



S E M I N A R
Monday 24/12/18, 12:00 pm
Building 211, seminar room

SPEAKER:

Prof. Yftah Tal-Gan

Department of Chemistry, University of Nevada, Reno,
USA.

TOPIC:

**Development of Peptide-Based Tools to
Investigate Cell Signaling in Bacteria**

Quorum sensing (QS) is a ubiquitous process in bacteria that governs many important symbiotic and pathogenic phenotypes. As such, QS has attracted considerable attention as a means to control bacterial behaviors - attenuate undesired phenotypes, and promote productive processes. Many Gram-positive bacterial species utilize peptide pheromones to induce QS responses and initiate pathogenic phenotypes, such as competence, biofilm formation and virulence factor production. We investigate the molecular mechanisms that drive signal: receptor binding while interrogating the role of QS in the competition between bacterial species. To this end, we develop peptide-based QS modulators with distinct activity profiles (selective vs. pan-species modulators; inhibitors vs. activators) to test temporal control of QS modulation in both single-species and mixed cultures.