

FEBRUARY () 2022

4:00 PM - 5:00 PM Reception to Follow on Patio

**Leichtag Auditorium** 

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remembering Daniel T. O'Connor, MD Dr. O'Connor graduated from UC Davis School of Medicine and completed both his residency and fellowship at UC San Diego School of Medicine. In 1979, he joined the faculty under the Division of Nephrology-Hypertension, focusing hypertension in the sympathetic nervous system. His notable work on a particular protein, Chromogranin A, led to many achievements and awards worth noting, and with applications to heart disease, giving rise to clinical applications today.

American Society for Clinical Investigation (ASCI) Harry Goldblatt Award - Cardiovascular Research UC Davis Distinguished Alumnus Award UCSD Faculty Distinguished Lecturer Award Established Investigator of the American Heart Association Award President, Catecholamine Society of ASPET/FASEB Fellow, American Society of Hypertension

Co-Founder/Co-Director, UCSD Center for Human Genetics and Genomics

Co-Founder/Member, UCSD Institute for Genomic Medicine (IGM)

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Guest Speaker

## Nicholas Schork, PhD

Distinguished Professor Director Quantitative Medicine & Systems Biology Division, TGEN

Integrated Human Organismal Medical Biology: The Legacy of Daniel O'Connor and Emerging Biomedical Research Paradigm

There is unprecedented contemporary interest in human biology, with much of this interest fueled by a need to efficiently deal with the COVID-19 pandemic. However, research efforts in biomedical science are often fragmented and fall short of achieving efficiency, cost-effectiveness and success in shedding light on human biology in a way that motivates the development of health products such as new drugs, diagnostics or health care practices. Compartmentalization of research efforts and taking too narrow a view of

human biology in any one research compartment cannot anticipate all the problems associated with moving something from the bench to the bedside. In this talk I argue that there are many areas in modern biomedical science that can be better integrated and that Daniel O'Connor's broad interests and expertise were rooted in such integration. I provide a brief history of why I believe this is the case and in particular argue that Dan's focus on blood pressure regulation provided a good paradigm for integrated research given that blood pressure regulation is fundamental in human physiology, has many determinants, has easily measured aspects to it, and can be pharmacologically modulated in a wide variety of ways. Ironically, I worked on blood pressure regulation for the same reason well before I met Dan, leading to many joint research efforts after we met. I then focus on a few emerging integrated research areas that my lab has been focusing on recently. These include understanding how genetic variation impacts the functioning of the human diplome at molecular and clinical levels, identifying factors underlying multiple age-related diseases through research on human longevity, and designing next-generation clinical trials that can be used to understand human biology in a very broad way. I end with a few suggestions for future research.

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