



DR. JULIE BITEEN

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**“UNCOVERING MOTION, MIXTURES, AND
MISLOCALIZATION IN COMPLEX ENVIRONMENTS
WITH SINGLE-MOLECULE MICROSCOPY”**

**October 30th, 2020 ~ 12:00PM
Seminar via Zoom**

Abstract: Single-molecule microscopy accesses nanometer-scale information with a benchtop microscope, providing a platform to super-resolve fluorescence emission, position, and dynamics, even in living cells. We are developing new single-molecule methods to answer fundamental, unanswered questions in microbiology and nanotechnology. I will discuss two applications of these direct, quantitative, and high-resolution approaches: (1) We are understanding how plasmonic metal nanoantennas reshape fluorescence from dye molecules, and (2) we are measuring the interactions essential for carbohydrate metabolism in the human gut microbiome. Overall, our results achieve fundamental insight of relevance to human health and nanoscience, and our work offers algorithms that can be further applied to other problems in chemistry, biology, and physics.

**FALL 2020
CHEMISTRY
SEMINAR SERIES**

**HOST:
DR. KINZ-
THOMPSON**

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INTERESTED ARE
WELCOME TO
ATTEND**

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