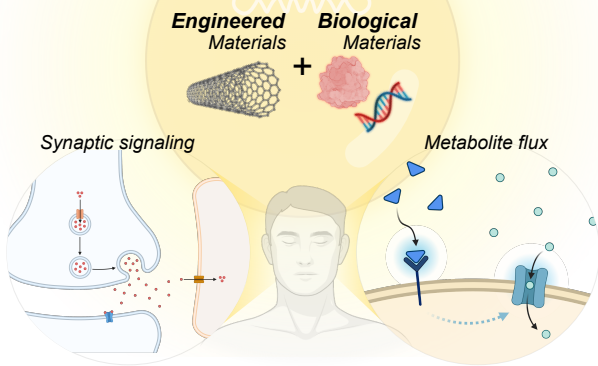


Seeing the Unseen: Programming Fluorescent Nanoparticles to Visualize the Chemistry of Life

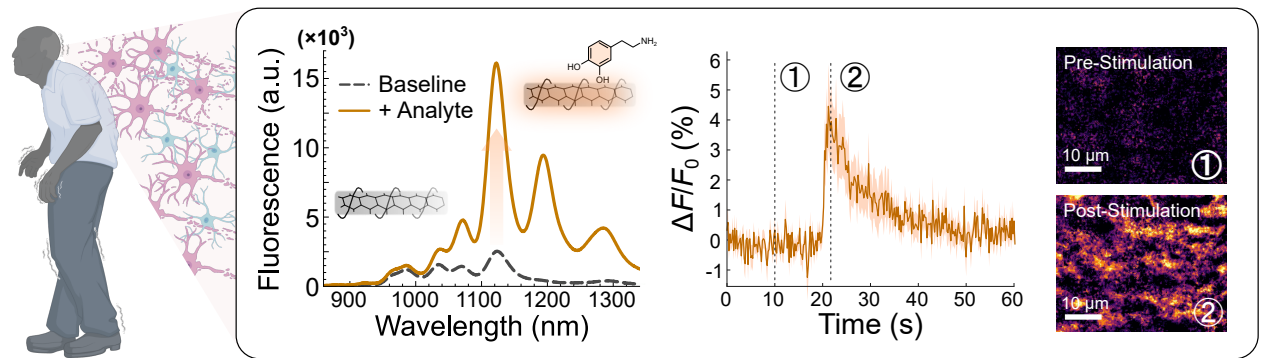
RESEARCH OVERVIEW

Engineering Tools that illuminate the chemistry of life



RESEARCH SYNOPSIS

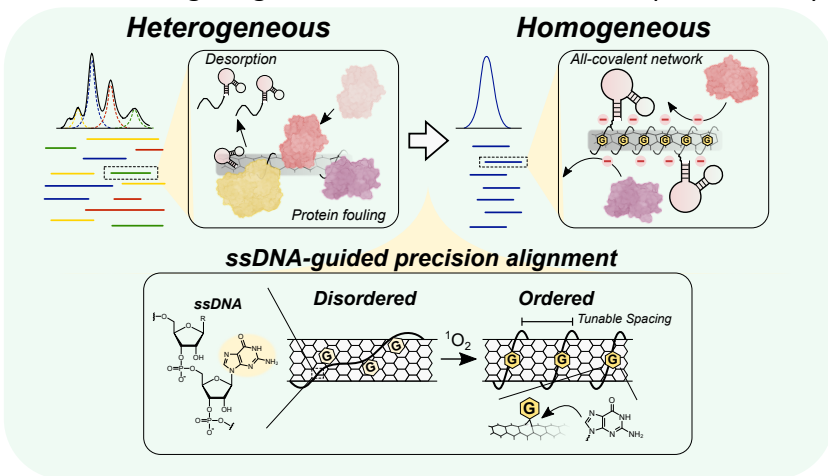
Advances for neurochemical imaging



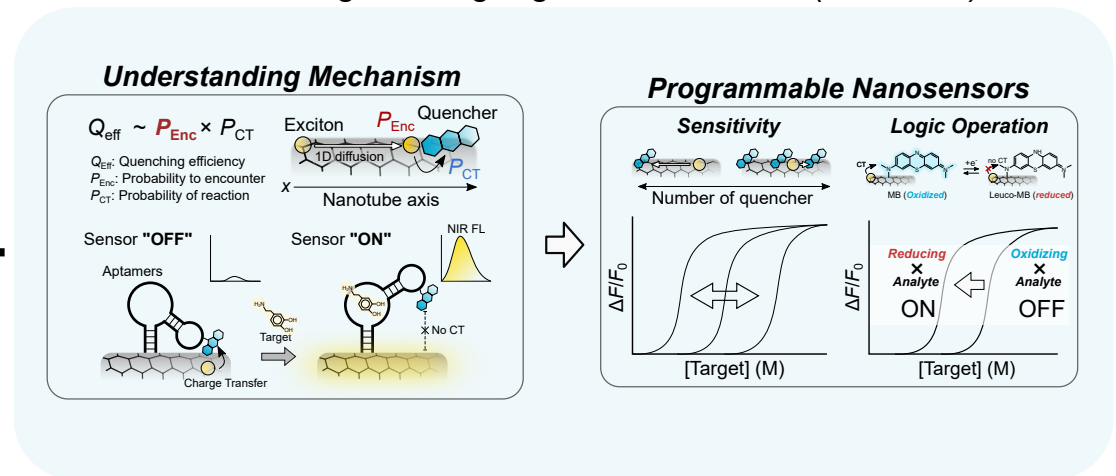
1. S. Nishitani et al., *PNAS* (2025)
2. S. Nishitani et al., *Angewandte Chemie* (2024)
3. S. Nishitani et al., *Adv. Funct. Mater.* (2024)
4. F. Ledesma, S. Nishitani et al., *Adv. Funct. Mater.* (2024)

FUTURE RESEARCH

Aim 1. Designing Molecular Architectures (**Structure**)

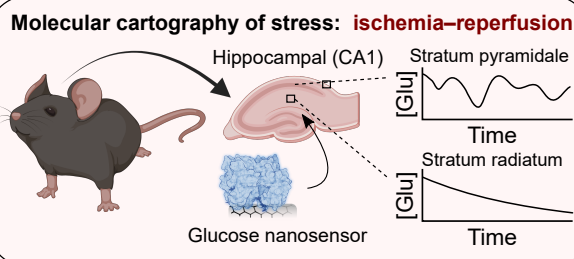


Aim 2. Programming Signal Transduction (**Function**)

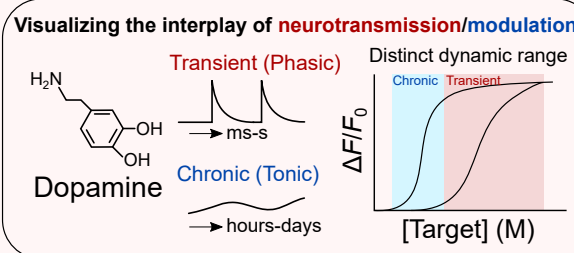


Aim 3. Building NIR-II Molecular Imaging Platforms (**Translation**)

Quantitative Imaging



Imaging across Multiple Timescales



Vision: In vivo multi-target imaging

