



CHEMISTRY & BIOCHEMISTRY COLLOQUIUM: Probing Water's Edge

Himanshu Mishra

Associate Professor, Environmental Science and Technology
King Abdullah University of Science and Technology (KAUST)

Date:

9/17/2021

Time:

10:30 AM- 11:50 AM

Link:

Please contact
snsgradstaff@ucmerced.edu
for the Zoom information.

Abstract:

Recent reports on the spontaneous production of micromolar-range hydrogen peroxide in condensed (or sprayed) water microdroplets have sparked significant interest. While the causative role of “interfaces” has been invoked, detailed mechanistic insights into these findings remain elusive. In this seminar, I will unentangle the various factors and mechanisms underlying this chemical transformation and discuss the environmental/practical implications.



About the Speaker:

Himanshu Mishra is an Associate Professor of Environmental Science and Engineering and a principal investigator at the Water Desalination and Reuse Center at KAUST. His Group investigates physical and chemical phenomena at interfaces of water with air, oils, and perfluorinated coatings such as wetting, surface forces, electrification, and chemical reactions. Technologies developed in his Group range from inexpensive mulching solutions for growing more food with less water in arid regions to perfluorocarbon-free gas-entrapping microtextured surfaces (GEMS) for drag reduction. Articles based on his work have appeared in Nature Communications, Science Advances, Proceedings of the National Academy of Sciences, and journals of the American Chemical Society and the Royal Society of Chemistry. He holds nine granted or pending patents.