WARF THERAPEUTICS SYMPOSIUM

PRESENTORS

GRACE LUTOVSKY
EDWARD PIMENTEL
DIANA WANG
UW-MADISON
CHEMISTRY

DR. NICOLE GOODWIN
GLAXOSMITHKLINE
(GSK)

PROF. TIMOTHY CERNAK
UNIVERSITY OF MICHIGAN

Thursday, April 21, 2022

2:00PM – 5:00PM
LEARNING STUDIO, ROOM 1435

FACULTY HOST: PROF. SHANNON STAHL

For more information, contact Mary Hanson at mchansol@wisc.edu or Alisa Gradney at agradney@wisc.edu
2:00PM – 2:45PM STUDENT PRESENTATIONS

Grace Lutovksy
Yoon Group

Photoactive Cu(II) and Fe(III) Carboxylates Enable a Versatile Platform for C–N, C–O, and C–C Bond Formation

Edward Pimentel
Martell Group

DNA Architectures to Accelerate and Optimize Synergistic Catalysis

Diana Wang
Wickens Group

Coupling Alkenes and Amines via a Dication Pool Approach

2:50PM – 3:35PM DR. NICOLE GOODWIN – GSK

Accelerating Medicinal Chemistry through High Throughput Experimentation

High throughput experimentation (HTE) has had a revolutionary impact on the pharmaceutical industry. Automation and miniaturization of chemistry activities down to the microliter-sized reaction have allowed for increased efficiencies in reaction development, parallel synthesis, and other enabling technologies that innovate and drive success in our discovery chemistry groups. Today’s seminar will describe the modern methods that GSK implements in this space and feature their application in an end-to-end nanoscale direct-to-biology workflow (D2B) that allows for simultaneous large-scale optimization of chemical diversity against reaction conditions in a single experiment. These crude reaction mixtures are progressed directly to in vitro biological screening. Validation of this workflow against GSK’s Protacs platform will be presented.

4:00PM – 5:00PM PROF. TIMOTHY CERNAK – UNIVERSITY OF MICHIGAN

Strategic Chemical Synthesis with Data Science

Advancing the synthesis of small molecules is critical to the advent of new medicines, materials, and agrochemicals. Our lab has been exploring strategies in chemical synthesis – both in reaction method development and total synthesis – that leverage modern data science techniques. This presentation will share some recent results using informatics to target novel amine–acid coupling reactions, and algorithms to streamline the total synthesis of alkaloids. Chemical synthesis enabled by data science techniques and automation will be a consistent theme of the research.