NATIONAL ACADEMIES Sciences Engineering Medicine

Forum on Neuroscience and Nervous System Disorders
Forum on Mental Health and Substance Use Disorders

Applying Neurobiological Insights on Stress to Foster Resilience Across the Lifespan: A Workshop

March 24, 2025 | 2:00–5:00pm ET | Hybrid
March 25, 2025 | 9:30am–4:00pm ET | Hybrid

ATTENDEE PACKET

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Applying Neurobiological Insights on Stress to Foster Resilience Across the Lifespan: A Workshop

Monday, March 24, 2025: 2:00 pm – 5:00 pm ET
Tuesday, March 25, 2025: 9:30 am – 4:00 pm ET

National Academy of Sciences Building | 2101 Constitution Avenue, NW, Washington, D.C., 20418

Objectives

- Review scientific evidence on the global rise of stress, disparities among populations, and the relationship between stress and development of systemic disorders (e.g., psychiatric, neurological, metabolic, cardiovascular, autoimmune), highlighting specific examples.
- Examine recent discoveries illuminating the neurobiological mechanisms of stress susceptibility, distinct mechanisms of resilience, and individual differences in responses to stress and building resilience.
- Consider the role of childhood neurodevelopment and neuroplasticity across the lifespan in building early-life and lifelong resilience (as opposed to stress susceptibility) and discuss effective approaches for optimizing resilience during critical and sensitive periods of neurodevelopment.
- Explore how these findings could inform public health programs and education to promote resilience to stress.
- Discuss research gaps and opportunities for studying resilience across research, clinical, and public settings.

Program At-A-Glance

- **Day 1**
  - Welcome & Introductory Remarks
  - Workshop Overview
  - Keynote Presentation: State of the Science on Stress and Resilience
  - A Lived Experience Perspective on Resilience
  - **Session 1:** Neurobiological Mechanisms of Stress Susceptibility and Resilience
  - Concluding Remarks
- **Day 2**
  - Welcome & Day 1 Recap
  - A Lived Experience Perspective on Resilience
  - **Session 2:** Periods of Opportunity for Resilience and Adaptive Neuroplasticity Across the Lifespan
  - **Session 3:** Systemic Manifestations and Outcomes of Stress Susceptibility and Resilience
  - **Session 4:** Clinical and Public Health Interventions
  - **Session 5:** Synthesis and Opportunities for Promoting Resilience
  - Concluding Remarks

MONDAY, MARCH 24, 2025

2:00pm **Introductory Remarks**

Frances Jensen, University of Pennsylvania, *Forum on Neuroscience and Nervous System Disorders Co-chair, Planning Committee Member*

Deanna Barch, Washington University in St. Louis, *Forum on Neuroscience and Nervous System Disorders Co-chair, Planning Committee Member*

Margarita Alegría, Massachusetts General Hospital & Harvard Medical School, *Forum on Mental Health and Substance Use Disorders Co-chair*

2:05pm **Workshop Overview**

Huda Akil, University of Michigan, *Workshop Co-chair*

2:10pm **Keynote Presentation: State of Science on Stress and Resilience**

Huda Akil, University of Michigan, *Workshop Co-chair*

2:30pm **A Lived Experience Perspective on Resilience**

Jon Nelson, Pulverize the Stigma

2:40pm **Session 1: Neurobiological Mechanisms of Stress Susceptibility and Resilience**

Objectives:

- Examine recent discoveries illuminating the neurobiological mechanisms of stress susceptibility and resilience at the genetic, molecular, cellular, circuit, and behavioral levels.
- Highlight common mechanisms that are conserved between and across animal models and humans.
- Examine the intergenerational effects of stress susceptibility.
- Discuss the gaps in knowledge of resilience to stress.

2:40pm **Session Overview**

Aleksandra Vicentic, National Institute of Mental Health, *Planning Committee Member*

Michael Milham, Child Mind Institute, *Planning Committee Member*

2:45pm **Speaker Presentations**

Scott Russo, Icahn School of Medicine at Mount Sinai

Mazen Kheirbek, University of California, San Francisco

Michael Baratta, University of Colorado

3:20pm **BREAK**

3:35pm **Speaker Presentations**

Judy Cameron, University of Pittsburgh

Kerry Ressler, McClean Hospital & Harvard Medical School

4:00pm **Moderated Panel and Audience Q&A**

4:45pm **Day 1 Concluding Remarks**

Huda Akil, University of Michigan, *Workshop Co-chair*

Eric Nestler, Icahn School of Medicine at Mount Sinai, *Workshop Co-chair*

5:00pm **Adjourn Day 1**

TUESDAY, MARCH 25, 2025

9:30am **Review of Day 1 and Preview of Day 2**

Huda Akil, University of Michigan, *Workshop Co-chair*

Eric Nestler, Icahn School of Medicine at Mount Sinai, *Workshop Co-chair*

9:40am **A Lived Experience Perspective on Resilience**

Indida Birto, Here's to Life

9:50am **Session 2: Periods of Opportunity for Resilience and Adaptive Neuroplasticity Across the Lifespan**

Objectives:

- Examine the specific developmental periods that are critical and sensitive for resilience and stress susceptibility.
- Review environmental and lifestyle contributors during these critical and sensitive periods that control stress, susceptibility, and resilience.
- Explore the range of protective mechanisms across the lifespan that operate in the brain, periphery, and behavior to promote stress resilience.

9:50am **Session Overview**

Brian Dias, University of Southern California, *Planning Committee Member*

Frances Jensen, University of Pennsylvania, *Planning Committee Member*

9:55am **Speaker Presentations**

Catherine Jensen Peña, Princeton University, *Planning Committee Member*

Michael Meaney, McGill University

Cynthia Rogers, Washington University in St. Louis

Luke Hyde, University of Michigan (*virtual*)

Darby Saxbe, University of Southern California (*virtual*)

10:55am **Moderated Panel and Audience Q&A**

11:30am **BREAK**

11:45am **Session 3: Systemic Manifestations and Outcomes of Stress Susceptibility and Resilience**

Objectives:

- Explore the systemic manifestations (e.g., psychiatric, neurological, cardiovascular, endocrine, immune, and metabolic) of stress susceptibility and resilience.
- Review mechanisms that mediate the biological communication between the brain and peripheral systems in the context of stress and resilience.
- Examine the mechanisms that peripheral systems use to control resilience to stress.
- Discuss potential biomarkers that could be utilized to assess the biological impact of stress that predict susceptibility versus resilience.

