

**SPRING 2022  
CHEMISTRY  
SEMINAR SERIES**



**DR. MINGXU YOU**

*Department of Chemistry*

*University of Massachusetts  
Amherst*

*Amherst, MA*

**HOST:  
DR. ZHANG**

**ALL THOSE  
INTERESTED ARE  
WELCOME TO  
ATTEND**

**“Cellular Imaging and Regulation with Nucleic Acids”**

**Friday, March 25, 2022, 11:30 AM**

**VIRTUAL VIA ZOOM**

**Abstract:** Sensors that can report the distribution and flux of cellular metabolites and signaling molecules are critical tools in studying biology. Based on emerging genetically encoded fluorescent RNA molecules, I will first introduce an advanced sensor platform for the quantitative and sensitive detection of a broad range of cellular targets. In the second half of this talk, DNA-based tools will be described for imaging some previously undetectable biophysical events in live cell membranes, including intercellular mechanical forces and dynamic lipid-lipid and lipid-protein interactions. Our goal is to develop next-generation platforms to study cell biology and disease, based on the building block of life – nucleic acids.

**Biographical sketch:** Dr. Mingxu You started his independent career in 2016 as an Assistant Professor of Chemistry at the University of Massachusetts Amherst. He received his B.S. in Chemistry from Peking University in 2008, and his Ph.D. in Analytical Chemistry from the University of Florida in 2012 under the supervision of Prof. Weihong Tan. Dr. You further pursued his postdoctoral research with Prof. Samie R. Jaffrey at Weill Cornell Medicine, interested in developing RNA-based fluorescent sensors for cellular imaging. His laboratory at UMass Amherst is now applying nature’s building blocks, DNA/RNA, to develop next-generation platform for disease diagnostics and therapy. Dr. You has been recognized in several awards, including the Alfred P. Sloan Research Fellow, Camille Dreyfus Teacher-Scholar, NIH MIRA, NSF CAREER, and ACS Burlew award. In addition, he has been recognized as an Emerging Investigator in journals such as *Analytical Methods*, *Supramolecular Chemistry*, *Frontiers in Chemistry*, *Nanoscale*, and *ChemComm*.

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