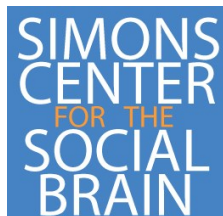




## WELCOME!



The mission of the Simons Center for the Social Brain is to understand the neural mechanisms underlying social cognition and behavior, and to translate this knowledge into better diagnosis and treatment of autism spectrum disorders (ASD).

The Simons Center studies the underlying mechanisms of ASD in both humans and relevant model organisms and systems, as neural correlates of social cognition and behavior exist in diverse species. Our approaches take advantage of MIT's strengths in genetics and genomics, molecular and cell biology, analyses of neural circuits and systems, cognitive psychology, computation and engineering.

Our programs include funding for innovative, collaborative team projects and postdoctoral fellowships, as well as events that reach a wide audience, including a Colloquium Series and a Lunch Talks Series.

## RECENT PUBLICATIONS

From Li-Huei Tsai's lab, in [Nature Neuroscience](#):

[Chd8 mediates cortical neurogenesis via transcriptional regulation of cell cycle and Wnt signaling](#)

From Rebecca Saxe's lab, in [Neuropsychologia](#):

[Directed network discovery with dynamic network modelling](#)

From Rudolf Jaenisch's lab, in [Cell Stem Cell](#):

[Induction of Expansion and Folding in Human Cerebral Organoids](#)

From Feng Zhang's lab, in [Cell Reports](#):

[Chd8 mutation leads to autistic-like behaviors and impaired striatal circuits](#)

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## TARGETED PROJECT UPDATE: THE 16p11.2 PROJECT

### UNDERSTANDING AUTISM FROM EVERY ANGLE



Many heads are better than one: That's the guiding principle behind the Simons Center for the Social Brain, which was founded at MIT in order to better untangle the complexity of autism spectrum disorders (ASD).

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*"Through what we call Targeted Projects, we take one common problem, and have a team of three or four researchers working on it, using different tools and different levels of analysis,"* describes Mriganka Sur, Newton Professor of Neuroscience and director of the center.

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Sur points to a recently concluded project in which four researchers focused on the role of 16p11.2, a region of the genome that, when deleted, is often a contributor to autism—but not always. "The question was why, and what can this tell us," says Sur.

The team tackled the question from different angles. Mark Bear, Picower Professor of Neuroscience in the Department of Brain and Cognitive Sciences and investigator at MIT's Picower Institute for Learning and Memory, used a mouse model to gain insight into the molecular mechanisms by which autism arises from microdeletion of chromosome 16. Nancy Kanwisher, Walter A. Rosenblith Professor of Cognitive Neuroscience in the Department of Brain and Cognitive Sciences and a founding member of the McGovern Institute for Brain Research at MIT, found that while some people who have a mutation at 16p11.2 do not meet the clinical criteria for ASD, they do share a difficulty in shaping their mouths to make complex sounds and words. For his part, Sur found that the deletion of a specific gene within a subset region altered cortical plasticity in mice. And Mark Daly, who is co-director of the Medical and Population Genetics Program at the Broad Institute of MIT and Harvard, examined the distribution of additional genetic risk factors for ASD in the presence of a 16p11.2 mutation.

Other Targeted Projects at the Simons Center are looking closely at the role of the thalamic reticular nucleus and the nature of pragmatic impairment in ASD. These multi-pronged investigations are "the essential driver of our center," as Sur puts it. "That's where new ideas come from."

For other Targeted Projects, please visit: <http://scsb.mit.edu/research/targeted-projects/>



## SIMONS POSTDOCTORAL FELLOWS: IN THEIR OWN WORDS



**Neville Sanjana,**  
photo credit: World Science Festival

*"The Simons Fellowship has had an oversize impact on my career and I am extremely grateful for the crucial early stage support. First and foremost, the Simons Fellowship gave me the confidence and freedom to develop a new technology that resulted in several high profile publications.. Beyond this, the Simons Fellowship has connected me with a community of autism researchers. By collaborating*

*with several of these scientists and clinicians, I have found great places to apply the technologies in genome engineering and neural differentiation that I developed in my postdoc."*

Former Simons Postdoctoral Fellow,  
Currently Core Member, New York Genome Center;  
Assistant Professor, New York University Department of Biology and  
Center for Genomics and Systems Biology

## POSTDOCTORAL APPLICATIONS: FALL 2017

We are pleased to announce the 2017 Round 2 funding opportunities for Postdoctoral Fellowships.

Postdoctoral Fellowships are intended for outstanding candidates with very recent PhDs who wish to conduct autism-related research at MIT under the mentorship of MIT faculty researchers. Applicants currently completing their PhD outside MIT, who wish to carry out postdoctoral research at MIT, are strongly encouraged to apply.

**Deadline:** Friday, September 29, 2017.

For information on how to apply and eligibility, please visit our website at: <http://scsb.mit.edu/funding/postdoctoral-fellowship-funding/>

### SEPTEMBER

**13 - Rob Knight, Ph.D.**  
University of California,  
San Diego

**27 - Thomas Bourgeron, Ph.D.**  
Institut Pasteur, France

### OCTOBER

**4 - Dan Feldman, Ph.D.**  
University of California, Berkeley

**25 - Susan Rivera, Ph.D.**  
University of California, Davis,  
MIND Institute

### NOVEMBER

**8 - Helen Tager-Flusberg, Ph.D.**  
Boston University, Center for  
Autism Research Excellence

**29 - Benjamin Philpot, Ph.D.**  
University of North Carolina,  
Neuroscience Center

.....  
*These events are open to the public,  
registration is not required*

### General Info:

**Time:** 4PM-5PM, reception to follow  
**Location:** Singleton Auditorium,  
(Building 46, Room 3002)  
43 Vassar Street  
Cambridge, MA 02139

## PARTICIPATE!

Researchers in the Department of Brain and Cognitive Sciences at MIT are exploring the neuroscience behind social cognition and behavior. Individuals and families can play an important role in making these discoveries by participating in research. Several research studies are actively recruiting volunteers with and without autism spectrum disorders. The Simons Center actively supports these projects.



NIRS Facility | Photo: Alexandra Sokhina

For more information on how to participate in these studies, please email Recruitment Coordinator [AJ Haskins](mailto:AJ.Haskins@mit.edu) or visit our website: <http://scsb.mit.edu/research/participate/>.

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## HOW TO HELP

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