11:45am **Session Overview**

Deanna Barch, Washington University in St. Louis, *Forum on Neuroscience and Nervous System Disorders Co-chair, Planning Committee Member*

John Krystal, Yale University, *Planning Committee Member*

11:50am **Speaker Presentations**

Janitza Montalvo-Ortiz, Yale University

Tamar Gur, Ohio State University

J. Douglas Bremner, Emory University

12:25pm **Moderated Panel and Audience Q&A**

1:00pm **LUNCH BREAK**

1:45pm **Session 4: Clinical and Public Health Interventions**

Objectives:

- Explore opportunities to leverage the biological and clinical mechanisms of stress and resilience into early detection and intervention strategies.
- Discuss clinical interventions and non-clinical strategies, such as public programs, that can promote resilience.
- Explore how communication tools such as social media and edutainment might be utilized to educate the public across the lifespan on stress and resilience.

1:45pm **Session Overview**

Andrew Fuligni, University of California, Los Angeles, *Planning Committee Member*

Husseini Manji, Oxford University; Yale University, *Planning Committee Member*

1:50pm **Speaker Presentations**

Nadine Burke Harris, ACE Resource Network, *Planning Committee Member*

Velma McBride Murry, Vanderbilt University

Helen Minnis, University of Glasgow (*virtual*)

2:25pm **Moderated Panel and Audience Q&A**

3:00pm **BREAK**

3:15pm **Session 5: Synthesis and Opportunities for Promoting Resilience**

Objectives:

- Examine the core themes that have been highlighted during the workshop.
- Discuss how understanding the biological mechanisms of resilience can combat the misconception that resilience is simply being "unaffected".
- Discuss research gaps and opportunities for studying stress and resilience across research, clinical, and public settings.

3:15pm **Session Overview**

Eric Nestler, Icahn School of Medicine at Mount Sinai, *Workshop Co-chair*

3:20pm **Themes & Future Opportunities Discussion**

Frances Jensen, University of Pennsylvania, *Forum on Neuroscience and Nervous System Disorders Co-chair, Planning Committee Member*

John Krystal, Yale University, *Planning Committee Member*

Husseini Manji, Oxford University; Yale University, *Planning Committee Member*

Jon Nelson, Pulverize the Stigma

Aleksandra Vicentic, National Institute of Mental Health, *Planning Committee Member*

3:55pm **Concluding Remarks**

Huda Akil, University of Michigan, *Workshop Co-chair*

Eric Nestler, Icahn School of Medicine at Mount Sinai, *Workshop Co-chair*

4:00pm **Adjourn Day 2**

This event was planned by the following experts: Huda Akil, University of Michigan; Eric Nestler, Icahn School of Medicine at Mount Sinai; Deanna Barch, Washington University in St. Louis; Indida Birto, Here's to Life; Brian Dias, University of Southern California; Andrew Fuligni, University of California, Los Angeles; Nadine Burke Harris, ACE Resource Network; Frances Jensen, University of Pennsylvania; John Krystal, Yale University; Husseini Manji, Oxford University & Yale University; Michael Milham, Child Mind Institute; Catherine Jensen Peña, Princeton University; Aleksandra Vicentic, National Institute of Mental Health.

Note: The planning committee's role is limited to organizing the event. A proceedings based on the event will be prepared by independent rapporteurs.

Forum on Neuroscience and Nervous System Disorders

The Forum on Neuroscience and Nervous System Disorders was established in 2006 to provide a venue for building partnerships, addressing challenges, and highlighting emerging issues related to brain disorders, which are common, major causes of premature mortality, and, in aggregate, the largest cause of disability worldwide. The Forum's meetings bring together leaders from government, industry, academia, disease advocacy organizations, philanthropic foundations, and other interested parties to examine significant—and sometimes contentious—issues concerning scientific opportunities, priority setting, and policies related to research on neuroscience and brain disorders; the development, regulation, and use of interventions for the nervous system; and related ethical, legal, and social implications.

Forum members meet several times a year to exchange information, ideas, and differing perspectives. The Forum also sponsors workshops (symposia), workshop proceedings, and commissioned papers as additional mechanisms for informing its membership, other stakeholders, and the public about emerging issues and matters deserving scrutiny. Additional information is available at www.nas.edu/NeuroForum.

MEMBERS

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Upcoming Events

Applying Neurobiological Insights on Stress to Foster Resilience Across the Lifespan (March 24-25, 2025) *A collaboration with the Forum on Mental Health and Substance Use Disorders*

Unraveling the Neurobiology of Empathy and Compassion: Implications for Treatments for Brain Disorders and Other Applications (May 19 & 21, 2025) *A collaboration with the Board on Behavioral, Cognitive, and Sensory Sciences*

Recent Events

Approaches to Address Unmet Research Needs in Traumatic Brain Injury Among Older Adults (2024) *A collaboration with the Forum on Traumatic Brain Injury*

Examining Glucagon-Like Peptide-1 (GLP-1R) Agonists for Central Nervous System Disorders (2024)

Exploring the Bidirectional Relationship between Artificial Intelligence and Neuroscience (2024)

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Mitigating Health Disparities in Brain Disorders Starting with Basic Science: A Workshop (2023)

Exploring the Adoption of Implantable Brain Stimulation into Standard of Care for Central Nervous System Disorders: A Workshop (2023)

Addressing Health Disparities in Central Nervous System Disorders: A Virtual Workshop Series (2023)

Toward a Common Research Agenda in Infection-Associated Chronic Illnesses: A Workshop to Examine Common, Overlapping Clinical and Biological Factors (2023) *A collaboration with the Forum on Microbial Threats*

Multimodal Biomarkers for Central Nervous System Disorders: Development, Integration, and Clinical Utility: A Workshop (2023)

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Forum on Mental Health and Substance Use Disorders

The Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine's **Forum on Mental Health and Substance Use Disorders** provides a structured environment and neutral venue to discuss data, policies, practices, and systems that affect the diagnosis and provision of care for mental and substance use disorders, including for substance- related and addictive conditions. Its activities, which will focus on adults, will facilitate sustained attention to these conditions throughout the Academies: https://www.nationalacademies.org/our-work/forum-on-mental-health-and-substance-use-disorders.

