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Current Position

- 2004-present Molecular Biologist, Biosciences Division, Argonne National Laboratory

Background

- 1998-2004 Assistant Molecular Biologist, Biosciences Division, Argonne National Laboratory
- 1993-1998 Postdoctoral Appointee, Center for Mechanistic Biology and Biotechnology, Argonne National Laboratory
- 1993 Ph.D. Biochemistry, University of Illinois-Chicago
- 1987 B.S., Biochemistry, University of Illinois-Chicago

Goals

I have been a CNM user since 2012. My primary research area is in protein engineering, with an emphasis on protein stabilization and development of robust protein-based sensors, and I have worked with several members of the Nanophotonics & Biofunctional Structures group. In a recent project, we developed a fast and sensitive ratiometric FRET-based detection method for botulinum neurotoxin. A variety of CNM capabilities were employed in this task, including expertise and capabilities in nanoparticle synthesis, surface modification and functionalization, and time-resolved emission spectroscopy. Another recent user project employed the Ultrafast Microscope/Hyperspectral Imager to study FRET-based sensing of ligands in a microbial biosensor.

In addition to my CNM user activities, I have interacted with CNM researchers in several other studies (projects on which I was not a direct CNM user), including investigations of redox-sensitive sensor proteins for integration onto boron- and nitrogen-doped UNCD thin films and antibody optimization for immobilization on photoactivatable TiO₂ nanocrystals.

Along with participating in organization of the annual Users Meetings and serving as a liaison between the CNM User community and CNM and laboratory management, I am especially interested in facilitating interactions between the biological community and CNM.