PPPL
PRINCETON
PLASMA PHYSICS
LABORATORY

Ronald E. Hatcher
Science on Saturday Lecture Series
06 February 2016

Plastic Electronics

Yueh-Lin (Lynn) Loo
Department of Chemical & Biological Engineering
Princeton University
Princeton, NJ

ABSTRACT:
Imagine flexible, electronic skins for continuous human health monitoring; imagine wallpaper that change patterns and colors at the flick of a switch; and imagine conformal and aesthetically pleasing solar panels that are integrated into buildings and windows… My lecture will provide a broad overview of conducting plastics and how progress in this field will get us to the applications above. Since Alan MacDiarmid, Alan Heeger and Hideki Shirokawa received the Nobel Prize for discovering conducting plastics in 2000, this field has grown rampantly. Today, these materials are found in cell phone displays and in televisions. I will highlight our work in this area, focusing on the development of mechanically flexible and transparent solar cells for harvesting sunlight.

BIOGRAPHY:
Lynn Loo is the Theodora D. ’78 & William H. Walton III ’74 Professor in Engineering and the Acting Vice Dean of the School of Engineering and Applied Science at Princeton University. In the Chemical & Biological Engineering Department, her research emphasizes the structural development of soft materials for low-cost, lightweight and scalable plastic circuits and solar cells. With her recent stint at NewWorld Capital Group, a private equity firm that invests in environmental opportunities, Lynn’s research has expanded to include macro-energy-systems analysis of processes that generate “drop-in replacement” transportation fuels from non-food biomass. As the Associate Director of External Partnerships at the Andlinger Center for Energy and the Environment from 2011 to 2015, Lynn led Princeton E-ffiliates Partnership to promote teacher-student-practitioner interactions and foster collaboration with the private sector. Lynn received her BSE in Chemical Engineering and in Materials Science and Engineering from the University of Pennsylvania in 1996 and her PhD from Princeton University in 2001. She is a fellow of the American Physical Society and a Young Global Leader of the World Economic Forum. She has received numerous other accolades for her work; you can learn more about her and her research group at: http://princeton.edu/~loogroup.