



December 5th, 2018

FROM: David P. Belanger, Acting Dean  
To: Faculty and staff  
RE: 2018 Outstanding Faculty Award

The Division of Physical & Biological Sciences will present the 2017–18 Outstanding Faculty Award to Distinguished Professor of Chemistry & Biochemistry Glenn Millhauser on December 19<sup>th</sup> in a small ceremony at our chairs and managers meeting. This annual award is the division's highest honor for faculty achievement, recognizing combined excellence in research, teaching, and service.

Glenn has been a high-impact faculty member since 1988. He employs magnetic resonance techniques (NMR), protein chemistry, genetics, and advanced biophysics to investigate the structure and function of two medically relevant proteins: the prion protein (PrP) and the agouti-related protein (AgRP).

Prions are misfolded proteins associated with several fatal neurodegenerative diseases in both animals and people. Mechanisms causing abnormal folding of normal PrP are not well understood. In animals, misfolds are linked to bovine spongiform encephalopathy, popularly known as "mad cow disease." In humans, they have implicated encephalopathies, such as Creutzfeldt-Jakob disease. Most recently, the Millhauser lab released a series of papers revealing "how altered interactions with copper or zinc lead to profound neurotoxic signaling." The work provided unprecedented insight into how other diseases with PrP-like properties function, such as Alzheimer's disease.

Agouti-related proteins are produced in the brain and influence metabolism, appetite, and energy expenditure. Understanding AgRP mechanisms could lead to pharmaceutical advances in treating obesity, diabetes, and other food-related disorders. Over the last 20 years, Glenn's research has made major contributions to the study of cell signaling. In 2002, Glenn and his research group determined the NMR structure of this protein. In 2015, an article published in *Nature* revealed the inner workings of electrophysiological signaling along brain fibers. During this time, the Millhauser lab developed a new strategy for developing drugs that can stimulate weight gain in patients suffering from the side-effects of chemotherapy and HIV infection.

Glenn is an elected fellow of the American Association for the Advancement of Science and has received a Silver Medal from the International EPR (ESR) Society. He has published papers in many distinguished journals including *JACS*, *PLoS*, *Science*, and *Nature* (just to name a few).

Over the past five years, Glenn has led the Department of Chemistry & Biochemistry's efforts to obtain new and cutting-edge instrumentation. Two National Institutes of Health (NIH) grants and a supplemental equipment grant have made the purchase of three new spectrometers possible. Each high-tech spectrometer brings unique abilities that are causing our research facilities to be respected as some of the most advanced in Northern California.

Glenn is considered one of chemistry's top instructors. He has received two UC Santa Cruz Excellence in Teaching Awards, in part because he routinely receives excellent teaching evaluations ranging from 4.2–4.5 (out of 5). He has trained 12 Ph.D. students, 4 postdoctoral researchers, and nearly 40 undergraduate researchers (some who have gone on to prestigious Ph.D. programs at Stanford, Harvard, UCSF, and elsewhere).

Glenn has demonstrated his commitment to service on many levels. For the UC Santa Cruz Academic Senate, he has served on two committees (CAP, CIT). He also was a co-chair of the Northern California Undergraduate Research Symposium, sponsored by the American Chemical Society. He continues to serve on several review panels for the National Science Foundation and the NIH. He has also been appointed to the editorial board of the *Journal of Biological Chemistry* and has reviewed manuscripts for many journals, including *Science*, *Nature*, *American Chemical Society*, and others.

In addition to his outstanding professional acumen, Glenn has served the community of Santa Cruz by volunteering for outreach programs targeting K–12 at-risk youth. The PRIDE program, sponsored by the Santa Cruz Police Department, allowed Glenn to run organized laboratory activities for children at risk of joining gangs. He also worked with the Watsonville High School Chemistry club, arranging UC Santa Cruz campus tours and bringing lab experiments to Watsonville. He has also participated in the Women in Science (WISE) Lecture Series.

In summary, Distinguished Professor Glenn Millhauser has an outstanding record in research, teaching, and service to UC Santa Cruz and the broader scientific community, as well as locally right here in our county. The Outstanding Faculty Award from the Division of Physical & Biological Sciences is a richly deserved campus recognition for Glenn's exemplary record.

Sincerely,

A handwritten signature in black ink that reads "D P Belanger". The signature is written in a cursive, flowing style.

David P. Belanger  
Acting Dean, Physical and Biological Sciences  
Professor, Physics