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Rosalie Liccardo Pacula, PhD, ***co-chair***
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Forum on Neuroscience and Nervous System Disorders
Forum on Mental Health and Substance Use Disorders

Upcoming Events

Applying Neurobiological Insights on Stress to Foster Resilience Across the Lifespan (March 24-25, 2025) *A collaboration with the Forum on Neuroscience and Nervous System Disorders*

Innovations in Pharmacy Training and Practice to Advance Patient Care (May 29-30, 2025) *A collaboration with the Forum on Drug Discovery, Development, and Translation; Global Forum on Innovation in Health Professional Education; and Roundtable on Quality Care for People with Serious Illness*

Recent Events

Addressing the Impact of Tobacco and Alcohol Use on Cancer-Related Health Outcomes (2025) *A collaboration with the National Cancer Policy Forum*

Effective Models to Address Mental Health and Substance Use Disorders: Strategies for Successful and Equitable Abatement Using Opioid Settlement Dollars (2024)

Addressing Workforce Challenges Across the Behavioral Health Continuum of Care (2024)

Essential Health Care Services Related to Anxiety and Mood Disorders in Women (2024)

988: It is NOT Just a Number (2023)

Addressing the Rising Mental Health Needs of an Aging Population (2023)

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American Psychiatric Association
American Psychiatric Nurses Association
American Psychological Association
Council on Social Work Education
National Association of Addiction Treatment Providers

Biosketches of Speakers

Michael Baratta, Ph.D.

Michael Baratta, Ph.D., is an Assistant Professor of Behavioral Neuroscience at the University of Colorado Boulder. He conducts research focused on how experiential factors confer resilience to adverse events, and the mechanisms that implement their effects. Dr. Baratta earned his bachelor's degree in biological psychology from the University of California San Diego and Ph.D. in neuroscience from the University of Colorado Boulder in the laboratory of Dr. Steven Maier. His work examines how behavioral control over a stressor – an aspect of coping that can be experimentally manipulated in rodents – not only blunts the impact of the adverse event being experienced but also buffers against the effects of future adversity. Dr. Baratta's lab has identified distinct medial prefrontal cortex ensembles that process the separable features of behavioral control: those that participate in the detection/computation of controllability and those that act on control information to inhibit stress-responsive brainstem structures, thereby blunting the behavioral impact of the stressor. His lab studies behavioral control phenomena across multiple units of analysis (molecular, cellular, circuit, behavior, sex) by combining scalable measurements (e.g., fiber photometry, in vivo microdialysis, in situ hybridization) and manipulations (chemogenetics, optogenetics, RNA interference). More recently, his research is examining why the resilience-inducing effects of behavioral control are absent in female rats.

Email: michael.baratta@colorado.edu

J. Douglas Bremner, M.D.

J. Douglas Bremner, M.D., is Professor of Psychiatry and Radiology and Director of the Emory Clinical Neuroscience Research Unit (ECNRU) at Emory University School of Medicine in Atlanta, Georgia and Staff Psychiatrist at the Atlanta VA Medical Center in Decatur, Georgia. In 2000-2006, he was Director of the Emory Center for Positron Emission Tomography (PET). Dr. Bremner moved to Emory from Yale in November of 2000 where he spent the first 12 years of his career.

Dr. Bremner's research has used neuroimaging and neurobiology measures to study the neural correlates and neurobiology of posttraumatic stress disorder (PTSD) related to combat and childhood abuse, as well as the related areas of depression and opioid use disorder. His more recent work is expanding to look at the relationship between brain, behavior, and physical health including studies of neurobiological mechanisms involved in the relationships between stress and depression and cardiovascular disease, as well as the effects of different treatments for stress-related conditions on the brain. His research included studies of the neurobiology and assessment of PTSD, hippocampus and memory in PTSD and depression, neural correlates of declarative memory and traumatic remembrance in PTSD, PET measurement of neuroreceptor binding in mood and anxiety disorders, neurobiological and cardiovascular correlates of stress-induced myocardial ischemia, and the effects of psychotropic drugs and behavioral interventions like meditation on brain function and structure. His studies using magnetic resonance imaging (MRI) to show smaller hippocampal volume in PTSD and depression are amongst the most highly cited in the field. He also wrote

and developed and validated several behavioral measures that have been widely translated and used, including the Early Trauma Inventory (ETI) and the Clinician Administered States Scale (CADSS).

Research on the effects of non-invasive Vagal Nerve Stimulation (nVNS) in stress-related psychiatric disorders led to Food and Drug Administration (FDA) Breakthrough Device Designation for PTSD based on his research in 2022 and has been expanded to OUD and cognitive disorders. Dr. Bremner has worked continuously throughout his career as a physician scientist, with the support of funding from two successive Veterans Administration (VA) Career Development Awards and two National Institute of Health (NIH) K24 Awards, VA Merit Review, NIH, Defense Advanced Projects Agency (DARPA), Department of Defense (DOD), and various private sources.

Following obtaining a bachelors degree in literature, Dr. Bremner attended medical school at Duke University where he graduated in 1987, followed by residency in Psychiatry (1991) and Nuclear Medicine (1997) at Yale School of Medicine, leading to a double board certification. Dr. Bremner has written over 400 articles in scientific journals, edited three books, written six books and contributed multiple book chapters for edited volumes in the field. He is Editor of Posttraumatic Stress Disorder, From Neurobiology to Treatment. He has written several best-selling books, including Does Stress Damage the Brain? Understanding Trauma-Related Disorders from a Mind-Body Perspective published by. Other books include Brain Imaging Handbook W.W. Norton & Co. (2002), Before You Take That Pill, Why the Drug Industry May be Bad for Your Health Penguin, 2008, The Goose That Laid the Golden Egg, Right Publishing, 2011, and You Can't Just Snap Out of It, Laughing Cow Books, 2014.

He has received several awards for his work, including the Chaim Danieli Award for Research and Service in Traumatic Stress from the International Society for Traumatic Stress Studies.

Email: jdbremn@emory.edu

Judy Cameron, Ph.D.

Judy Cameron, Ph.D., is a Professor of Psychiatry; Neuroscience; Obstetrics, Gynecology & Reproductive Sciences; Behavioral & Community Health; and the Clinical Translational Science Institute at the University of Pittsburgh. She is a member of the National Scientific Council on the Developing Child at Harvard University and the Scientific Council of the Child Mind Institute in New York.

Dr. Cameron's research focuses on the effects of everyday life stresses on long-term health. Areas of interest in her laboratory are the effects of genetic factors and early life experiences on behavioral development, identification of factors that lead to stress sensitivity versus stress resilience, and lifestyle factors that improve brain health by impacting neuroplasticity during development and aging. She has a long-term interest in understanding the interactions between physical health and mental health. Studies in the Cameron lab focus on identifying the neural systems which respond to stress and understanding how changes in the functional activity of these systems modulate stress-responsive physiological systems, including behavior, neuroendocrine function, body weight, cognitive function, attention, and motivation. The stresses her laboratory has studied include metabolic stresses (such as dieting, missing meals, and exercise), and psychosocial stress (such as being separated from familiar individuals and

introduced to unfamiliar individuals). Studies utilize nonhuman primates, although many studies combine clinical work with experimental work to understand both the mechanisms underlying responses to chronic stress exposure, as well as the clinical implications of such stress exposure.

