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Keiler awarded C.I. Noll Award for Excellence in Teaching

Kenneth Keiler, professor of biochemistry and molecular biology at Penn State University, has been honored with the 2015 C.I. Noll Award for Excellence in Teaching by the Eberly College of Science Alumni Society. Instituted in 1972 and named in honor of Clarence I. Noll, dean of the college from 1965 to 1971, the award is the highest honor for undergraduate teaching in the college. Students, faculty members, and alumni nominate outstanding faculty members who best exemplify the key characteristics of a Penn State educator, and a committee of students selects the award winners from the group of nominees.

Keiler is being honored for his collaboration with fellow awardee Sarah Ades, associate professor of biochemistry and molecular biology, on the development, implementation, and assessment of two courses: one titled Introduction to Microbiology and the other titled Antibiotics: Development and Resistance. Keiler and Ades transformed the introductory microbiology course by challenging students to formulate questions of their own and design experiments to find answers to these questions. In their revamped course on antibiotics, Keiler and Ades help students to perform individual research projects and lead weekly seminars that cover skills that are necessary for careers in science, such as how to present research results, how to read scientific papers, and how public policy impacts science.

Research in Keiler's laboratory focuses on how cells make protein, particularly under stressful conditions. He discovered and characterized a system for protein quality control that is found in all bacteria and is required for growth or virulence in many pathogens. His goal is to understand the fundamental biochemistry, genetics, and cell biology of this system and related pathways, and to use this knowledge to develop antibiotics and tools for basic research. Keiler has directly involved undergraduate students in this research by developing courses that teach critical thinking skills and that integrate primary research with classroom learning.

Keiler received a Tombros Faculty Fellowship from the Center for Excellence in Science Education in 2012, and the Tershak Teaching Award from the Department of Biochemistry and Molecular Biology in 2014.

Keiler earned a doctoral degree in biology at the Massachusetts Institute of Technology in 1995, and a master's degree in biology and a bachelor's degree in biology and chemistry at Stanford University in 1989. Prior to joining the Penn State faculty in the fall of 2002, Keiler was a Department of Energy Biosciences Research Fellow at the Life Sciences Research Foundation of the Stanford University School of Medicine from 1998 to 2002 and a Human Frontier Science Program Fellow at the Institut de Genetique et de Biologie Moleculaire et Cellulaire of the College de France from 1996 to 1997.

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