

Dr. Wei Min, Columbia University

Talk Title: What Vibrational Tags can do for Biomedical Imaging?

Abstract: Innovations in light microscopy have revolutionized the way researchers study biological systems. Although fluorescence microscopy is currently the method of choice for cellular imaging, it faces several fundamental limitations such as the bulky fluorescent tags, color barrier for multiplex imaging, and limited ability for probing *in vivo* metabolism. To address these challenges, Dr. Min will present three chemical imaging strategies enabled by novel vibrational tags. First, he devised a Bioorthogonal Chemical Imaging platform suited for probing small bio-molecules. Second, he invented a super-multiplex optical imaging technique to visualize a large number of species in complex biological systems. Third, he developed a labeling and microscopy method to image *in situ* metabolic activities in animals.

Bio: Dr. Wei Min graduated from Peking University in 2003. He received his Ph.D. from Harvard University in 2008 studying single-molecule biophysics with Prof. Sunney Xie. After continuing his postdoctoral work in Xie group, Dr. Min joined the faculty at Columbia University in 2010, and was promoted to Full Professor there in 2017. He is also affiliated with the Kavli Institute for Brain Science and NeuroTechnology Center at Columbia University. Dr. Min's current research interests focus on developing novel optical spectroscopy and microscopy technology to address biomedical problems. In particular, his group has made important contributions to the development of stimulated Raman scattering (SRS) microscopy and its broad application in biomedical imaging.

Dr. Min's contribution has been recognized by a number of honors, including Pittsburgh Conference Achievement Award (2019), *Analyst* Emerging Investigator Lectureship (2018), Coblenz Award of Molecular Spectroscopy (2017), the ACS Early Career Award in Experimental Physical Chemistry (2017), Camille Dreyfus Teacher-Scholar Award (2015), Alfred P. Sloan Research Fellowship (2013), and NIH Director's New Innovator Award (2012).