Email: jcameron@pitt.edu

Tamar Gur, M.D., Ph.D.

Tamar Gur, M.D., Ph.D., received her Bachelor of Science in Biology from Brown University. She then went on to complete both her MD and PhD as part of the NIH-Funded MSTP program at the University of Pennsylvania. Her graduate studies were completed under the mentorship of Dr. Julie Blendy, and her work centered on the transcription factor CREB and its role in neurogenesis in response to antidepressant treatment. She completed her residency training in Psychiatry (Research Track) at the Hospital of the University of Pennsylvania where she honed her interest in Reproductive Psychiatry under the mentorship of Dr. Neill Epperson.

Dr. Gur is currently an Associate Professor with Tenure in the Departments of Psychiatry, Neuroscience, and Obstetrics and Gynecology at The Ohio State University College of Medicine. She is also an Associate Professor in the Division of Environmental Health Sciences in the College of Public Health at The Ohio State University. Her clinical work focuses on treatment of perinatal depression and anxiety. Her translational research laboratory focuses on the link between prenatal stress, microbiota, and inflammation. She uses a variety of techniques, including rodent models and clinical cohorts, to investigate how stress during pregnancy shapes the developing brain. Her research endeavors have been supported by NIMH, the March of Dimes, and the Brain and Behavior Research Foundation. In addition, she serves as Associate Director of the NIH-funded OSU MSTP program. Finally, she is delighted to serve as the Inaugural Endowed Director of the Soter Women's Health Research Program, where she directs efforts to investigate women's health across the lifespan with a focus on stress.

Email: tamar.gur@osumc.edu

Luke Williamson Hyde, Ph.D.

Luke Williamson Hyde, Ph.D., is a Professor of Psychology at the University of Michigan, with affiliations to the Poverty Solutions Center, Institute for Firearm Injury Prevention, and Survey Research Center at the Institute for Social Research at the University of Michigan. He received his PhD in Clinical and Developmental Psychology with a concentration in cognitive neuroscience from the University of Pittsburgh.

Dr. Hyde's research focuses on how adversity and inequality impact the developing child from the preschool years through adolescence and early adulthood, as well as how these experiences shape brain and behavioral development. His work has identified neural, environmental, and genetic mechanisms that increase risk for psychopathology, particularly youth antisocial behavior and psychopathy. This research has also examined factors that promote resilience among youth and families facing disadvantage. This work has been funded by multiple awards from the National

Institutes of Health and has been recognized by a variety of early career awards from multiple scientific organizations including the American Psychological Association and Association for Psychological Science.

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Mazen Kheirbeck, Ph.D.

Mazen Kheirbek, Ph.D., is an Associate Professor in the Department of Psychiatry, the Graduate Program in Neuroscience, and the Kavli Institute for Fundamental Neuroscience at UCSF. He received his Ph.D. from the University of Chicago and completed postdoctoral work at Columbia University. Since 2016, Dr. Kheirbek has led a neuroscience research group in the Department of Psychiatry and Behavioral Sciences and the Center for Integrative Neuroscience at UCSF, where his lab uses cutting-edge experimental and computational tools to dissect the neural circuits governing emotional behavior. This work has uncovered how different subregions of the hippocampus modulate emotional states, characterized the organization and critical encoding properties of hippocampal cell types, and demonstrated the importance of white matter plasticity in fear memory recall. Most recently, Dr. Kheirbek's lab identified, in mice, population-level neural signatures that can predict whether animals exposed to traumatic social stress develop anhedonia—a hallmark symptom of depression—or remain resilient, and leveraged these findings to build neuromodulation strategies aimed at correcting dysfunctional neural dynamics and reducing anhedonic behavior. Dr. Kheirbek's work has earned numerous honors, including the One Mind Institute Rising Star Award, an HFSP Young Investigator Award, a Pew Biomedical Scholar Award, a Klingenstein-Simons Fellowship, and a McKnight Foundation Memory and Cognitive Disorders Award.

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Michael Meaney, Ph.D.

Michael Meaney, Ph.D., is Professor and James McGill Chair Emeritus in Medicine at McGill. His research at McGill focuses on mechanisms by which environmental signals influence genomic transcription, neurodevelopment, brain function and mental health. His work on environmentally-regulation of transcription positioned epigenetics as a mechanism for the stable effects of early experience on neural systems that regulate stress responses.

Dr. Meaney's activity also includes leadership of birth cohort studies examining the developmental origins of brain health from the prenatal period to adolescence. Dr. Meaney served as the Director of the Translational Neuroscience program at ASTAR in Singapore where he developed the Neurodevelopmental Domain of the GUSTO birth cohort study. More recent studies focus on genomic analyses of gene – environment interactions. These studies developed novel informatic approaches to analysis of transcriptomic data focusing on the role of brain region-specific gene networks as moderators of environmental influences on susceptibility and resilience to adversity across the lifespan. The overarching objective is to exploit genomic and brain health databases to bridge basic neuroscience and human genetics.

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Helen Minnis, M.D., Ph.D.

Helen Minnis, M.D., Ph.D., d. She has had a longstanding clinical and research focus on the psychiatric problems of abused and neglected children. She is running randomised controlled trials of interventions for children who have experienced early adversity. She also conducts epidemiological research and is currently focusing on the interplay between abuse and neglect and neurodevelopment across the life-course. She has collaborations with colleagues at the Institute of Psychiatry, Psychology & Neuroscience at King's College London, the Universities of Aalborg and Aarhus, Denmark and with the Gillberg Neuropsychiatry Centre, Gothenburg, Sweden.

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Janitza L. Montalvo-Ortiz, Ph.D.

Janitza L. Montalvo-Ortiz, Ph.D., is an Assistant Professor in the Department of Psychiatry, Division of Human Genetics at Yale School of Medicine and a Research Biologist at the CT VA. Dr. Montalvo-Ortiz is a neuroscientist with a strong expertise in molecular genetics. She completed her BA in Biology at the University of Puerto Rico, Rio Piedras Campus and obtained her PhD in Neuroscience from Northwestern University at Chicago. Her main research interests are to investigate the genetic and epigenetics underpinnings of neuropsychiatric disorders using cutting edge bioinformatics tools to help dissect the mechanisms involved and identify biomarkers and treatments for these disorders. She is a co-founder and co-leader of the Latin American Genomics Consortium and the Psychiatric Genomics Consortium Substance Use Disorders Epigenetics workgroup, and the Yale site PI of the All of Us Research Program. She has received multiple awards, including the NARSAD Young Investigator Award and the VA CDA-2 to study PTSD trajectories in veterans using multi-omics approaches. She is also a DP1 awardee via a NIDA Avenir Award for the investigation of joint single-nucleus multiomics of opioid use disorder in the human brain.

