

4<sup>th</sup> International Conference and Exhibition on

# Food Processing & Technology

August 10-12, 2015 London, UK

## Converting food leftovers into energy and fertilizer resources

**Ruihong Zhang**

University of California, USA

The State of California has recently enacted new legislation and policies for accelerating the development of low carbon economy. Many food processors and suppliers have established sustainability goals for their businesses. Diverting food processing residuals and food waste from landfill and converting them into energy, fertilizer and other valuable products is an effective pathway to reduce the carbon footprint and improve the environmental and economic sustainability of food processing facilities and food businesses. UC Davis's high solids anaerobic digestion technology has made the co-production of renewable natural gas and biofertilizers from food waste possible at commercial scales. The new anaerobic digestion technology has been successfully used in three commercial food wastes to energy projects in the Sacramento region. At full capacities, these facilities convert over 150 tons of food wastes each day into biomethane gas. The biomethane produced at Sacramento Biodigester is currently used as renewable natural gas for trucks and cars and the biogas produced at UC Davis Renewable Energy Anaerobic Digestion facility is used for generating approximately 5.6 GWh of renewable electricity per year. This presentation provides a review of anaerobic digestion technologies and their applications for food waste conversion and highlights the food waste to biogas energy projects that Clean World has in operation.

### Biography

Ruihong Zhang is a Professor in the Department of Biological and Agricultural Engineering at University of California, Davis (UC Davis). She has more than 25 years of research and teaching experiences with bioenergy and biofuel production, waste treatment and environmental quality management and control. She has successfully transferred new technologies from her laboratories to commercial companies. She is now serving as Chief Technology Advisor for CleanWorld, a Sacramento based Bioenergy Company. She has over 300 scientific publications and seven patents. She received her PhD degree of Agricultural Engineering from the University of Illinois at Urbana-Champaign in 1992. She then joined the faculty of Iowa State University in 1993 and the faculty of UC Davis in 1995. She conducted innovative research and technology development on the production of biofuels and biochemicals from food and agricultural wastes. She received several prestigious awards, including the New Holland Young Researcher Award from the American Society of Agricultural and Biological Engineers in 2003, Environmental Award from the US Environmental Protection Agency in 2007, and Distinguished Career Award from Association of Overseas Chinese Agricultural, Biological and Food Engineers in 2010, Achievement Award from California Bioresources Alliance in 2013, and CleanTech Innovator of the Year from Sacramento Regional Technology Alliance (SARTA) in 2014.

[rhzhang@ucdavis.edu](mailto:rhzhang@ucdavis.edu)

### Notes: