Voiland Team Takes First Place

Advised by Dr. Zollars, the team of chemical engineers from the Voiland School (left to right: Eric Holland, Laura Coon, Tim Ginder, Dillon Ford, and Richard Zollars) took first place in the Pacific Northwest Regional AIChE reaction car competition, held in April. The team will compete in the national competition at the AIChE National Meeting, in Salt Lake City in November 2010.

Ensor and Graedel Honored as Distinguished Alumni

They were green before it was cool—jumping on the environmental bandwagon early when few foresaw the major issue it would become over the next four decades.

“I made the decision to go into environmental engineering before the first Earth Day; this was before the Environmental Protection Agency,” said David Ensor, a WSU 1963 chemical engineering graduate. “People thought I was absolutely nuts.”

Ensor, a leading researcher in aerosol and air pollution science, was recently named a Voiland School Distinguished Alumnus. Thomas Graedel, a 1960 chemical engineering graduate, received the Washington State University Alumni Achievement Award. He was cited for his exceptional accomplishments in industrial ecology and sustainability, which has led the way in a revolutionary approach to industrial practice.

After graduating with a bachelor’s degree, Ensor decided to use his chemical engineering training in the environmental field.

“I wanted to do something a little more relevant to our future,” he said. “One reason I made this decision was it seemed to me that the problems in the environment needed to be solved.”

Ensor became an expert in aerosol and air pollution science. In recent years, he has been applying his aerosol expertise to nanotechnology research and international standards development as a United States delegate to the International Organization for Standardization (ISO).

His work has ranged from some of the first air quality projects in Southern California to recent research into how indoor air filters work.

Ensor is editing a book about the history of aerosol science. He has several patents, almost 200 publications, recognition as one of the founding editors-in-chief of Aerosol Science and Technology, and several prestigious awards.

Thomas Graedel, meanwhile, conducted pioneering research in the fields of climate change and sustainability, long before either were part of the American consciousness.

In 1979, Graedel, along with Jean McRae of Bell Labs, began work demonstrating that urban carbon dioxide data mimicked the trends seen in remote areas. This was followed by work showing that methane and carbon monoxide from human activities were contributing to the warming of the Earth. In the mid-1990s Graedel, along with Nobel Laureate Paul Crutzen, wrote “Atmosphere, Climate and Change,” which won the American Meteorological Society’s Louis J. Battan Author’s Award.

Since 1990 Graedel’s interests have been focused on industrial ecology and sustainability. He is the senior author of “Industrial Ecology,” the first text in this newly emerging area. He is also the senior author of four other related texts. His environmental assessment matrix, developed while assessing AT&T products, is now a standard industrial tool for streamlined life cycle assessment of the environmental impacts of products, processes, and facilities.

Graedel, the Clifton R. Musser Professor of Industrial Ecology at Yale University, is thought to be the first-ever professor of industrial ecology.

He has authored 13 books and more than 300 technical papers, and his work has been cited more than 3,900 times.

Graedel is a fellow of the American Geophysical Union and the American Association for the Advancement of Science and a member of the U.S. National Academy of Engineering.
Researchers Take the Fast Track to Solving Critical Challenges

Congratulations to Haluk Beyenal and Wenji Dong. Because of the strength of their research and scholarship and because of the quality and impact of their instructional programs, both received tenure and were promoted to associate professor this spring, two years ahead of the normal schedule.

Beyenal studies biofilms, microbial fuel cells, and bioremediation. He has received support from the Department of Energy for work to understand microscale reactions in subsurface sediments at the Hanford nuclear site. He has also received a grant from the Department of Defense to better understand electron transfer processes in microbes.

“Wenji and Haluk are conducting cutting-edge research and making important contributions in the critical fields of health and energy systems, engaging our students as they do so,” said Jim Petersen, director of the Gene and Linda Voiland School of Chemical Engineering and Bioengineering. “I look forward to their enhanced leadership as we move the Voiland School to prominence in these important research areas.”

Dong conducts research on calcium transport and the role of calcium in cardiac muscle mechanics. Last year, he received a $1.75 million National Institutes of Health grant to better understand the structural and functional properties of thin filaments in the muscle of the heart.

Dong and Beyenal have been faculty members at WSU since 2006.

NASA Space Grant Fellowships Awarded

Three Voiland School students were selected to receive prestigious NASA Space Grant Fellowships in recognition of their outstanding academic achievements and to facilitate their continued research success. Sarah Zeutschel is working with Professor Haluk Beyenal on research to understand how electrons are transferred from microbes to solids. The work has application in fuel cells and wound healing. Graduate fellowships were awarded to Jerome Babauta and Sarah Haarsma. Babauta studies electron transfer mechanisms in biofilms with an emphasis on microbial fuel cells. Haarsma is working with Professor Bernard J. VanWie to develop a heart health monitor that may someday be used to monitor the health of astronauts during space travel.

Commemorating James Lee

Dr. James Lee, a chemical engineering professor for almost 30 years, passed away in April from lung cancer. Not only a researcher while at WSU, Lee also enjoyed teaching and maintained a focus on his students. He wrote a well-used textbook on biochemical reaction engineering.

“Despite his struggles with cancer, he was engaged in the classroom with students,” said Candis Claiborn, dean of the College of Engineering and Architecture. “Many students have expressed how much he cared about them and that, from him, they learned the essence of chemical engineering and the importance of the spiritual, intellectual, artistic, and interpersonal aspects of a balanced life.”

The James M. Lee Fellowship fund has been established to provide an enduring legacy of Dr. Lee’s many contributions. Please contact Don Shearer at hshearer@wsu.edu to contribute.