



Photonics Forum

September 25, 2019

11:45 a.m. -
1:15 p.m.

9th Floor

Room 901

Photonics Center

8 Saint Mary's Street

Lunch will be served!



Assistant Professor, Maria Kamenetska, Boston University

“Probing Structure-Function Relationships Using Single Molecule Techniques”

Untangling structure-function relationships on the nano-scale is critical to understanding biological molecular machinery, and to engineering human-made nano-devices. In this talk, Professor Kamenetska will give an overview of her lab's approaches to probing and controlling sub-nanometer atomic arrangements in biological and synthetic systems. First, she will introduce their single molecule conductance measurements which show that molecular conductance signatures can serve as Angstrom-scale rulers, and demonstrate how they apply these techniques to probe the conductance of DNA building blocks. Next, she will discuss their approaches to single molecule absorption spectroscopy using an optical tweezer and outline some future research directions.

Dr. Kamenetska holds a joint appointment as Assistant Professor in the departments of Chemistry and Physics. She is also a member of Material Science & Engineering, BUNano and the Photonics Center. Prior to joining BU in 2017, she was a Postdoctoral Associate in Chemistry at Yale University working with Dr. Ziad Ganim from 2015-2017, and an NSF Postdoctoral Fellow also at Yale in Biophysics and Biochemistry from 2012-2014. She received her Ph.D. with distinction in 2012 in Applied Physics from Columbia University where she worked with Dr. Latha Venkataraman. She received her B.S. from MIT in 2005 and is very happy to be back in Boston.



Photonics Center

www.bu.edu/photonics