UC CEAS Professor, Dionysios Dionysiou, Earns Outstanding Career Achievement Award

By: Ashley Duvelius

UC CEAS environmental engineering professor, Dionysios Dionysiou, is named the recipient of the 2012 School of Engineering Outstanding Career Achievement Award by his alma mater for his numerous research contributions.

Dionysios D. Dionysiou, PhD and CEAS environmental engineering professor, is the recipient of the 2012 Tufts University Graduate School of Engineering Outstanding Career Achievement Award. This award recognizes alumni of the Tufts Graduate School of Engineering who have distinguished themselves in their careers. Dionysiou has made numerous contributions to the field of environmental engineering and his research accomplishments continue to accrue.

Dionysiou grew up in Cyprus, experiencing first-hand the value of water. Cyprus is plagued by an ongoing water shortage and the water that they do have is contaminated with toxins. The country of Cyprus depends heavily on rainwater and, along with many developing nations, needs a sanitation system to make this water clean. This led Dionysiou to devote his career to water quality and sanitation.

“I am honored to receive the Outstanding Career Achievement Award. I believe it is my passion for science, engineering, the environment and research that enables me to succeed. I am constantly searching for innovations and answers to scientific questions. Curiosity and my desire to help people drive me forward in my research,” says Dionysiou.

His interest and passion for environmental engineering keeps him hard at work on several different projects. Dionysiou works closely with his students on research involving the removal of organic chemicals found in water. He’s experimenting with environmental nanotechnology for the removal and sensing of toxins from water.

Dionysiou performs research in the fields of advanced oxidation technologies for water treatment, drinking water treatment and purification, physicochemical phenomena on particle-water interfaces, transition-metal oxidation and reverse electron transfer reactions, the use of ionic liquids in environmental applications, destruction of biological toxins in water and environmental nanotechnology (fundamental, fate, transport, and applications of nanomaterials).

Dionysiou and his students participate in the Environmental Protection Agency’s People, Prosperity, and the Planet Program (EPA P3). The program is a unique college competition to design solutions for a sustainable future. P3 offers students quality hands-on experience that brings their classroom learning to life. This year, Dionysiou and his team are working to purify water by using solar light.
Current research projects that Dionysiou is pursuing include:

- The removal of toxins from large freshwater bodies like the Great Lakes and lakes in Florida.
- The examination and destruction of contaminants from pharmaceuticals and pesticides interacting with water systems.
- Developing chemical sensors using environmental nanotechnology for industry professionals to use on water systems.
- International collaborations with countries such as Europe, specifically Cyprus, India, Pakistan, Northern Ireland, Greece, France, Spain and China to develop a portable water evaluation system to protect drinking water from waste water contaminants.

Dionysiou targets his research to be used by industry professionals but perhaps one day every person could using the fruits of his creativity. He is always looking for new ways to optimize and emphasize the mechanistic work he does in the lab. Dionysiou takes the mechanistic level of lab work and applies it to real-world scenarios. His efforts are to take his research and expand it to large-scale water based systems.

Dionysiou is already the recipient of many awards and honors, both nationally and internationally. In 2011, he was featured in the Chemistry World magazine with his interview on “Cleaning up water.” Dionysiou won the 2002 Academic Achievement Award for Best Dissertation from the American Water Works Association. In Greece, he became a fellow of the Hellenic National Scholarship Foundation (I.K.Y.) Fellowship. Dionysiou has earned the UC CEAS Distinguished Engineering Researcher Award three times, including this year’s award.

Dionysiou earned his diploma in chemical engineering from the National Technical University of Athens (NTUA), Greece in 1991. When he came to the United States, he graduated with his master’s degree in chemical engineering from Tufts University (’95). In 2001, Dionysiou received his PhD in environmental engineering from UC.

He served in the Cyprus Army from 1984 to 1986. Dionysiou then gained extensive engineering knowledge through his work as a research assistant at NTUA and later, as a graduate research assistant at Tufts University. He spent a year as a research engineer at W.R. Grace in Massachusetts before arriving at UC. Dionysiou initially began his college career at UC as a graduate research assistant. Once he obtained his PhD, he taught as an assistant professor for five years. In 2005, Dionysiou became an associate professor and three years later, a professor. He is now the Assistant Department Head for Research Excellence.

Dionysiou teaches graduate courses in Advanced Unit Operations for the Treatment of Drinking Water and Wastewater, Physical-Chemical Processes for Water Quality Control and Advanced Oxidation Technologies and Nanotechnologies. He also teaches a graduate level laboratory course on Unit Operations and Process Monitoring for the Treatment of Polluted Water and Air as well as an undergraduate course in Environmental Engineering Fundamentals and Process Design.