

Unraveling the Neurobiology of Empathy and Compassion: Implications for Treatments for Brain Disorders and Human Well-Being: A Workshop

Committee

Walter J. Koroshetz

Co-Chair

Walter Koroshetz, M.D., directs program planning and budgeting at the National Institute of Neurological Disorders and Stroke (NINDS), in addition to overseeing the scientific and administrative functions of the Institute. He has held leadership roles in a number of NIH and NINDS programs including the NIH's BRAIN Initiative, the Traumatic Brain Injury Center collaborative effort between the NIH intramural program and the Uniformed Health Services University, and the multi-year work to develop and establish the NIH Office of Emergency Care Research to coordinate NIH emergency care research and research training.

Before joining NINDS, Dr. Koroshetz served as vice chair of the neurology service and director of stroke and neurointensive care services at Massachusetts General Hospital (MGH). He was professor of Neurology at Harvard Medical School (HMS) and led neurology resident training at MGH between 1990 and 2007. Over that same period, he co-directed the HMS Neurobiology of Disease Course.

A major focus of his clinical research career was to develop measures in patients that reflect the underlying biology of their conditions. With the MGH team he discovered increased brain lactate in HD patients using MR spectroscopy. He helped the team to pioneer the use of diffusion/perfusion-weighted MR imaging and CT angiography/perfusion imaging in acute stroke, which is now widely employed in medical practice.

Gentry Patrick

Co-Chair

Gentry Patrick, PhD, is the Kavli and Dr. William and Marisa Rastetter Chancellor's Endowed Chair in Neurobiology and Professor in the Department of Neurobiology in the School of Biological Sciences at the University of California San Diego. Dr. Patrick is a leader in the field of ubiquitin-dependent protein turnover in neurons in health and neurodegenerative disease with a particular interest in the trafficking and turnover of synaptic proteins including AMPA-type glutamate receptors. Dr. Patrick received his Ph.D. from Harvard University in 1999 after working in the laboratory of Dr. Li-Huei Tsai. He was a Damon Runyon Cancer Research Foundation and a United Negro College Fund/Merck postdoctoral fellow with Dr. Erin Schuman at California Institute of Technology. Dr. Patrick joined the UC San Diego faculty in 2004. In 2021, he was named the founding Director of the Center for Empathy and Social Justice in Human Health (CESJHH) within the Sanford Institute for Empathy and Compassion (TDSI). The mission of CESJHH is to bring empathy and compassion to the work of addressing health injustice through research, communication, and advancing representation of marginalized communities in the STEM and healthcare profession pipeline.

Born and raised in South Central Los Angeles, Dr. Patrick's lived experience is a testament to the power to access, mentorship, and advocacy. His personal and professional journey into Neuroscience and academia has presented him with opportunities to leverage his own experience as an underrepresented minority student in STEM to innovate and advocate for systemic change in STEM education. Dr. Patrick is the creator and faculty director of the PATHways to STEM (PATHS) thru Enhanced Access and Mentorship scholars program. The PATHS program, now in its 6th year (cohort P6), was initially funded by a \$6.9 mil grant from Chan Zuckerberg Initiative (CZI) to support partnership between UC San Diego, UC Berkeley, and University of Maryland Baltimore County (UMBC), for the replication of UMBC's Meyerhoff Scholars Program to both UC campuses.

Andrew Breeden

Member

Andrew Breeden, Ph.D., is the Chief of the Social and Affective Neuroscience Research Program at the National Institute of Mental Health (NIMH), where he oversees a broad portfolio of human and animal research on the neurobiological mechanisms underlying affect, social behavior, and social cognition. Prior to this, he served as a Project Scientist and Program Specialist at the National Institute on Neurological Disorders and Stroke (NINDS). Through his prior research experience studying typical and dysregulated socio-affective behaviors, as well as his Program Officer role at NIMH, Dr. Breeden brings expertise on the neurobiology of empathy and prosocial behavior. He has led cross-cutting neuroscience initiatives relevant to this area of science, such as the NIMH notice of specialist interest NOT-MH-23-120 "Neural Mechanisms of Multi-Dimensional Emotional and Social Representation." He is also actively involved in a number of trans-NIH programs, including as co-coordinator of Investigative Human Neuroscience for the US BRAIN Initiative, and as a Project Scientist for clinical trials targeting social function in neuropsychiatric disorders. Dr. Breeden received recognition for his contributions across NIH as a recipient of the NIH Director's Award, the NINDS Director's Award, and the NIMH Director's Award.

