George grew up in Athens, Greece, and completed his undergraduate studies in Molecular Biology and Genetics at the University of Crete. During that time, he worked in the laboratory of Nektarios Tavernarakis, studying the cellular mechanisms that control aging in *C. elegans*. He then moved to the United States to work as a research technician in the laboratory of Stavros Lomvardas at UCSF, where he contributed to the identification of epigenetic mechanisms regulating mammalian olfactory receptor gene expression. George pursued a Ph.D. at Columbia University in the laboratory of Tom Maniatis. There, he used the mammalian olfactory system as a model to investigate the role of multicluster protocadherin (Pcdh) diversity in neuronal wiring.

Toward the end of his Ph.D., George became increasingly fascinated by the neural and genetic mechanisms that control evolutionarily conserved innate behaviors. This interest led him to join the laboratory of David Anderson at Caltech as a Helen Hay Whitney and Tianqiao & Chrissy Chen Fellow. His postdoctoral work focused on the mechanisms regulating internal states in mammals, where he identified genetic programs that govern specific features of affective states—such as persistence and intensity—at the levels of neural dynamics and behavior.

George recently received an Endowed Scholar Award to launch his independent research group as an Assistant Professor in the Department of Physiology at UT Southwestern Medical Center. His lab will develop novel approaches to investigate the molecular and circuit mechanisms underlying long-lasting internal states in mammals, in both normal and pathological conditions.

https://davidandersonlab.caltech.edu/people/george-mountoufaris

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Mammalian aggression is a long-lasting affective state that, once triggered, escalates and persists for extended periods. However, the underlying mechanisms driving this behavioral persistence have remained elusive, largely due to the complexity and technical challenges of studying these processes in mammals. To address this, I developed a strategy that integrates cell type-specific CRISPR/Cas9 multiplex editing with single-cell calcium imaging in behaving animals. Focusing on hypothalamic neurons—previously shown to exhibit persistent activity and scalable dynamics during male-male aggression—I identified neuropeptide signaling pathways required for aggressive escalation, regulating changes in spatiotemporal neuronal activity patterns (neural dynamics). This work provides one of the first molecular-to-circuit frameworks for understanding the persistence and intensity of affective behaviors in mammals and opens the door to investigating mechanisms underlying emotional dysregulation observed in neuropsychiatric and neurodevelopmental disorders.