

UNIVERSITY OF CALIFORNIA, IRVINE

DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

IS PROUD TO HOST A SEMINAR BY

***“COOL PLASTICS FOR A
GREENER WORLD”***



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**PROFESSOR & CHAIR
SCHOOL OF MATERIALS SCIENCE AND
ENGINEERING
GEORGIA INSTITUTE OF TECHNOLOGY**

Thursday, May 29, 2025

2:00 PM - 3:20 PM

McDonnell Douglas Engineering Auditorium

Abstract: With seabirds trapped in multipack drink rings, and mid-ocean islands of indestructible rubbish, the idea that plastics could play a big part in a sustainable future world might seem far-fetched. However, new smart plastics may yet rescue the reputation of this all-consuming 20th century material. Research into 'cool plastics' for cars and buildings could reduce the need for air conditioning and, thus, improve their energy efficiency. We will present recent efforts to design plastics of desired optical functions targeted for a greener world. We will discuss the potential of such systems that can offer the same flexibility, softness and light weight as commodity plastics but can control the flow of light and heat therefore assisting energy management in buildings and greenhouses in the form of heat mirrors, photovoltaic applications when used as anti-reflection coatings and semi-transparent mirrors, as well as building blocks for novel optical structures that can lead to quantum devices.

Bio: Natalie Stingelin is a Full Professor at the Georgia Institute of Technology and the Chair of the School of Materials Science & Engineering. She held prior positions at Imperial College London, UK, at Queen Mary University of London, UK; the Philips Research Laboratories in Eindhoven, The Netherlands; the Cavendish Laboratories, University of Cambridge, UK; and the Swiss Federal Institute of Technology (ETH) Zürich, Switzerland. She is the Director of Georgia Tech's Center of Organic Electronics and Photonics, and was elected a 2023 Member of the European Academy of Sciences (EurASc); a 2021 Fellow of the U.S. National Academy of Inventors (NAI); a 2019 Fellow of the Materials Research Society (MRS); and a 2012 Fellow of the Royal Society of Chemistry (RSC). Her research interests encompass the broad area of functional polymer materials, polymer physics, organic electronics & photonics, and bioelectronics. natalie.stingelin@mse.gatech.edu

