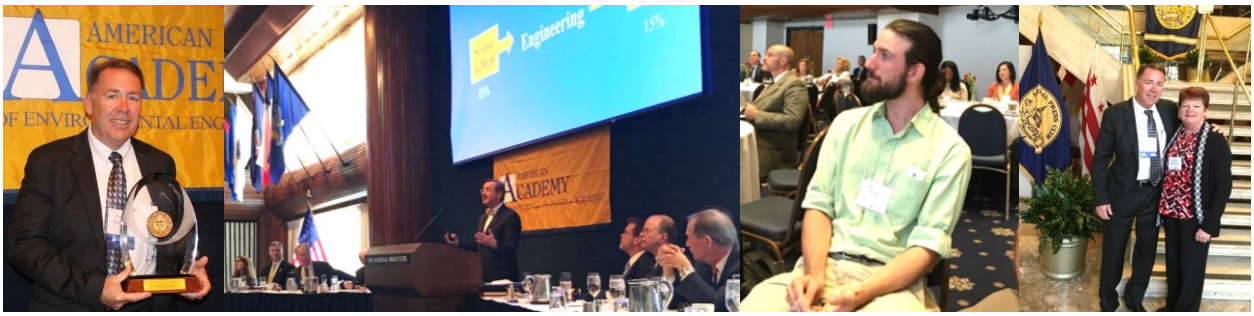
Sanitation Districts Program Wins National Award

On April 13, 2016 the American Academy of Environmental Engineers and Scientists (Academy) hosted their annual awards luncheon and technical conference at the National Press Club in Washington, D.C. President Howard Lafever initiated the proceedings by welcoming attendees from across the country and around the world. The Academy is dedicated to excellence in the practice of environmental engineering and science to ensure the public health, safety, and welfare. The purpose of this event is to recognize the exceptional individuals, organizations, projects, and programs that carry the Academy's mission forward.

The keynote speaker, Dr. Domenico Grasso, P.E., BCEE, Provost of the University of Delaware, opened by welcoming attendees to the exceptional journey toward environmental excellence. "We must take charge of change," Dr. Grasso reviewed the unprecedented challenges that have historically confronted our profession and demonstrated successful holistic solutions. "We must anticipate and adapt to solve the grand challenges, great debates, and big ideas that are facing our ever expanding global community. Our profession must lead the charge in this."

Dr. Grasso's work has focused on molecular scale processes that underlie the nature and behavior of contaminants in environmental systems. His classes, although technically rigorous, also explore the societal and philosophical issues facing engineers and scientists. Grasso was co-founder along with Dr. Sally Ride, the first American women astronaut, of TOYChallenge, a national toy design challenge for 5th-8th graders to excite them about science, engineering, and the design process in a fun, creative, collaborative process, relevant to everyday life. Dr. Grasso a NATO Fellow, and Technical Expert to the UN, has also served as Vice Chair of the United States EPA Science Advisory Board and President of the Association of Environmental Engineering and Science Professors.



Chuck Boehmke (lt) Domenico Grasso (lt ctr) Gregory Hinds (rt ctr) Chuck and Christine Boehmke (rt)

This year's Grand Prize in Operations Management was presented to Chuck Boehmke, P.E., BCEE for the Sanitation Districts of Los Angeles County's *Waste Not, Want Not – Recycling Food Waste at a Wastewater Treatment Plant*. The Engineer in Charge on this program is Grace Hyde, P.E., BCEE.

The Sanitation Districts, in partnership with USA Waste of California, Inc., have developed a project in which source separated food waste is collected, processed and delivered to an anaerobic digester as a large wastewater treatment plant. This project utilizes existing wastewater treatment infrastructure to recycle up to 84 tons per day of source separated food

waste. Food waste is diverted from landfill disposal and converted into renewable energy and soil amendments. Diverting organic waste away from sanitary landfills is a key part of California's strategy to reach 75 percent recycling by 2020.

Attendees at the 2016 AAEES awards (lt) Chuck Boehmke presenting at the technical conference (rt)

US Waste obtains the food waste via customer agreements that prohibit disposal of food waste containing glass, metals, plastics, wood fiber products, and hazardous materials and cleaning solvents. Remaining non-food waste contaminants are removed using a system that refines the food waste to a clean feedstock. The raw feedstock is reduced to particle size followed by screening and mixing with water to create slurry that meets Engineered Bio-Slurry specifications.

Bench scale testing of various blends of wastewater treatment infrastructure sludge and food waste slurry was performed. The tests showed that methane production was more than doubled in the digester with food waste slurry addition, and that food waste slurry co-digestion at the feed rate tested had no deleterious impact on digester operation or stability. Since the Joint Water Pollution Control Plant (JWPCP) facility operates a combined cycled combustion turbine facility that typically generates 20 MW for onsite use. This facility has spare capacity that is able to use most of the additional digester gas produced by the project to generate an additional 250 kW of electricity.

The Sanitation Districts and US Waste have successfully initiated a pioneering project to recycle food waste through anaerobic digestion at an existing wastewater treatment plant and, to date, have processed more than 19,000 tons of food waste slurry. This project has lead the way in helping to meet California's organic recycling goals and to provide operational details and lessons to other wastewater treatment facilities around the country as they adopt the approach.