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Society for Neuroscience 2022 Promotion of Women in Neuroscience Awards

SAN DIEGO, CA – The Society for Neuroscience (SfN) will honor several highly accomplished researchers who have made significant contributions to the advancement of women in neuroscience. The awards will be presented during Neuroscience 2022, SfN's annual meeting and the world's largest source of emerging news about brain science and health.

“SfN is proud to recognize these neuroscientists whose tireless efforts to support the careers of women in neuroscience benefit our entire research community,” said SfN President Gina Turrigiano. “Whether through mentorship, public speaking, or establishing networking and educational opportunities for young female scientists, this year’s awardees have encouraged more young women to pursue careers in science and helped those already in the field to persevere and thrive.”

Bernice Grafstein Award for Outstanding Accomplishments in Mentoring: Alice Cronin-Golomb and Shubha Tole

The Bernice Grafstein Award for Outstanding Accomplishments in Mentoring recognizes individuals dedicated to developing the careers of female neuroscientists. Named after the first female president of SfN, the award recognizes leaders who have aided the early careers of women neuroscientists and facilitated their retention in the field. The award includes a \$2,500 prize.

One of 2022’s award winner is Alice Cronin-Golomb, professor of psychological and brain sciences at Boston University and faculty member of the Center for Systems Neuroscience, the Neurophotonics Center, and the Center for Brain Recovery. As part of her distinguished research career in aging and neurodegenerative conditions, she has supervised 36 graduating doctoral students, including 24 women. In addition, she has mentored 154 undergraduate and graduate students on directed research studies, and 31 undergraduates on senior honors theses, and the majority of all these students have been women. Her mentorship of these students has resulted in many co-authorships and successful grant applications for young female neuroscientists. Many of those who have trained with her are now rising or established leaders in the field of neurodegeneration and neuropsychology. Cronin-Golomb has also supported women in science through professional organizations, including as president of the International Society for Behavioural Neuroscience, to which she recruited many women. She is a long-time active member and former co-chair of ARROWS (Advance, Recruit, Retain, and

Organize Women in STEM; originally Women in Science and Engineering), an organization at Boston University that fosters career development, mentoring of students, and leadership training. Her achievements in mentoring have previously been recognized with awards from Boston University and the American Psychological Association.

The other 2022 Graftein Award winner is Shubha Tole, senior professor and dean (graduate studies) at the Tata Institute of Fundamental Research in Mumbai, India, where she studies the development of the cerebral cortex. As chair of the Women in Science Panel of the Indian Academy of Sciences until January 2022, she led the effort to draft the Academy's first gender policy. As dean, Tole has overseen several initiatives at TIFR, including a summer program for women in STEM fields, on-campus housing for women postdocs who have children, and improvements in women's restrooms. She has trained 58 postdoctoral, graduate student, and other trainees, nearly 80% of whom are women. She advocates for trainees who are starting families, including appointing research assistants to help women postdoctoral scientists maintain active investigations during pregnancy and early child care. Former trainees affirm that Tole's mentorship continues long after they have left her lab. Moreover, her commitment to mentorship extends far beyond her own lab. She designed an interactive workshop about women in science that she has offered at many STEM institutes and conferences. These workshops, together with her widely viewed talks and publications on the challenges women in STEM face, have led to trainees both within and outside India reaching out to her for guidance, and she maintains personal communication with them. Furthermore, she promotes women faculty for serving on appropriate committees or panels, and nominates qualified candidates for awards and other forms of recognition. Tole is the current president of the International Society for Developmental Neuroscience and a member of the ALBA Board of Directors.

Mika Salpeter Lifetime Achievement: Elisabeth Murray

The Mika Salpeter Lifetime Achievement Award recognizes neuroscientists with outstanding achievements in research who have significantly promoted the professional advancement of women in neuroscience. The awardees share a \$5,000 prize.