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Velma McBride Murry, Ph.D.

Velma McBride Murry, Ph.D., holds the Lois Autrey Betts Endowed Chair, previously held an appointed position of Associate Provost, Research and Innovation, currently serves as Co-Director, The Vanderbilt Institute for Clinical and Translational Research, Community Engagement Research Core,Vanderbilt University Medical Center Program for Health Equity Research (PHER), and is a University Distinguished Professor in Departments of Health Policy at the Vanderbilt School of Medicine and Human and Organizational Development at Peabody College. She is Past President of the Society for Research on Adolescence and current President of The International Consortium of Developmental Science Societies. McBride Murry is one of the 100 elected members to the 2020 Class of the National Academy of Medicine. She is an appointed standing member of National Institutes of Health National Advisory Mental Health Research Council. Her research examines the significance of context to everyday life experiences of African American families and youth, focusing on processes through which racism, and other social structural stressors, cascade

through families to influence parenting and family functioning, developmental outcomes, and adjustment among youth, during critical developmental periods from middle childhood through young adulthood.

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Jon Nelson

Jon Nelson is a lived-experience expert in mental health. A healthcare communications executive in the biopharmaceutical space for 20+ years, Jon is a tireless activist and voice for those who, like him, suffer from serious mental illness. Jon's mission is to pulverize the stigma associated with mental illness to help the millions who needlessly suffer in silence.

Jon currently serves on the Board of Directors of the American Brain Coalition, the Lived Experience Council for One Mind, and is the Director of Lived Experience for Motif Neurotech. He is also a key strategic lived experience advisor and thought leader for the advertising agency BGB Group.

Jon resides in Newtown, PA along with his wife Barbara and their three children, and when he's not tirelessly serving as a lived-experience mental illness activist, he can be found on the ice coaching youth hockey.

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Kerry J. Ressler, M.D., Ph.D.

Kerry J. Ressler, M.D., Ph.D., is the Chief Scientific Officer at McLean Hospital and Professor of Psychiatry at Harvard Medical School. He is an international leader in understanding the biology of Posttraumatic stress disorder, and he is a member of the National Academy of Medicine, a prior HHMI Investigator, Past-president of the Society for Biological Psychiatry and the American College of Neuropsychopharmacology. He is author of >500 manuscripts focused on the molecular neuroscience of fear as well as the human psychobiology of stress and trauma through leadership of multiple national consortia for deep phenotyping, and understanding biomarkers and the genetic architecture of PTSD.

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Cynthia Rogers, M.D.

Cynthia Rogers, M.D., is the Blanche F. Ittleson Professor of Psychiatry and Pediatrics and is the Vice-Chair and Division Director of Child and Adolescent Psychiatry at Washington University in St. Louis. Dr. Rogers is an academic child psychiatrist whose research and clinical work center on addressing the impact of social determinants of health to reduce development of psychiatric disorders in perinatal and child populations. Dr. Rogers co-directs the Washington University Neonatal Development Research (WUNDER) group, serves as principal investigator of multiple NIMH and NIDA-funded longitudinal research studies, Co-Executive Director of the Hermann Center for Child and Family Development, and as Associate Director of the

Healthy Brain and Child Development national consortium study. She also co-directs the Washington University Perinatal Behavioral Health Service (PBHS) which serves perinatal women with psychiatric and substance use disorders and she leads a teaching consultation clinic for formerly preterm children with early developmental and social-emotional delays. She serves on the editorial board of Biological Psychiatry and is Deputy Editor of the Journal of the American Academy of Child and Adolescent Psychiatry. She is also a member of several professional societies, including the American Academy of Child and Adolescent Psychiatry, the FLUX Society, and the American College of Neuropsychopharmacology.

Scott Russo, Ph.D.

Scott Russo, Ph.D., is Professor of Neuroscience and Director of the Center for Affective Neuroscience and the Brain Body Research Center at the Icahn School of Medicine at Mount Sinai. He obtained his Ph.D. in Psychology from the City University of New York in 2003. He then completed his postdoctoral work in Psychiatry and Psychology at the University of Texas Southwestern Medical Center before joining the faculty at the Icahn School of Medicine in 2008. Dr. Russo is known for his contributions to understanding the neural and immunological basis of neuropsychiatric disorders. His translational studies have identified novel disease mechanisms in depressed humans that play causal roles in the expression of depression-like behaviors in rodent models. He has also identified novel circuitry in the brain that control aberrant social behaviors leading to new perspectives about social dysfunction in neuropsychiatric illness. His work has been highly cited in the field and featured in the popular press. Thomson-Reuters listed him as a "highly cited researcher". He has received numerous honors and awards in recognition of his work, including being named a Kavli National Academy of Science Frontiers Fellow in 2009, received the Johnson and Johnson/IMHRO Rising Star Translational Research Award in 2011 and elected fellow of the American College of Neuropsychopharmacology in 2016.

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Darby Saxbe, Ph.D.

Darby Saxbe, Ph.D., is a Professor of Psychology at the University of Southern California, where she directs the doctoral program in clinical psychology. Dr. Saxbe's current work focuses on the transition to parenthood and follows couples from pregnancy into the first year postpartum. A related study examines the "fathering brain," using neuroimaging to scan fathers both prenatally and again postpartum. She has studied the transformative impact of new parenthood on the brain, body, and mind, as well as the enduring legacy of early family environments on child well-being. Dr. Saxbe has also examined physiological synchrony within families and has published multiple studies that find hormonal linkage within couples and parent-child dyads. Her research has been funded by the National Science Foundation and the National Institutes of Health, and she received a Fulbright Fellowship to study the parenting brain in Spain in fall 2019.

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Biosketches of Planning Committee Members

Huda Akil, Ph.D.

