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UC San Diego's Susan Ackerman Elected to National Academy of Medicine

The National Academy of Medicine (NAM) has announced that University of California San Diego Professor Susan Ackerman, a pioneer in the study of homeostasis in developing and aging neurons, has been elected to membership in the prestigious organization.

The announcement of the organization's 100 newest members was made on Oct. 19 at the NAM's annual meeting. Election to the Academy is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service. NAM each year elects no more than 90 regular and 10 international members, and currently has more than 2,200 members.



Susan Ackerman

The Stephen W. Kuffler Chair in Biology, Ackerman was elected to the academy “for her identification of genes and their accompanying function in establishing novel mechanisms necessary for neuronal homeostasis and which, when defective, lead to neurodegeneration.”

“Professor Ackerman’s election to the National Academy of Medicine is reflective of her pioneering contributions to neuroscience and another testament to the outstanding quality of UC San Diego’s stellar faculty,” said UC San Diego Chancellor Pradeep K. Khosla. “The National Academies recognize the highest levels of scientific achievement and I enthusiastically congratulate Professor Ackerman and all of this year’s new National Academy of Medicine members.”

Ackerman joined UC San Diego in 2016 and is a member of the Section of Neurobiology in the Division of Biological Sciences; the Department of Cellular and Molecular Medicine in the School of Medicine; and an investigator at the Howard Hughes Medical Institute.

Ackerman's research discoveries have had a profound influence on a variety of fields, including genetics, neurobiology, biochemistry and molecular biology. Her early work described novel molecular pathways essential for proper brain development. Her more recent work using unbiased genetic approaches in mice has defined the pathways and networks that regulate neuronal homeostasis and thus neuron survival in the aging mammalian brain.

Last month Ackerman and her colleagues published research revealing that a mutation in a tRNA gene called *n-Tr20*—expressed only in the brain—can disrupt the landscape of an entire cell, leading to a chain reaction altering brain function and behavior.

“This distinguished and diverse class of new members is a truly exceptional group of scholars and leaders whose expertise in science, medicine, health, and policy will be integral to helping the NAM address today's most pressing health challenges and inform the future of health and health care for the benefit of everyone around the globe,” said NAM President Victor Dzau. “It is my privilege to welcome these esteemed individuals to the National Academy of Medicine.”

Among her many accomplishments, Ackerman has identified novel mechanisms for the formation of misfolded proteins that accumulate in specific types of neurons leading to their death, including problems in the accuracy of protein synthesis. Her findings that mutations in single members of multi-copy non-coding gene families result in disease states have changed conventional views about genes and their functions.

Ackerman has been a Howard Hughes Medical Institute Investigator since 2005. She received her PhD from UCLA and was a postdoctoral fellow at the University of Illinois Medical School. Prior to UC San Diego she was a professor at The Jackson Laboratory in Bar Harbor, Maine, where she was a faculty member for 19 years.

In 2019 she was elected to the National Academy of Sciences and the American Academy of Arts and Sciences.

Celebrating its 50th anniversary in 2020, the NAM is one of three academies that make up the National Academies of Sciences, Engineering and Medicine. New members are elected by current members through a process that recognizes individuals who have made major contributions to the advancement of the medical sciences, health care and public health. A diversity of talent among NAM's membership is assured by its Articles of Organization, which stipulate that at least one-quarter of the membership is selected from fields outside the health professions—for example, from such fields as law, engineering, social sciences and the humanities.

The National Academy of Medicine addresses critical issues in health, science, medicine and related policy and inspires positive actions across sectors. NAM works alongside the National Academy of Sciences and National Academy of Engineering to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The National Academies of Sciences, Engineering and Medicine also encourage education and research, recognize outstanding contributions to knowledge and increase public understanding of STEMM.

— *With information from the National Academy of Medicine*

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