Cognitive neuroscientist Elisabeth A. Murray heads the Laboratory of Neuropsychology at the National Institute of Mental Health, where she has tirelessly worked from the programmatic level to the personal level to mentor, promote, and ensure equity for women in science. She is a vocal advocate for the advancement of women in science and was part of the group that established and maintained gender pay equity among principal investigators at the National Institutes of Health; this effort has had tangible impact for current and future women investigators. She has also nurtured the careers of numerous female graduate students and

postdoctoral scientists trained in her lab who have continued their careers in science as faculty researchers and beyond. She previously received the National Institute of Mental Health's Outstanding Mentor Award and an NIH Office of the Director Honor Award for her part in establishing a multi-institute mentoring program at the NIH.

Alongside her work as a mentor, Murray is internationally recognized for her studies on the neural basis of memory, emotion, and behavior. Among her many scientific accomplishments include studies demonstrating how different brain regions use cognitive and emotional information to guide decision-making and goal-directed actions. Through her scientific endeavors she has published over two hundred papers that have over 25,000 citations. In addition, she has co-authored two books on the evolution of human memory, one of which was directed toward a broad audience. Murray was previously awarded the National Institute of Mental Health Director's Award for Significant Achievement in 2018 and the Goldman-Rakic Prize for Outstanding Achievement in Cognitive Neuroscience from the Brain and Behavior Research Foundation in 2021. She is a fellow of the American Psychological Association, the Association for Psychological Science, and the American Association for the Advancement of Science.

Janett Rosenberg Trubatch Career Development: Laura DeNardo and Talia Lerner

The Janett Rosenberg Trubatch Career Development Award promotes successful academic transitions prior to tenure by recognizing early-career professionals who have demonstrated originality and creativity in their research. Supported by the Trubatch Family, the award includes a \$2,000 prize.

Laura DeNardo is an assistant professor at the David Geffen School of Medicine at the University of California, Los Angeles, where she studies neuronal circuits within the medial prefrontal cortex, a region of the brain with crucial roles in learning, memory, and decision making. Using a combination of optogenetics, live brain imaging, and methods that use viruses to trace the paths of neuronal circuits, the DeNardo lab studies how prefrontal circuits control adaptive responses to threats. Using a transgenic mouse for activity-dependent tagging that she developed, DeNardo found a population of neurons in the medial prefrontal cortex that has a unique role in the recall of distant but not recently learned fear memories. New work in the lab focuses on how prefrontal circuits develop and how they can be perturbed by early life adversity such as neglect or maltreatment. Such early stress affects the development of neuronal circuits in this brain region that are involved in threat avoidance. Her work shines light on how early life stress increases the risk for anxiety, depression, and other psychiatric disorders. Beyond her research work, DeNardo has an active role in training future scientists. In

in addition to training students in the lab, she co-developed a new Cold Spring Harbor Labs course on high-throughput neuroanatomy, is director for a graduate neuroscience course at UCLA, and is vice chair for JEDI in the department of physiology.

Talia Lerner is an assistant professor at the Feinberg School of Medicine at Northwestern University, where she studies the brain circuitry underlying reward learning, motivation, and decision-making. She studies how the neurotransmitter dopamine controls changes in brain circuitry as animals learn to associate their actions with consequences and to make decisions about how to act in the future based on their knowledge of these consequences. Dopamine acts in complex patterns across different brain circuits to shape learning about both good and bad outcomes. Understanding how dopamine signaling can have different effects in different circuits is important for understanding the underlying mechanisms of psychiatric disorders like depression, addiction, and obsessive-compulsive disorder (OCD).

As a postdoctoral fellow, Lerner revealed new details about the circuit-level mechanisms of dopamine signaling across brain regions. Using an array of techniques, including electrophysiology, fiber photometry, optogenetics, and whole-brain circuit tracing, she identified distinct populations of dopamine neurons feeding different types of information into two downstream brain areas: one important for goal-directed behavior and one important for habit formation. As an assistant professor, Lerner has expanded her work on dopamine signaling to identify dynamic changes in these circuits during learning. She has discovered how specific patterns of dopamine release that emerge during reward learning can predict compulsive reward-seeking and has characterized key brain circuitry that allows for habit formation. This work promises to provide insights into human disorders involving problematic compulsions or habits, like OCD and addiction.