Planning Committee Co-Chair

Huda Akil, Ph.D., is the Gardner Quarton Distinguished University Professor of Neuroscience and Psychiatry at the Michigan Neuroscience Institute (MNI) in the University of Michigan. Dr. Akil work focuses on the neurobiology of emotions, mood and temperament. She and her colleagues have made seminal contributions to our understanding of the brain biology of stress, anxiety, and substance abuse. Dr. Akil provided the first physiological evidence for a role of endorphins in the brain and showed that endorphins are activated by stress and modify pain perception. Her laboratory has developed new genetic animal models of temperament and shown their relevance to human disorders, including addiction and depression. She is engaged in large-scale collaborative studies to discover genes, proteins and neural circuits that cause vulnerability to major depression and bipolar illness. Her work has uncovered the role of the Fibroblast Growth Factor (FGF) family in depression and established its functions in the development and control of emotions. Dr. Akil has served on several national and international organizations to promote scientific and brain health awareness nationally and globally. She is a past President of the Society for Neuroscience the largest neuroscience organization in the world. Dr. Akil's contributions to science have been recognized with numerous honors and awards. She is an elected member of to the National Academy of Medicine (NAM), the American Academy of Arts and Sciences, and the US National Academy of Sciences. She has served on the council of the NAM and is currently on the council of the NAS. She has received two honorary doctorates, and is the recipient of the 2023 Gruber Neuroscience Prize. In October 2023, she received the US President National Medal of Science.

Eric Nestler, M.D., Ph.D.

Planning Committee Co-Chair

Eric Nestler, M.D., Ph.D., is the Nash Family Professor of Neuroscience at the Icahn School of Medicine at Mount Sinai in New York, where he serves as Dean for Academic Affairs, Chief Scientific Officer, and Director of the Friedman Brain Institute. He received his B.A., Ph.D., and M.D. degrees, and psychiatry residency training, from Yale University. He served on the Yale faculty from 1987-2000, where he was the Elizabeth Mears and House Jameson Professor of Psychiatry, Pharmacology, and Neurobiology, and Director of the Division of Molecular Psychiatry. He moved to Dallas in 2000 where he was the Lou and Ellen McGinley Distinguished Professor and Chair of the Department of Psychiatry at The University of Texas Southwestern Medical Center until moving to New York in 2008.

Dr. Nestler is a member of National Academy of Medicine (1998) and a Fellow of the American Academy of Arts and Sciences (2005). He is a past President of the American College of Neuropsychopharmacology (2011) and the Society for Neuroscience (2017). He is a founder and scientific advisory board chair for PsychoGenics, and chairs the Depression Task Force of the Hope for Depression

Research Foundation. The author of more than 750 publications and five books, the goal of Dr. Nestler's research is to better understand the molecular basis of drug addiction and depression. His research uses animal models of these disorders to identify the ways in which drugs of abuse or stress change the brain to lead to addiction- or depression-like syndromes, and to use this information to develop improved treatments of these disorders.

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Deanna Barch, Ph.D.

Deanna Barch, Ph.D., is a clinical scientist whose research focuses on understanding normative patterns cognitive function and brain connectivity and the mechanisms that give rise to the challenges in behavior and cognition found in illnesses such as schizophrenia and depression, utilizing psychological, neuroimaging and computational approaches across the lifespan. She is the Vice Dean of Research in Arts & Sciences at Washington University. She is also the Couch Professor of Psychiatry and a Professor of Radiology. She is Deputy Editor at Biological Psychiatry and Editor-in-Chief of Biological Psychiatry: Global Open Science. She is also the President of the Psychology Section of the American Association for the Advancement of Science. Dr. Barch is on the scientific boards of the Brain and Behavior Research Foundation, the One Mind Foundation, and the Stanley Foundation. Dr. Barch was on the Executive Committee of the Association for Psychological Science and the Scientific Council of the National Institute of Mental Health. She is a Fellow of both the Association for Psychological Science and the American College of Neuropsychopharmacology, a member of the Society for Experimental Psychology, and a member of the National Academy of Medicine and the American Academy of Arts & Sciences.

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Indida Birto

Indida Birto is a dedicated professional in the Atlanta area, specializing in mental health, harm reduction education, case management, and peer navigation. She presently works as the Service Plan Coordinator for Here’s to Life Inc, and as a Research Assistant for Emory Rollins School of Public Health’s EMpower Research Team. Her personal journey through co-occurring pain and behavioral health disorders, as well as her experiences within the US prison system, foster care, and experiencing substance use disorder while unhoused, have profoundly shaped her mission. Overcoming these barriers inspired Indida to work tirelessly toward building resilient communities and supporting individuals facing similar challenges.

Brian Dias, Ph.D.

Brian Dias, Ph.D., is a South Asian-American Associate Professor with Tenure in the Department of Pediatrics at the USC Keck School of Medicine and directs a research laboratory at Children's Hospital Los Angeles (CHLA). Dr. Dias and his team study how legacies of stress echo across generations. From their discoveries, they aim to inform therapeutic and policy interventions to mitigate multi-generational legacies of stress. A recipient of a CIFAR Azrieli Global Scholar Award from the Canadian Institute for Advanced Research (CIFAR), Dr. Dias is a Fellow in CIFAR's Child & Brain Development Program. Committed to educating the next generations of scientists to create diverse, equitable and inclusive communities, Dr. Dias has been awarded an HHMI Gilliam Fellowship in partnership with one of his graduate students and mentors high-schoolers through the Latine & African American High School Internship Program (LA-HIP) at CHLA. Sought after as a thought leader and gifted science communicator, Dr. Dias recently spoke about legacies of trauma on stage (TEDx), radio (NPR) and TV (Your Fantastic Mind - PBS). Complementing his research, Dr. Dias is deeply invested in knowledge mobilization. He teaches Neuroscience to Tibetan Buddhist monastics through the Emory Tibet Science Initiative and consults on the N.E.A.R. (Neurobiology, Epigenetics, Adversity, Resilience) education curriculum for FamilyWise Services - a Minnesota-based organization that aims to strengthen families by promoting wellbeing of children. See www.diaslab.weebly.com for more information.

Andrew Fuligni, Ph.D.

Andrew Fuligni, Ph.D., conducts research focused on the interaction between sociocultural experiences and biobehavioral development among adolescents from diverse ethnic, immigrant, and economic backgrounds, with a current focus on youth's prosocial behavior, contributions to their social worlds, and sleep. As the Co-Director of the UCLA Center for the Developing Adolescent, Dr. Fuligni also works to translate and disseminate the science of adolescence to policymakers and practitioners to support efforts that promote the healthy development of diverse youth.

Dr. Fuligni received his Ph.D. in Developmental Psychology at the University of Michigan and previously was an associate professor of Psychology at New York University. Dr. Fuligni was a recipient of the American Psychological Association's Boyd McCandless Award for Early Career Contribution to Developmental Psychology, a William T. Grant Faculty Scholars Award, a FIRST award from NICHD, and he is a Fellow in the American Psychological Association and the Association for Psychological Science.

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Nadine Burke Harris, M.P.H, M.D.

