and function of cortical circuitry in a mouse model of autism - Joshua Trachtenberg, Ph.D.

### YEAR 5 (2008-2009)

- Neural basis of autistic spectrum disorders in 22q11.2 deletion syndrome - Carrie Bearden, Ph.D.\*
- Genetic and environmental influences on brain overgrowth in autism - Janel Le Belle, Ph.D.

### YEAR 6 (2009-2010)

- Dendritic spine remodeling in a mouse model for autism – Ellen Carpenter, Ph.D.

### YEAR 7 (2010-2011)

- Face processing and visual search for social stimuli: A longitudinal eye-tracking study involving infants at risk for autism - Theodore Hutman, Ph.D. \*

### YEAR 8 (2011-2012)

- Functional cortical microcircuit changes in the NLGN-3 model of autism [mouse] - Peyman Golshani, M.D., Ph.D.
- Cytoplasmic functions of A2BP/RBFox1, a candidate autism gene [mouse] - Kelsey Martin, M.D., Ph.D.
- Variability in autism symptom severity in high functioning children: Investigating the role of diurnal cortisol and daily stress - Lindsey Sterling, Ph.D.\*



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### YEAR 9 (2012-2013)

- Circadian disruption in the CNTNAP2 mouse model of autism spectrum disorder - Christopher Colwell, Ph.D.
- Glutamate in Autism and Early Development - Jennifer Levitt, M.D.\*
- Oxytocin and dopamine signaling in a preclinical model of autism [mouse] - Nigel Maidment, Ph.D.

### YEAR 10 (2013-2014)

- Impact of autism on action perception - Hongjing Lu, Ph.D.\*
- The link between pre-conceptual and prenatal supplementary folic acid intake and ASD In the Danish National Birth Cohort (DNBC) - Beate Ritz, M.D., Ph.D.\*
- Perfusion MRI and functional connectivity in autism spectrum disorder (ASD) – Danny J.J. Wang, Ph.D.\*

### YEAR 11 (2014-2015)

- Early Intervention Targeting Social Communication in Infants with Tuberous Sclerosis Complex – Shafali Spurling Jeste, M.D, Amanda Gulsrud, Ph.D.\*
- Brain oscillatory patterns associated with GABA/Glutamate signaling and cognition in ASD – Sandra Loo, Ph.D., Jennifer Levitt, M.D.\*
- Immune activation during pre- and post-natal development causes social phenotypes in a mouse model of Tuberous – Alicno Silva, Ph.D.

### YEAR 12 (2015-2016)

- From Seeing to Participating: Dysregulation of Functional Connectivity during Action Perception and Imitation in Autism Spectrum Disorder – Marco Iacoboni, M.D., Ph.D.
- Functional effects of genetic variants associated with macrocephaly in autism – Julian Martinez-Agosto, M.D., Ph.D.



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### YEAR 13 (2016-2017)

- Targeting Microglial Activation for Treatment of Autism Spectrum Disorder (ASD): A Proof-of-Concept, Target-engagement Study – Michael Gandal, M.D., Ph.D.\*
- Latino Parents of Children with Autism: Understanding how Innovative Mobile Internet Technology can Increase Access to Care – David Hayes-Bautista, Ph.D.\*
- Investigating The Role of Amygdala Circuitry in ASD-Related Behavior – Weizhe Hong, Ph.D.

### YEAR 14 (2017-2018)

- Is dim light at night a risk factor for autism spectrum disorders? – Christopher Colwell, Ph.D.
- Parsing ASD Heterogeneity: Neuroendophenotypes of Social and Sensory Responsivity – Mirella Dapretto and Ariana Anderson (co-PI)
- Establishing the causal contribution of microglia and adult neuroinflammation to social, cognitive, and tactile dysfunction in mice with environmental and genetic susceptibilities for ASD – Harley Kornblum, M.D., Ph.D.

### YEAR 15 (2018-2019)

- EEG markers of intervention response in minimally verbal children with ASD – Charlotte DiStefano, Ph.D.
- Neurochemical Excitatory/Inhibitory Imbalance and Sensory Over-Responsivity in Children with ASD – Shulamite Green, Ph.D.\*
- Quantitative measures of infant motor function to identify early risk of Autism Spectrum Disorder– Rujuta Wilson, M.D.\*

### YEAR 16 (2019-2020)

- Transcriptomic analysis of parvalbumin and pyramidal neurons in the Fmr1- mouse model of Fragile X Syndrome – Carlos Portera-Cailliau, M.D.
  - Defining cell types and transcriptional networks in a vocal learner – Stephanie White, Ph.D.
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