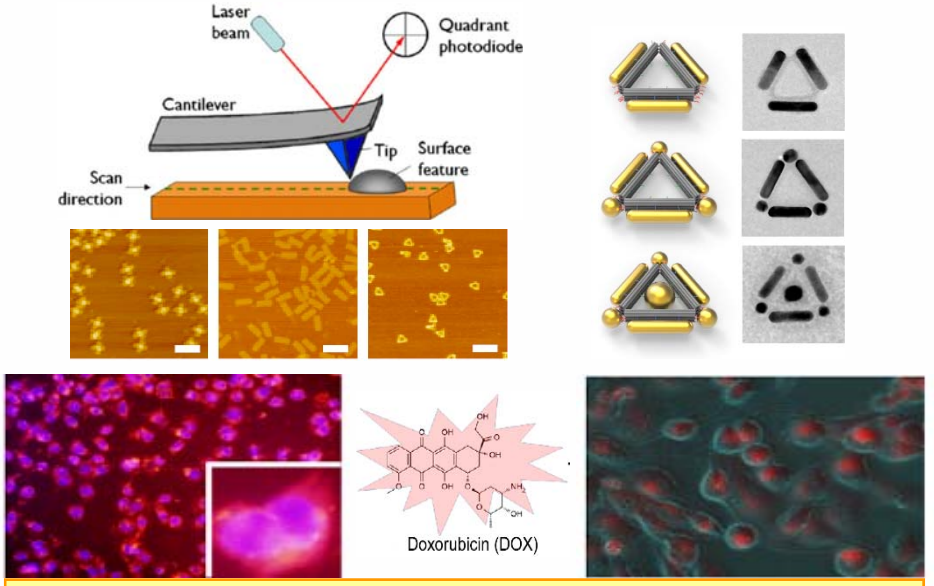
DEPARTMENT OF CHEMISTRY

Biochemistry, Biomaterials, and Biomedical Engineering

Research Topics

- Developing novel drug delivery and biosensing systems for cancer therapy
- Fabricating plasmonic metamolecules and investigating their novel properties
- Integrating “top-down” lithography with “bottom-up” self-assembly to create nanoelectronic circuits
- Studying biomolecular interactions at the single molecular level



Biomaterial application in cancer therapy and biosensing

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Funding

National Science Foundation
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AFMworkshop

Keywords

- DNA nanotechnology; Biomedicine; Drug delivery; Plasmonic nanoparticles; Bottom-up nanofabrication

Significant Achievements

- 2016 & 2017 Tappmeyer Teaching Excellence Award
- Time-lapse live cell imaging to monitor doxorubicin release from DNA origami nanostructures, Y. Zeng, et al, *J. Mater. Chem. B*, 2018, 6, 1605 (front cover image).
- Self-assembly of heterogeneously shaped nanoparticles into plasmonic metamolecules on DNA origami, W. Liu et al, *Chem.Eur. J*, 2018, 23, 14177.

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