

2001 Romeo L. Moruzzi Young Faculty Award for Innovation in Undergraduate Education Recipient

Dr. Kristin N. Wobbe

The Moruzzi Young Faculty Award is presented in memory of Romeo L. Moruzzi, a dedicated professor and founder of the WPI plan. WPI is pleased to present the 2001 Moruzzi Young Faculty Award for Innovation in Undergraduate Education to Professor Kristin Wobbe of the Department of Chemistry and Biochemistry.



Professor Wobbe has launched two outstanding educational initiatives since coming to WPI. Upon arrival, she was asked to teach CH4110, the first in a three-course biochemistry sequence. She has revitalized and invigorated the course by the creation and implementation of what she calls the "Pet Enzyme Project." Students are placed in 4-member groups, and each group selects an enzyme from an instructor-generated list. During the term, in parallel with course content, groups are required to find information about their enzyme either on the web or in published literature. They learn first about its structure, using the Protein Data Bank and numerous web-accessible programs to analyze protein structure. Mid-term, the students must locate information about the reaction catalyzed by their enzyme, this time using primary literature. Finally, groups must determine whether or not their enzyme is regulated. Each segment of the project is punctuated by a group-generated report providing the required information and answering associated questions. Thus the project promotes integration of the various aspects of biochemistry, and provides students with information-retrieval and professional writing skills. Though the Pet Enzyme Project requires substantial amounts of time and effort from the students, it is clear from surveys that students fully appreciate its tremendous educational value. Professor Wobbe has disseminated the pet enzyme concept at professional meetings, where it has been so enthusiastically received that other educators have subsequently contacted her expressing interest in adapting the project to their courses.

The second major innovation made by Professor Wobbe involves CH4190, Regulation of Gene Expression, a course that she created for advanced undergraduate and graduate students. This course is innovative in several respects. First, it is based in the biochemical literature, rather than on a textbook. Second, unusual at the undergraduate level, the course provides a global view of the complex mechanisms regulating all facets of protein production and activity. Third and perhaps most important, student groups are required to produce a poster presentation at the end of the course in which they describe a specific example from the literature of one of the types of regulation studied in the course. These posters are then shown at a formal poster session similar to those found at professional meetings. The posters are viewed

and assessed by invited faculty from both the Chemistry and Biochemistry and the Biology and Biotechnology departments. Although they have experienced the expected trepidation in advance of the experience, students have been uniformly enthusiastic about the experience in hindsight. Finally, Professor Wobbe has received a number of letters from former students thanking her for preparing them so well for courses in graduate school. A teacher receives no greater tribute than this recognition from former students of a job well done.

WPI is proud to recognize the creative teaching of Prof. Kristin Wobbe by presenting her with the 2001 Moruzzi Young Faculty Award for Innovation in Undergraduate Education.