



CELEBRATING NATIONAL CHEMISTRY WEEK



THE HUDSON-BERGEN CHEMICAL SOCIETY and THE BIOCHEMISTRY, CHEMISTRY AND PHYSICS DEPARTMENT of FAIRLEIGH DICKINSON UNIVERSITY

Invite you to the lecture

AIE Materials – Using Phenazine Derivatives

presented by **Viktorija Miseljic**

Ph.D. Candidate, Department of Chemistry, Wesleyan University



Abstract

Conjugated organic compounds are widely used in materials science, such as sensors, displays, and bioimaging, due to their tunable light-emitting properties. While fluorescent in dilute solutions, many planar conjugated structures undergo intermolecular interactions like π - π stacking in condensed phases, resulting in aggregation-caused quenching (ACQ), which reduces their fluorescence. In contrast, aggregation-induced emission (AIE) materials exhibit enhanced emission upon aggregation due to restricted intramolecular motions, which prevent nonradiative decay pathways. The condensation of bis-(triphenylethylene) functionalized ortho-phenylene diamine with ortho-quinones gives phenazine-based luminogens in high yields. Fluorescence studies demonstrate that phenazine derivatives display AIE behavior in THF solutions containing $\geq 60\%$ water. The sizes and structures of aggregates have been investigated further by dynamic light scattering, confocal microscopy, and scanning electron microscopy, each showing that aggregate size decreases with higher water content in THF. The findings provide insights into the trends of aggregation-induced emission in phenazine-based materials and highlight phenazine condensation as a valuable means of accessing AIE materials with desirable luminescent properties.

BIO

Viktorija Miseljic is a fifth-year PhD candidate at Wesleyan University in Connecticut. She attended Fairleigh Dickinson University, where she was a Division I student-athlete on the women's soccer team and graduated in Spring 2021 with a degree in Science with a chemistry concentration. Following graduation, she joined Dr. Ish Kumar's lab and was later accepted into Wesleyan's PhD program in

chemistry. She now works in Dr. Brian Northrop's lab as an organic synthetic chemist, systematically exploring the chemistry of phenazines to construct new organic materials for use in organic electronic devices such as organic field-effect transistors (OFETs), photovoltaics (OPVs), light-emitting diodes (OLEDs), sensors, etc. Outside the lab, she has also had the opportunity to be the assistant coach of the Wesleyan Women's Soccer Team, where she coaches and mentors student-athletes, and was honored as Coaching Staff of the Year in 2024 for the NESCAC conference.

Date: Thursday, October 16, 2025

Times: 5:00 p.m. Pizza and refreshments
5:30 p.m. Lecture

Place: Dickinson Hall Rm. 4468, Fairleigh Dickinson University, Teaneck, NJ 07666

Free. Reservations required by October 5, 2025, Dr. Mihaela Leonida mleonida@fdu.edu, or
Dr. Ish Kumar ikumar@fdu.edu