Richard J. Davidson

Member

Richard Davidson, Ph.D., conducts research broadly focused on the neural bases of emotion and emotional style and methods to promote human flourishing including meditation and related contemplative practices. His studies have included persons of all ages from birth through old age and have also included individuals with disorders of emotion such as mood and anxiety disorders and autism, as well as expert meditation practitioners with tens of thousands of hours of experience. As founder of the Center for Healthy Minds, he uses scientific knowledge to develop products and provide services designed to help humans learn wellbeing.

Dawn Lavell-Harvard

Member

Dawn Lavell-Harvard, Ph.D., is a proud member of the Wiikwemkoong First Nation, on Manitoulin Island, the first Aboriginal Trudeau Scholar, and has worked to advance the rights of Aboriginal women as the President of the Ontario Native Women's Association since 2003. After serving as Vice-president of the Native Women's Association of Canada for three years, Dawn was elected National President at the 41st Annual General Assembly, July 11, 2015 in Montreal, Quebec. In October 2016, after fulfilling her promise to see the MMIWG Inquiry initiated, Dawn left her role as National Leader and took on the role of Director at the First Peoples House of Learning at Trent University, where she helps Indigenous youth achieve their dreams. Dr. Lavell-Harvard works tirelessly to create safe, inclusive, and culturally respectable space for Indigenous peoples.

She was co-editor of the original volume on Indigenous Mothering entitled "Until Our Hearts Are on the Ground: Aboriginal Mothering, Oppression, Resistance and Rebirth", she has also released a book along with Kim Anderson, entitled "Mothers of the Nations", and a book with Jennifer Brant entitled "Forever Loved: Exposing the Hidden Crisis of Missing and Murdered Indigenous Women and Girls in Canada". A second volume with Jennifer Brant, on MMIWG2S+, "Rematriating Justice" was printed and released in 2024.

Robert C. Malenka

Member

Robert C. Malenka, MD, PhD, conducts cutting edge research on the molecular mechanisms of neural communication as well as the role of synaptic dysfunction in brain disorders including addiction, autism, and depression. Dr. Malenka's findings have been published in >300 research papers in leading science journals. He has also co-authored a textbook entitled *Molecular Neuropharmacology: A Foundation for Clinical Neuroscience* (McGraw Hill, 3rd edition, 2015). His many years of investigation have produced a number of hypotheses that provide the foundation for much of the research in many of the world's laboratories that study how neurons communicate with one another and how this communication is modified during learning and by experience

He has received numerous awards including the Kemali Foundation International Prize in Neuroscience (2000); the CINP-Lilly Neuroscience Basic Research Award (2002), the Perl/UNC Neuroscience Prize (2006), the NARSAD Goldman-Rakic Prize for Outstanding Neuroscience Research (2010), the Pasarow Foundation Award for Extraordinary Accomplishment in Neuropsychiatry Research (2011), the Society for Neuroscience Julius Axelrod Prize (2016), and the Society for Neuroscience Peter Seeburg Integrative Neuroscience Prize (2022).

Abigail Marsh

Member

Abigail Marsh, Ph.D., conducts research focused on techniques that include functional and structural brain imaging as well as behavioral, cognitive, and pharmacological approaches and aims to answer the questions: How do we understand what others think and feel? What drives us to help other people? What prevents us from harming them? She is the author of 100+ peer-reviewed publications and an award-winning trade book, *THE FEAR FACTOR* (2017, Hachette).

Her research has received awards that include the Cozzarelli Prize for scientific excellence and originality from the Proceedings of the National Academy of Sciences, The S&R Kuno Award for Applied Science for the Social Good, and the Richard J. Wyatt Fellowship award for translational research from the NIMH. She is an elected fellow of the Association for Psychological Science and the Society for Personality and Social Psychology and the co-founder of the Society for the Prevention of Disorders of Aggression. She served as President of the Social and Affective Neuroscience Society from 2019-2021.

William C. Mobley

Member

William Mobley, M.D., Ph.D. conducts research focused on neurodegenerative disorders with a special focus on the biology of axons and their role in the processes underlying neuronal dysfunction and death, including the failure to transport neurotrophic signals. The principal disease focus is Alzheimer disease in individuals with Down syndrome. He is the director of a leading research institute at UCSD studying empathy and compassion

Jessica Stern

Member

Jessica A. Stern, PhD, directs the Family, Attachment, and eMpathy (FAM) lab where her research examines how early experiences shape the developing brain and behavior, with a focus on attachment processes, empathy, and prosocial behavior in children and adolescents. She is a recipient of the National Science Foundation Graduate Research Fellowship award, the Society for Research in Child Development Dissertation Funding Award, and a National Research Service Award from the National Institutes of Health to study the neurobiology of empathy in infancy.