



**Tom Richard**, professor, department of agricultural and biological engineering, director, Institutes of Energy and the Environment, Pennsylvania State University, State College, is being honored for his outstanding contributions to fundamental engineering design and practical solutions for sustainable agroecosystems and the bioeconomy.

Throughout his career, Richard has developed innovative engineering strategies to enhance the environmental and economic benefits of biorenewable systems. He has applied fundamental engineering science to design a range of microbial bioconversion processes, including composting, ensilage, and anaerobic digestion. Richard has developed engineering analysis for the sustainable design of systems ranging from the industrial ecology of cities to the agroecology of rural landscapes. Across all of these application areas, he has translated engineering fundamentals into practical system design and process control strategies that have been adopted by farmers, companies, and governments in countries around the world. His contributions include a range of market-based strategies that enhance the environmental performance of agroecosystems while simultaneously improving agricultural productivity, farm profitability, and rural community resilience. These have included developing new markets for perennial grasses, winter crops, and manures, with products ranging from renewable energy and materials as well as livestock feed and soil amendments. His group's current work on sub-field economics and crop responses to stress is establishing a new paradigm for agricultural resilience in an era of increased climate and environmental risk.

A 30-year member of ASABE, Richard is currently involved as a member with the ASABE Energy Systems Technical Community Bio-based Energy, Fuels, and Products committee. Richard has also maintained a longstanding membership with the Institute of Biological Engineering and the American Geophysical Union. He is an advisor for Project Drawdown.

Richard is the author or coauthor of more than 350 peer-reviewed articles, book chapters, and other publications. Richard was inducted as a fellow of the Institute of Biological Engineering and served as an Honorary Scientist for the Korean Rural Development Administration. He also received the ASABE Iowa Section Newcomer Engineer of the Year award in 2011. He received a special citation from the New York State Association of County Agricultural Agents, an Innovator award from the Cornell Community and Rural Development Institute, and an award for outstanding new extension publication from the New York State Association of County Agricultural Agents. He has also received five ASABE Educational Aids Blue Ribbons.