Past Mildred Trotter Lecture Speakers

1975 Mary E. Avery, MD  
1967 Beatrice Mintz, PhD  
1977 Rosalyn S. Yalow, PhD  
1979 Elizabeth E. Neufeld, PhD  
1980 Elizabeth D. Hay, MD  
1955 Marilyn Gist Faquhar, MD  
1982 Mary D. Leakey, DSc, DSc  
1982 Marian Koshland, PhD  
1984 Dorothy T. Krieger, MD, DSc  
1985 Dorothea Bennett, PhD  
1986 Zena Werb, PhD  
1987 Lynn Landmesser, PhD  
1988 Lee N. Robins, PhD  
1989 Lily Yeh Jan, PhD  
1990 Nancy Wexler, PhD  
1991 Carla Shatz, PhD  
1993 Mary Lou Oster-Granite, PhD  
1994 Anne Young, MD, PhD  
1995 Helen Blau, PhD  
1996 Jane E. Buikstra, PhD  
1997 Mary Bartlett Bunge, PhD  
1998 Ursula Bellugi, PhD  
2000 Janet Rossant, PhD  
2001 Leslie Ungerleider, PhD  
2002 Linda Buck, PhD  
2004 Susan Lindquist, PhD  
2005 Gwen A. Jacobs, PhD  
2006 Paula Tallal, PhD  
2007 Eve Marder, PhD  
2009 Ann Graybiel, PhD  
2010 Cori Bargmann, PhD  
2011 Silvia Arber, PhD, PhD  
2013 Nancy Kanwisher, PhD  
2016 Shirley Tilghman, PhD  
2018 Constance L. Cepko, PhD  
2019 Dora Angelaki, PhD  
2020 Amita Seghal, PhD

Combinatorial Creatures: Cortical Plasticity Within and Across Lifetimes

Presented by
Leah Krubitzer, PhD
Professor of Psychology
Center for Neuroscience
University of California, Davis

Wednesday, October 27, 2021
4:00 p.m. – 5:00 p.m.
Eric P. Neuman Education Center (EPNEC)
Seminar Room B
Dr. Mildred Trotter

Washington University Medical School Alumni Association honored Mildred Trotter, PhD, a member of the faculty for more than 55 years, by endowing a lectureship in her name. Dr. Trotter, Professor Emeritus and Lecturer in Anatomy since 1967, was the first woman faculty member to be recognized in this way. To acknowledge her deep concern for the role of women in academic life, the lectureship is used to bring a distinguished woman scientist to the University every year.

Dr. Trotter contributed much of what is known today about the influence of age, sex and race on variation in human skeletal mass. Her formulas for estimating stature from long limb bone lengths still are used by the Federal Bureau of Investigation and in forensic medicine. Nutritionists have profited from her research on developmental variation in the mineral content of bone. Her earlier work focused on factors influencing hair growth.

A founding member of the American Association of Physical Anthropologists, Dr. Trotter held elected posts in this Association (including the presidency from 1955-1957) and in the American Association of Anatomists. Her awards include the Viking Fund Medal in Physical Anthropology (1956), the Globe Democrat Award for Women of Achievement in Science (1955) and Honorary Doctor of Science degrees from Western College for Women (1956), Mount Holyoke College (1960), and Washington University (1980).

Dr. Trotter’s engagement with science continued after her retirement. She served as Convener of the Subcommittee on Osteology for the International Anatomical Nomenclature Committee and co-chaired a session on “Human Evolution: The Skeletal Dimension” at the 1985 Taung Diamond Jubilee International Symposium in South Africa to celebrate the 60th anniversary of the discovery of the first australopithecine fossil. While in attendance at this meeting, she suffered a debilitating stroke. Dr. Trotter passed away on August 23, 1991.

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The neocortex is one of the most distinctive structures of the mammalian brain, yet also one of the most varied in terms of both size and organization. Multiple processes have contributed to this variability including evolutionary mechanisms (i.e., changes in gene sequence) that alter the size, organization and connections of the neocortex, and activity dependent mechanisms that can also modify these same features over shorter time scales.

Because the neocortex does not develop or evolve in a vacuum, when considering how different cortical phenotypes emerge within a species and across species, it is also important to consider alterations to the body, to behavior, and the environment in which an individual develops. Thus, changes to the neocortex can arise via different mechanisms, and over multiple time scales. Brains can change across large, evolutionary time scales of thousands to millions of years; across shorter time scales such as generations; and across the life of an individual – day-by-day, within hours, minutes and even on a time scale of a second.

The combination of genetic and activity dependent mechanisms that create a given cortical phenotype allows the mammalian neocortex to rapidly and flexibly adjust to different body and environmental contexts, and in humans permits culture to impact brain construction during development.