"Activity-Based Sensing Approaches to Decipher the Elements of Cell Signaling”

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on: Wednesday, November 3rd, 2021, 16:00/4:00 PM (CEST)

Host: Univ.Prof.Dr. Nuno Maulide, Organic Chemistry, University of Vienna

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Abstract: Traditional strategies for developing selective imaging reagents typically rely on molecular recognition and static lock-and-key binding to achieve high specificity. We are advancing an alternative approach to chemical probe design, termed activity-based sensing, in which we exploit inherent differences in chemical reactivity as a foundation for distinguishing between chemical analytes that are similar in shape and size within complex biological systems. This presentation will focus on development of activity-based sensing probes to visualize dynamic fluxes of transition metal ions and reactive oxygen species and their signaling and stress contributions to living systems, along with activity-based proteomics to identify novel targets and pathways that these emerging classes of chemical signals regulate. These chemical tools enable the discovery of new biology from transition metal signaling and metalloallostery to redox signaling.

For research interest and biography see: https://chemistry.berkeley.edu/faculty/chem/chris-chang

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