Patricia Goldman-Rakic Hall of Honor: Marion Murray

The Patricia Goldman-Rakic Hall of Honor posthumously recognizes a neuroscientist who pursued career excellence and exhibited dedication to the advancement of women in neuroscience. The family of the honoree receives complimentary registration and transportation to the SfN annual meeting.

The late Marion Murray was a pioneer in the field of regeneration and helped establish one of the most prominent spinal cord research centers in the U.S. Murray was a professor in the Department of Neurobiology & Anatomy at Drexel University College of Medicine, where she co-founded and led the research activities of the Spinal Cord Research Center (now named the Marion Murray Spinal Cord Research Center) for 30 years. Under her leadership, the research institute grew from an interactive group of scientists focused on neuronal plasticity and spinal

injury to a multidisciplinary research training program in spinal cord injury, where research spans from basic molecular and cellular investigations to translational research aimed at rehabilitation following spinal cord injury. The center was supported by one of the longest lasting National Institutes of Health Program Projects, for which Murray was principal investigator for 25 years.

Murray received her PhD from the University of Wisconsin in 1964 and conducted postdoctoral work at McGill University and Rockefeller University. Her first faculty position was at the University of Chicago, where she made pioneering discoveries regarding neuronal plasticity and spinal cord regeneration. In 1976, she moved to the Drexel University College of Medicine. Her work there revealed a role for non-neuronal cells in the sprouting response to spinal cord injury, whereby intact nerve cells send fibers to muscles. She held a Javits Neuroscience Investigator Award from 1985 to 1992 and was a Fogarty Senior International Fellowship in 1986–1987. Over her career, she published more than 140 scientific articles and reviews, and was a remarkable mentor for students, postdoctoral fellows, and faculty especially the advancement of women in neuroscience. Among her many awards and recognitions are the 2009 Reeve-Irvine Research Medal Award for Meritorious Spinal Cord Injury Research and appointment in 2005 to Scientific Director of the Craig H. Nielsen Foundation, the largest private funder of spinal cord injury research. Murray passed away in 2018 following complications of esophageal cancer.

Louise Hanson Marshall Special Recognition Recipient: Lise Eliot

The Louise Hanson Marshall Special Recognition Award honors individuals who have significantly promoted the professional development of women in neuroscience through teaching, organizational leadership, public advocacy, or other efforts. The award includes complimentary attendance at the Society for Neuroscience's annual meeting.

Lise Eliot is a professor of neuroscience and executive chair of Foundational Sciences and Humanities at Rosalind Franklin University of Medicine and Science in Chicago, where she studies brain development and the role of neuroplasticity in shaping neural circuitry and behavior. In addition to her empirical work, Eliot is a prolific science communicator who has published many articles disputing claims that women's brains are less suited for STEM pursuits. Pulling from social, developmental, and organizational psychology research, she has instead shown that implicit bias, gender stereotypes, and institutional bias slow women's entry into and suppress their recognition across STEM fields. In her 2009 popular science book *Pink Brain, Blue Brain: How Small Differences Grow Into Troublesome Gaps*, Eliot drew from a wide range of scientific literature to show that the brains of boys and girls are nearly identical and that

differences between male and female behaviors as older children and adults are the result of initially minute differences in infants that are magnified through family and societal influence. Eliot has continued to challenge the notion that male and female brains are hardwired for different abilities through writings targeted to both scientific and non-scientific audiences, as well as over 300 print, radio and television interviews and hundreds of speaking invitations on gender and brain development.

In addition to her extensive science communication work, Eliot was the chief architect of the widely-subscribed annual Rosalind Franklin University Symposium on Women in Science and Healthcare which launched in 2016 and continues this year. The symposium aims to address gender disparities in science and healthcare by interrogating causes of and solutions for resistant challenges to women's advancement in STEM fields and highlighting the accomplishments of female scientists and clinicians.

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The Society for Neuroscience (SfN) is an organization of basic scientists and clinicians who study the brain and the nervous system.