

# A Precision Medicine Approach to Diagnosing and Treating Autism



## CURRENT RESEARCH

### Detecting and Treating Social Impairments in Animal Models and in Patients with Autism

Autism spectrum disorder is a brain disorder of early childhood onset. It is characterized by pronounced social impairments which can include diminished eye gaze, abnormal facial and emotional processing, lack of perspective taking, and impaired social judgment. These social impairments jeopardize the development of appropriate social skills and the formation of close personal relationships. Despite its prevalence (1 in 68 US children) and societal impact (\$236B expended in the US annually), there are currently no laboratory-based diagnostic tests to detect, or effective medications to treat, autism.

Dr. Karen J. Parker, Associate Professor in the Department of Psychiatry and Behavioral Sciences at Stanford University, directs the Social Neurosciences Research Program. Dr. Parker's multidisciplinary team is comprised of postdoctoral fellows with expertise in social behavior, molecular biology, bioengineering, neuroscience, and also includes a neuroscience graduate student, multiple undergraduates, a lab manager, research coordinators, and technicians. With her team, and in close collaboration with a biostatistician and several clinicians, she is pioneering the development of novel primate models that have behavioral and biological features with direct relevance to human autism. In patients, her research aims to identify novel biological "signatures" of autism in human fluids, test promising new medications that improve social abilities, and identify biological predictors of treatment response to determine which children will benefit most from a given medication. Dr. Parker's research program has high potential to rapidly advance scientific knowledge and transform clinical practice. Findings from her...

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## AFFILIATION

 Stanford University

## EDUCATION

- AB, College of Literature Science and the Arts 1994, University of Michigan
- PhD, Department of Psychology 2000, University of Michigan
- Postdoctoral Fellowship, Department of Psychiatry and Behavioral Sciences 2006, Stanford University

## AWARDS

- Kavli Fellow, U.S. National Academy of Sciences
- George A. Miller Award, American Psychological Association
- NARSAD Young Investigator Award recipient
- Distinguished Dissertation Award recipient, University of Michigan

## RESEARCH AREAS

Life Science, Diagnostics, Neurological / Cognitive

## FUNDING REQUEST

Your contributions will help advance Dr. Parker's transformative research program which aims to better understand: 1) the biology of social functioning and autism disease biology, 2) develop novel diagnostic tools, 3) test promising new medications to improve social abilities in people with autism, and 4) train the next generation of autism researchers. Donations will be used to underwrite Dr. Parker's annual research operating costs. Play a role in detecting and curing autism; fund Dr. Parker.