

CEDT SUMMER SEMINAR SERIES:

Influence of Nanoparticle Surfaces on DNAzyme Recognition and Catalytic Activity

Thursday, July 30th, 2026

11:00 A.M. - 12:00 P.M.

In-Person: JHE 326H

RNA-cleaving DNAzymes are promising molecular tools for biosensing, but their performance is limited by slow cleavage kinetics. This work investigates how semiconductor quantum dots and gold nanoparticles influence DNAzyme activity by altering the local molecular environment. Förster Resonance Energy Transfer (FRET) and Nanosurface Energy Transfer (NSET) are used to monitor nanoparticle-induced changes in cleavage kinetics and target recognition, providing insights into the design of more sensitive and efficient DNAzyme-based biosensors.



Biomedical Engineering

Daniel Zatko

PhD Student supervised by Dr. Niko
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A Ph.D. student in the School of Biomedical Engineering, Daniel specializes in the development of optical biosensors that integrate functional nucleic acids and nanomaterials to improve molecular sensing.



Refreshments Provided