



# CELLULAR & SYSTEMS NEUROSCIENCE SEMINAR SERIES

Co-sponsored by MCDB, N&B, NRI, and DYNs



**Next Speaker:**  
**Wednesday, November 16th**  
**3PM | BioE 1001**

## **An Active DNA Liquid**

We seek to create self-assembled biomolecular liquid droplets that act as rough mimics of biological condensates, and to engineer mesoscopic structure and function into the droplets through molecular design. We particularly form liquids from DNA nanostars, multi-armed DNA particles that condense through base-pairing interactions. These liquids show material properties similar to biological condensates, while also displaying an extraordinary sensitivity to the number of arms of the constituent particles. I will discuss various approaches to functionalizing these DNA liquids, including by infusing them with gene-length linear DNA strands; by interfacing the liquids with DNA enzymes; and by creating complex mesoscopic structures formed from 2 immiscible DNA liquid phases.



**Professor Omar Saleh**  
**Department of Materials**  
**UC Santa Barbara**