CHEMISTRY Departmental Seminar

Fall 2019
CHEM 285/191 Schedule
Tuesday at 4:30-5:45PM
Room Duncan Hall 250

November 26th, 2019

Dr. Ian Carter-O’Connell
Santa Clara University

Decoding the ADP-ribosylome Using Mass Spectrometry

In the Carter-O’Connell lab we are focused on using biochemistry to uncover the role of one post-translational modification, ADP-ribosylation, in both normal human physiology (cell development, signal transduction, gene regulation) and disease (such as cancer and viral infection). We aim to couple a deeper understanding of the fundamental principles that govern ADP-ribose transfer in the cell to the biological outcomes of normal and malignant ADP-ribose signaling. In this talk, I will share our efforts to decode the specific targets of each of the 17 human poly-ADP-ribose-polymerases (PARPs) using high-resolution tandem mass spectrometry and chemical genetics. Building from the ADP-ribosylation maps we’ve obtained using this technique, I will then detail our ongoing efforts to elucidate the biochemical mechanisms governing target selection by the PARP family using readily available MALDI-TOF technologies.