



Bar-Ilan University
אוניברסיטת בר-אילן

Faculty of Exact Sciences
Department of Chemistry

הפקולטה למדעים מדויקים
המחלקה לכימיה

S E M I N A R
Wednesday 1/5/19 11:00 am
Building 211, seminar room

SPEAKER:

Prof. Mikhail Krasavin
Saint Petersburg State University
Peterhof, Russia

TOPIC:

**Bearing a target in mind: from synthetic
chemistry to bioactivity**

Latest results from the Chemical Pharmacology program at Saint Petersburg State University will be presented. The research program relies primarily on developing new synthetic methodology. However, the decision to work on a particular area of synthetic organic chemistry is triggered by weighing the potential impact of it on the existing arsenal of bioactive small molecules and keeping them synthetically tractable. For example, a method that is atom-economical and delivers lead-like scaffold with multiple elements of diversity and embedded privileged motifs will receive a higher priority. However, the ultimate goal is to identify the utility of the newly developed chemistry in specific bioactivity areas.

The talk will focus on two areas of research that emerged in our program: i. N-aryl imidazolines, which delivered cyclooxygenase-2, isoform-selective carbonic anhydrase and kinase inhibitory chemotypes as well as offered a new entry into medium-sized rings, and ii. formal cycloaddition of cyclic anhydrides and imines (a.k.a. the Castagnoli-Cushman reaction) that has led to identifying potent apoptosis-inducing p53 activators for potential cancer applications and novel synthetic analogs of bacterial siderophores for antibiotic delivery.