2009 Clarke Prize Laureate

Bruce E. Logan, Ph.D.
Kappe Professor of Environmental Engineering
The Pennsylvania State University

Dr. Bruce E. Logan's work on developing new methods to produce clean, renewable energy from wastewater is considered among the most innovative approaches to wastewater treatment in recent history. An environmental biotechnologist, Logan is best known for his groundbreaking work on microbial fuel cells, which are bioreactors that use natural bacteria to break down organic matter in wastewater, producing both electricity and treated effluent. His 2008 textbook, *Microbial Fuel Cells*, is one of the first books written on this technology. He is also currently working on a newly invented bioreactor, the microbial electrolysis cell, which breaks down organic matter to produce hydrogen as the energy source.

A prolific and internationally renowned researcher, Logan is actively involved in collaborations around the world to promote the development of energy-sustainable water infrastructure. Among these efforts, he is a Visiting Professor at Harbin Institute of Technology in China and Newcastle University in the United Kingdom, focusing on renewable bioenergy production, and a collaborator with Tsinghua University in China, where he developing a new zero-electrical energy desalination technology. He is also a Global Research Partner with King Abdullah University of Science and Technology in Saudi Arabia, investigating novel technologies for energy production using wastewaters and agricultural waste.

Logan is the Kappe Professor of Environmental Engineering at The Pennsylvania State University, where he has taught since 1997. He also established and directs the Penn State Hydrogen Energy (H_2E) Center, which is dedicated to developing and promoting the use of hydrogen for sustainable energy production.