



National Institute of  
Environmental Health Sciences



# The Next Generation in Autism Research Minisymposium

*Brought to you by the Division of Extramural Research  
and Training Autism Program*

**Monday, April 12, 2021**

**1:00 – 3:15 p.m.**



# The Next Generation in Autism Research Minisymposium

*Division of Extramural Research and Training Autism Program*

## Virtual Event

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## Agenda

- 1:00 p.m. **Opening Remarks**  
**Cindy Lawler, Ph.D.**, Autism and Environment Program Director,  
National Institute of Environmental Health Sciences (NIEHS)
- 1:05 p.m. ***Interactions of Environmental Chemical Mixtures, Genetics, and Immune Pathways  
in Autism Spectrum Disorder***  
**Jennifer Ames, Ph.D.**, Kaiser Permanente Northern California Division of Research
- 1:23 p.m. ***Investigating the Influence of CHD8 Haploinsufficiency on Pyrethroid-Induced  
Developmental Neurotoxicity***  
**Jessica Jimenez, Ph.D. Candidate**, Curriculum in Toxicology and Environmental Medicine,  
University of North Carolina at Chapel Hill
- 1:41 p.m. ***Prenatal Exposure to Air Pollution and Maternal Stress: Effects on Social Behavior,  
Neuro-Immune Interactions, and the Gut Microbiome***  
**Caroline Smith, Ph.D.**, Duke University Psychology and Neuroscience
- 1:59 p.m. ***Exposure to Chemical Flame Retardant Alters Social Behavior and Neurodevelopment  
in Prairie Voles***  
**Sagi Gillera, Ph.D. Candidate**, North Carolina State University Toxicology Program
- 2:17 p.m. ***Studying the Environmental Etiology of Autism Spectrum Disorder Using  
High-Throughput Behavioral Screening in Zebrafish***  
**Yijie Geng, Ph.D.**, University of Utah College of Pharmacy
- 2:35 p.m. ***A High-Throughput Molecular Screen for Environmental Epigenetic Modifiers in Brain  
Development and ASD***  
**Katie Eyring, Ph.D.**, David Geffen School of Medicine at UCLA
- 2:53 p.m. **Open Discussion**
- 3:10 p.m. **Closing Remarks**  
**Cindy Lawler, Ph.D.**, Autism and Environment Program Director



## ***A Little About Our “Next Generation” Autism Researcher***

### **Jennifer Ames, Ph.D.**

Jenn is a postdoctoral research fellow at the Kaiser Permanente Northern California Division of Research. She researches the etiology of autism and other neurodevelopmental disorders, and the delivery of health services to autistic people. Her current research, supported by the NIEHS K99 mechanism, focuses on the interplay of endocrine-disrupting chemicals and genetics in the development of autism. Her primary mentor is Dr. Lisa Croen. Prior to coming to the DOR, Jenn completed her doctoral training in epidemiology at the University of California, Berkeley, where she studied gene-environment interactions in the context of prenatal dioxin exposure and birth weight.

### **Jessica Jiménez, Ph.D. Candidate**

Jessica Jiménez is a Ph.D. candidate in the Toxicology and Environmental Medicine curriculum at the University of North Carolina at Chapel Hill in Dr. Mark Zylka’s lab. Jessica received her Bachelor of Arts in neuroscience and biology at Oberlin College, where she studied the neurotoxicity of heavy metal exposure in a Parkinson’s disease cell model. In the Zylka lab, she is currently interested in exploring gene-environment interactions that can influence susceptibility to neurodevelopmental and neurodegenerative disorders. Jessica’s research investigates how genetic predisposition to autism spectrum disorder can affect pesticide-induced neurotoxicity, leading to neurodevelopmental and behavioral impairments.

### **Caroline Smith, Ph.D.**

Dr. Caroline Smith is a postdoctoral fellow in the lab of Dr. Staci Bilbo at Duke University. Dr. Smith completed her Ph.D. at Boston College in the lab of Dr. Alexa Veenema studying the neural regulation of social behavior by neuropeptides, such as oxytocin and vasopressin, using animal models. Her current work in the Bilbo lab builds on this foundation to ask how gestational exposure to air pollution and maternal stress leads to changes in ASD-relevant social behaviors in males, but not females. This work is supported by a F32 NRSA from NIEHS.



### **Sagi Gillera, Ph.D. Candidate**

Sagi Gillera is a fourth year Ph.D. candidate in Heather Patisaul's lab at NC State University. She received a bachelor's degree in biology and chemistry from the University of North Carolina at Chapel Hill, then trained as a postbac in Sue Fenton's lab at NIEHS. Currently, Sagi's research focuses on the effects of exposure to a flame retardant, called Firemaster 550 (FM 550), on social behavior and neurodevelopment in prairie voles. Her work shows perinatal exposure had sex-specific effects on social and anxiety-like behaviors and disrupted vasopressin neuron numbers.

### **Yijie Geng, Ph.D.**

Dr. Yijie Geng is a K99 NIEHS awardee and postdoctoral research associate in Dr. Randall Peterson's lab at the University of Utah. Prior to joining the Peterson lab, Dr. Geng received his Ph.D. from the Department of Cell and Developmental Biology at the University of Illinois at Urbana-Champaign. Dr. Geng is broadly interested in using chemical biology to study the development of social behavior. In this presentation, he will discuss a high-throughput chemical and behavioral screening platform for discovering environmental chemicals that contribute to autism risk.

### **Katie Eyring, Ph.D.**

Dr. Katie Eyring is a K00 NIEHS awardee and postdoctoral research fellow in Dan Geschwind's lab at UCLA. Her work focuses on genetic and environmental risk factors for autism spectrum disorder (ASD) and their potential convergence on biological mechanisms, particularly during prenatal brain development. Katie is a neuroscientist and physiologist by training. She completed her graduate training in neuroscience and physiology at New York University under the supervision of Richard Tsien after graduating from Wellesley College with a B.A in neuroscience.