

## From Idea to Product: Leveraging Chemistry and Materials to Reduce Food Waste

According to the United Nations Food and Agricultural Organization (UN-FAO), we will need 56% more food to feed the growing global population by 2050. In addition, with more than 800 million people who are affected by hunger today, we need solutions that can address food production and supply challenges in short order. One way to address these challenges is to reduce food waste and loss which is reported between 30 and 50% based on geography and product category by the UN-FAO.

In this talk, we will address how Apeel Sciences, a start-up based in Santa Barbara, CA, is approaching tackling food waste and loss by developing new technologies and products that work *with* nature. The talk will review the process and the journey of an 'idea' to a product *via* a multidisciplinary approach inspired by Materials Science and Engineering principles to develop a plant based edible coating and other technologies utilizing data science and computer vision to make quantitative produce quality tools and shelf-life prediction models.

### Dr. Louis Perez

Apeel Science  
Santa Barbara, CA



Lou Pérez is a Co-Founder and currently Senior Vice President of Technology at Apeel Sciences, a start-up that focuses on developing technologies and products that create a more resilient fresh food system. At Apeel Sciences, Pérez has helped develop: a proprietary plant-based coating that prevents transpiration and oxidation, the two major abiotic stressors that lead to food waste; quantitative produce quality tools and produce lifespan prediction models to help optimize supply chains; and 'nature based' antifungals to address biological stressors. This robust portfolio of technologies focused on reducing food waste has been recognized four times as an CNBC Disruptor 50 List for private companies poised to meet increasing economic and environmental challenges of our time and an R&D 100 award winner. He is a listed inventor on 15 patents for technology developed at Apeel Sciences and has been part of the executive team that has helped raise over \$500 million in capital and expand to multiple markets internationally.

Dr. Pérez earned a BS in Materials Science and Engineering from the University of Florida and worked at the University of Massachusetts, Amherst, in the Polymer Science and Engineering department, and the DuPont Experimental Station before starting his PhD in Materials Engineering at the University of California, Santa Barbara. He published 15 peer reviewed articles and was awarded several fellowships during his graduate studies, the NSF GRFP, NSF IGERT, and GEM. Louis' PhD work focused on the molecular design, synthesis and structure-property relationships of innovative, functional materials for applications in organic thin film electronics.

**April 25, 2023 at 4:00PM in ZHS 252**

**the entire scientific community is invited**

