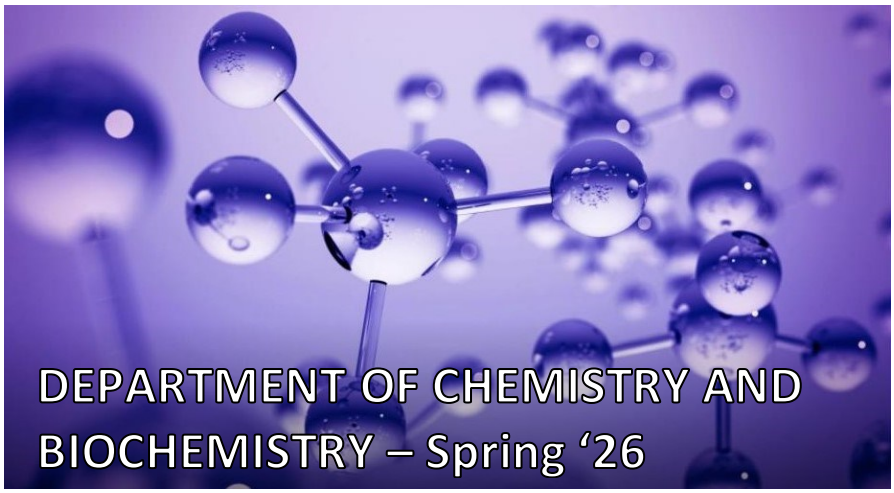

THE SALZBERG CHEMISTRY SEMINAR SERIES

The City College of New York

CREST IDEALS PHASE II

Monday, March 30 2026 @ 12:00 noon – MR1027

The Plastic Waste Epidemic: Efforts to Create Sustainable Materials for the Future

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Abstract: Over the past 75 years, society's perspectives on plastics have shifted. Plastics were originally regarded as a miracle material that made everyday life easier and helped society accomplish amazing feats, such as space travel, the creation of computers, and numerous lifesaving medical advancements. However, this wonder material is now becoming one of the biggest problems of the modern era. Plastic waste has reached astronomical proportions, and the environmental impact is forecasted to worsen exponentially. Polymer chemists are leading an effort to develop more sustainable, environmentally friendly materials that retain the same world-changing benefits. My research has focused on developing stimuli-responsive materials that depolymerize through sequential quinone methide eliminations or intramolecular cyclizations. Join me while I outline the current state of plastics in society and discuss our efforts to create degradable, recyclable, and sustainable plastics.

Biography: Matthew Baker began his academic journey at Alfred University, where he earned a bachelor's degree in chemistry. He then attended The Pennsylvania State University for his graduate studies. Under the guidance of Professor Scott T. Phillips, Matthew initially developed small-molecule signal-amplification systems and then transitioned to investigating degradable polymers. He earned his Ph.D. in 2014 and joined the Chemistry Department at Westminster College in Pennsylvania. After two years, Matthew had an opportunity to move back to upstate NY to become a faculty member at the State University of New York at Oswego. At SUNY Oswego, his research group focuses on developing stimuli-responsive polymers with applications to environmentally friendly materials, diagnostics, and controlled-release systems.

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