Nadine Burke Harris, M.P.H., M.D., is an award-winning physician, researcher, and public health leader who has spent her career on the front lines of some of our world's most pressing public health challenges. As California's first-ever Surgeon General, she helped guide the state's COVID response to achieve the lowest cumulative mortality of any large U.S. state. Amid the throes of the COVID pandemic, Dr. Burke Harris successfully launched a first-in-the-nation statewide effort that has trained more than 40,000 primary care providers on how to screen for Adverse Childhood Experiences (ACEs) and respond with trauma- informed care.

Dr. Burke Harris' career has been dedicated to serving vulnerable communities and combating the root causes of health disparities. After completing her MPH at Harvard and residency at Stanford, she founded a clinic in one of San Francisco's most underserved communities, Bayview Hunters Point. It was there that Burke Harris identified ACEs as a major risk factor affecting the health of her patients and applied research from the CDC and Kaiser Permanente to develop a novel clinical screening protocol.

Her work has been profiled in best-selling books and award-winning films as well as on BBC, NPR, CNN, Fox News, USA Today, and the New York Times. Dr. Burke Harris' TED Talk, "How Childhood Trauma Affects Health Across the Lifetime" has been viewed more than 12 million times. Her book "The Deepest Well: Healing the Long-Term Effects of Childhood Adversity" was called "indispensable" by the New York Times.

Beyond her professional achievements, Dr. Burke Harris is an avid gardener and finds joy in engaging her four boys in garden adventures. She shares her passion for growing fruits, vegetables, and flowers with her Instagram followers, often showcasing her grand floral arrangements, fresh harvests, and aromatic essential oils she distills from her bounty. She describes her time in the garden as the ultimate stress buster.

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Frances Jensen, M.D.

Frances Jensen, M.D., is the Arthur Knight Asbury, MD, Professor of Neurology and Chair of Neurology at the Perelman School of Medicine, University of Pennsylvania, and Co-Director of Penn Translational Neuroscience Center. She was formerly Professor of Neurology, Harvard Medical School, Director of Translational Neuroscience and senior neurologist at the Brigham and Women's Hospital and Boston Children's Hospital. After receiving her AB from Smith College and MD from Cornell Medical College, she obtained her neurology residency training at the Harvard Longwood Neurology Residency Program. Her research focuses on mechanisms of epilepsy, and the interaction of epilepsy with other disorders such as autism and dementia, to elucidate new therapies for clinical trials development. She has authored over 175 manuscripts on subjects related to her research and has been continuously funded by NIH since 1987, and was the recipient of a NIH Director's Pioneer Award in 2007 and a NIH-NINDS Javits Award in 2020. Dr. Jensen was elected as a member of the National Academy of Medicine in 2015 and the recipient of the Smith College Medal in 2020. Dr. Jensen has trained numerous clinical and basic research fellows who now hold independent faculty positions nationally and internationally. Dr. Jensen

served as President of the American Neurological Association (2021-2023) and President of the American Epilepsy Society in 2012. She has served on multiple leadership boards including Society for Neuroscience and NIH, and is on the Advisory Council to NINDS. Dr. Jensen is a Trustee of the Franklin Institute in Philadelphia and is involved in community outreach for brain research and education. In addition, Dr. Jensen is an advocate for awareness of the adolescent brain development, its unique strengths and vulnerabilities, as well as their impact on medical, social, and educational issues unique to teenagers and young adults, and author of the book "The Teenage Brain", released by Harper Collins in 2015/16, translated and published in over 25 languages worldwide.

John Krystal, M.D.

John Krystal, M.D., is the Robert L. McNeil, Jr., Professor of Translational Research; Professor of Psychiatry, Neuroscience, and Psychology; and Chair of the Department of Psychiatry at the Yale University. He is also Chief of Psychiatry and Behavioral Health at Yale-New Haven Hospital. He is a graduate of the University of Chicago, Yale University School of Medicine, and the Yale Psychiatry Residency Training Program. He has published extensively on the neurobiology and treatment of schizophrenia, alcoholism, PTSD, and depression. Notably, his laboratory discovered the rapid antidepressant effects of ketamine in humans. He is the Director of the NIAAA Center for the Translational Neuroscience of Alcoholism and the Clinical Neuroscience Division of the VA National Center for PTSD. Dr. Krystal is a member of the U.S. National Academy of Medicine and a Fellow of the American Association for the Advancement of Science. Currently, he is co-director of the Neuroscience Forum of the U.S. National Academies of Sciences, Engineering, and Medicine; and editor of Biological Psychiatry (IF=13.38). He has chaired the NIMH Board of Scientific Counselors and served on the national advisory councils for both NIMH and NIAAA. Also, he is past president of the American College of Neuropsychopharmacology (ACNP) and International College of Neuropsychopharmacology (CINP).

Husseini Manji, M.D.

Husseini Manji, M.D., is a Professor at Oxford University, Visiting Professor at Duke University, and Co-Chair of the UK Government Mental Health Mission. Dr. Manji is also past Global Therapeutic Head for Neuroscience at Janssen Research & Development pharmaceutical companies, and Global Head, Science for Minds, J&J. He has been inducted into the National Academy of Medicine (NAM, formerly IOM), is a member of the National Institutes of Health Novel and Exceptional Technology and Research Advisory Committee, the World Dementia Council, the World Economic Forum (WEF) Global Future Councils, the Board of Mass General-Brigham Incorporated; the Board of Trustees of Harvard University/McLean Hospital, Scientific Advisory Board of the Stanley Center at the Broad Institute of MIT and Harvard. He is chair of the National Academy of Medicine Neuroscience, Behavior, Brain Function & Disorders group, and has held numerous leadership positions within the NIH, NAM, the FNIH Biomarkers Consortium Executive Committee. Before joining J&J, Dr. Manji was Chief of the Laboratory of Molecular Pathophysiology at the National Institutes of Health (NIH) and Director of the NIH Mood and Anxiety Disorders Program, the largest program of its kind in the world.

The major focus of Dr. Manji's research is the investigation of disease and treatment-induced changes in synaptic and neural plasticity in neuropsychiatric disorders. Dr. Manji has helped to discover, develop, and launch several new medications for serious neuropsychiatric and neurodegenerative disorders. These include the first novel antidepressant mechanism in over 30 years, the first medication in Neuroscience granted FDA "Breakthrough designation", a once every 6-month treatment for schizophrenia, novel mechanism(s) for Alzheimer's Disease, multiple sclerosis among others. Dr. Manji also has been actively involved in developing biomarkers to help refine these multifactorial diseases, and to develop a holistic approach towards neuropsychiatric and neurodegenerative disorders.

