

Kheirbek named a 2019 Pew Biomedical Scholar

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By Nicholas Roznovsky [1]



UCSF neuroscientist Mazen A. Kheirbek, PhD [2], studies neuronal circuits that generate emotional behavior. *[Photo: Noah Berger]*

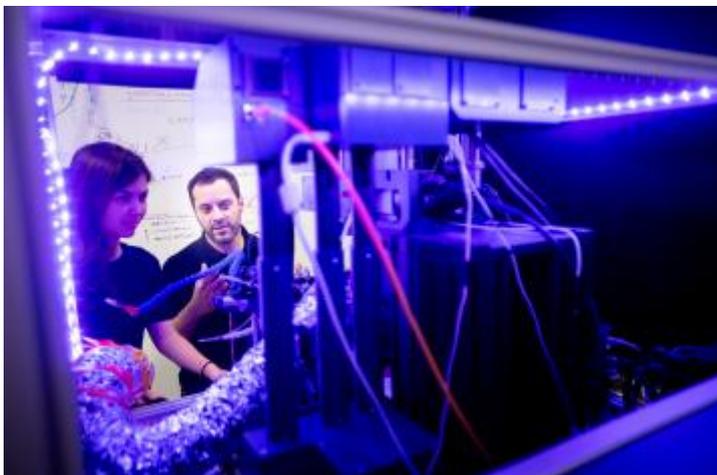
Department of Psychiatry researcher and assistant professor Mazen A. Kheirbek, PhD [2], is one of two UC San Francisco scientists who have been selected as 2019 Pew Scholars in the biomedical sciences. He, along with fellow UCSF researcher Seemay Chou, PhD [3], was among the 22 early career research scientists in the new class [4] announced on June 14 by the Pew Charitable Trusts.

The Pew Scholars Program in the Biomedical Sciences supports promising young investigators in science relevant to the advancement of human health. Each scholar receives four years of flexible funding to pursue exploratory research to tackle some of biomedicine's most challenging questions. Kheirbek plans on using his award funding to explore how sensory stimuli are represented in the brain and how they may trigger the recall of salient memories in hopes of developing methods for uncoupling associations that lead to severe anxiety.

"Pew is steadfastly committed to supporting talented researchers working to unveil the mechanisms of biology and disease," said Rebecca W. Rimel, Pew's president and CEO. "Investing in these scholars at the beginning stages of their careers, when financial resources may be limited, can help drive significant scientific discoveries."

The 2019 class of scholars was chosen from 178 applicants who were nominated by leading academic institutions and researchers across the United States. They will join a thriving community of nearly 1,000 biomedical scientists who have received awards from Pew since 1985, including fellow department faculty member Anna Victoria Molofsky, MD, PhD [5], who was named a Pew Scholar in 2017. Current scholars come together annually to share their research and gain insights from peers working in other fields.

"Pew's continued investment in scientific discovery allows promising researchers to explore new and creative ways to answer some of the most pressing questions surrounding human health and disease," said Craig C. Mello, PhD, a 1995 Pew scholar, 2006 Nobel laureate in physiology or medicine, and chair of the national advisory committee for the scholars program. "I'm confident that this new class of scientists will leverage these resources and help shape the future of groundbreaking biomedical research."



Mazen Kheirbek, PhD (left), and graduate student Victoria Turner use a two-photon microscope to conduct research at UCSF's Mission Bay campus. *[Photo: Noah Berger]*

Kheirbek has been a faculty member at UCSF since 2016, and previously served on the faculty at Columbia University and the research staff of the Research Foundation for Mental Hygiene. His research primarily focuses on delineating the circuit mechanisms underlying psychiatric diseases in order to develop better therapies, with a particular interest in circuits that are disrupted in mood and anxiety-related disorders.

In 2018, he served as a senior investigator on a study published in ^[6]*Neuron* ^[6] that identified key brain cells responsible for triggering anxiety in mice. By turning these "anxiety cells" off and on using a technique called optogenetics, which allows scientists to control the activity of neurons using beams of light, Kheirbek and his fellow researchers demonstrated that they could control anxiety-related avoidance behaviors.

Anxiety cells are also thought to exist in the human brain, raising the possibility of someday using similar techniques to target them and provide more effective treatments for anxiety disorders, a condition affecting nearly 1 in 5 U.S. adults.

About UCSF Psychiatry

The UCSF Department of Psychiatry ^[7], UCSF Langley Porter Psychiatric Hospital and Clinics ^[8], and the Langley Porter Psychiatric Institute are among the nation's foremost resources in the fields of child, adolescent, adult, and geriatric mental health. Together they constitute one of the largest departments in the UCSF School of Medicine and the UCSF Weill Institute for Neurosciences, with a mission focused on research (basic, translational, clinical), teaching, patient care, and public service.

UCSF Psychiatry conducts its clinical, educational and research efforts at a variety of locations in Northern California, including UCSF campuses at Parnassus Heights, Mission Bay and Laurel Heights, UCSF Medical Center, UCSF Benioff Children's Hospitals, Zuckerberg San Francisco General Hospital and Trauma Center, the San Francisco VA Health Care System, and UCSF Fresno.

About the UCSF Weill Institute for Neurosciences

The UCSF Weill Institute for Neurosciences ^[9], established by the extraordinary generosity of Joan and Sanford I. "Sandy" Weill, brings together world-class researchers with top-ranked physicians to solve some of the most complex challenges in the human brain.

The UCSF Weill Institute leverages UCSF's unrivaled bench-to-bedside excellence in the neurosciences. It unites three UCSF departments—Neurology, Psychiatry, and Neurological Surgery—that are highly esteemed for both patient care and research, as well as the Neuroscience Graduate Program, a cross-disciplinary alliance of nearly 100 UCSF faculty members from 15 basic-science departments, as well as the UCSF Institute for Neurodegenerative Diseases, a multidisciplinary research center focused on finding effective treatments for Alzheimer's disease, frontotemporal dementia, Parkinson's disease, and other neurodegenerative disorders.

About UCSF

UC San Francisco (UCSF) ^[10] is a leading university dedicated to promoting health worldwide through advanced biomedical research, graduate-level education in the life sciences and health professions, and excellence in patient care. It includes top-ranked graduate schools of dentistry, medicine, nursing and pharmacy; a graduate division with nationally renowned programs in basic, biomedical, translational and population sciences; and a preeminent biomedical research enterprise.

It also includes UCSF Health ^[11], which comprises three top-ranked hospitals — UCSF Medical Center and UCSF Benioff Children's Hospitals in San Francisco ^[12] and Oakland ^[13] — as well as Langlely Porter Psychiatric Hospital and Clinics, UCSF Benioff Children's Physicians, and the UCSF Faculty Practice. UCSF Health has affiliations with hospitals and health organizations throughout the Bay Area. UCSF faculty also provide all physician care at the public Zuckerberg San Francisco General Hospital and Trauma Center, and the San Francisco VA Medical Center. The UCSF Fresno Medical Education Program is a major branch of the University of California, San Francisco's School of Medicine.

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- [3] <https://profiles.ucsf.edu/seemay.chou>
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