Dr. Manji has received a number of prestigious awards, including the NIMH Director's Career Award for Significant Scientific Achievement, PhRMA Research & Hope Award for Excellence in Biopharmaceutical Research, the American Federation for Aging Research Award of Distinction, the A. E. Bennett Award for Neuropsychiatric Research, the Ziskind-Somerfeld Award for Neuropsychiatric Research, the NARSAD Mood Disorders Prize, the Mogens Schou Distinguished Research Award, the ACNP's Joel Elkes Award for Distinguished Research, the DBSA Klerman Senior Distinguished Researcher Award, the Briggs Pharmacology Lectureship Award, the Caring Kind Alzheimer's Disease Leadership Award, and the Global Health & the Arts Award of Recognition, and has also been recognized as one of 14 inaugural "Health Heroes" by Oprah magazine.

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Michael Milham, M.D., Ph.D.

Michael P. Milham, MD, PhD, is the Chief Science Officer at the Child Mind Institute and the founding director of the Center for the Developing Brain. He also serves as director of the Center for Biomedical Imaging and Neuromodulation at the Nathan Kline Institute for Psychiatric Research. Dr. Milham's research is focused on using neuroimaging to investigate typical and atypical brain development, as well as pioneering large-scale open science and data-sharing initiatives.

Dr. Milham is a Clarivate Highly Cited Researcher for Neuroscience and Behavior. His notable honors include the Organization for Human Brain Mapping's 1st Annual Open Science Award (2020), the Wiley Young Investigator Award (2014), and the NIMH Outstanding Resident Award in Psychiatric Research (2006). He is a member of the American College of Neuropsychopharmacology.

He earned his MD and PhD degrees from the University of Illinois, where he was inducted into the AOA National Medical Honor Society and Phi Kappa Phi Honor Society.

Catherine Jensen Peña, Ph.D.

Catherine Jensen Peña, Ph.D. is an Assistant Professor in the Princeton Neuroscience Institute. Dr. Peña's primary focus is understanding how stress impacts brain development and risk for psychiatric disease, from molecular to circuit to behavioral levels. While she primarily uses mouse models of stress across the lifespan, her lab also collaborates to examine developmental stress in vulnerable human populations and perform cross-species molecular comparisons. Dr. Peña's main toolkit to-date includes cell-type-specific transcriptomic and epigenomic analyses, cellular activity tagging and manipulation, and computational analyses of behavior. She has received several major awards such as the 2024 Society for Neuroscience Young Investigator Award, 2021 Society for Behavioral Neuroendocrinology Frank Beach Early Career Award, and Associate Membership in the American College of Neuropsychopharmacology. Dr. Peña has also served on the Allen Institute Next Generation Leaders Council. She earned her BA from the University of Pennsylvania working with Dr. Tracy Bale, PhD from Columbia University working with Dr. Frances Champagne, and trained as postdoctoral researcher at the Icahn School of Mount Sinai with Dr. Eric Nestler.

Aleksandra Vicentic, Ph.D.

Aleksandra Vicentic, Ph.D., leads Behavioral Science and Integrative Neuroscience Branch at NIMH bringing over 20 years of research experience in academia and government in basic neuroscience of affect and emotion regulation. She obtained a Ph.D. degree in neuropharmacology through a joint program between Emory University and Loyola University Chicago. Following postdoctoral training, she started a faculty position at Emory where she ran a program on the neurophysiological consequences of early life stress and psychostimulant drug exposure. Serving as a Principal Investigator on NIH-funded grants and as Branch Chief at NIMH, Dr. Vicentic brings expertise in empirical and computational studies of circuit-level neurobiological mechanisms of stress and resilience, negative and positive valence behaviors and learning and memory. She brings extensive experience with leading cross-cutting neuroscience initiatives that address pressing challenges in mental health research (e.g., NIMH's Interests in Areas of Stress Biology NOT-MH-18-058, NIMH Priorities on Research Using Genetically Modified Nonhuman Primates NOT- MH-22-010, The Neural Mechanisms of Multi-Dimensional Emotional and Social Representation NOT-MH-23-120) via her collaborative efforts with academia, pharmaceutical industry and governmental agencies, and as organizer and Chair over 20 symposia and workshops at International Conferences that she's a member of (e.g., SfN, IBNS, Biological Psychiatry). She's participated and made significant contributions at NASEM Public Meeting on Nonhuman Primate Models in 2022.

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Preventing Discrimination, Harassment, and Bullying Expectations for Participants in NASEM Activities

The National Academies of Sciences, Engineering, and Medicine (NASEM) are committed to the principles of integrity, civility, and respect in all of our activities. We look to you to be a partner in this commitment by helping us to maintain a professional and cordial environment. All forms of discrimination, harassment, and bullying are prohibited in any NASEM activity. This commitment applies to all participants in all settings and locations in which NASEM work and activities are conducted, including committee meetings, workshops, conferences, and other work and social functions where employees, volunteers, sponsors, vendors, or guests are present.

Discrimination is prejudicial treatment of individuals or groups of people based on their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws.

Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive environment.

Other types of harassment include any verbal or physical conduct directed at individuals or groups of people because of their race, ethnicity, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, veteran status, or any other characteristic protected by applicable laws, that creates an intimidating, hostile, or offensive environment.

Bullying is unwelcome, aggressive behavior involving the use of influence, threat, intimidation, or coercion to dominate others in the professional environment.

Section 1.01 REPORTING AND RESOLUTION

Any violation of this policy should be reported. If you experience or witness discrimination, harassment, or bullying, you are encouraged to make your unease or disapproval known to the individual, if you are comfortable doing so. You are also urged to report any incident by:

- Filing a complaint through the National Academies Complaint Intake Form, and/or
- Filing a complaint with the (OHR) (Keck WS302 Hours: 9am - 4pm ET, Monday-Friday; hrservicecenter@nas.edu; Phone: 202-334-3400; Fax: 202-334-3850)at 202-334-3400, or
- Reporting the incident to an employee involved in the activity in which the member or volunteer is participating, who will then file a complaint with the Office of Human Resources.

Complaints should be filed as soon as possible after an incident. To ensure the prompt and thorough investigation of the complaint, the complainant should provide as much information as is possible, such as names, dates, locations, and steps taken. The Office of Human Resources will investigate the alleged violation in consultation with the Office of the General Counsel.

If an investigation results in a finding that an individual has committed a violation, NASEM will take the actions necessary to protect those involved in its activities from any future discrimination, harassment, or bullying, including in appropriate circumstances the removal of an individual from current NASEM activities and a ban on participation in future activities.

Section 1.02 CONFIDENTIALITY

Information contained in a complaint is kept confidential, and information is revealed only on a need-to-know basis. NASEM will not retaliate or tolerate retaliation against anyone who makes a good faith report of discrimination, harassment, or bullying.

Updated January 28, 2025