The lab investigates mitotic spindle formation during cell division and its misregulation in human diseases, especially cancer. The lab's major focus is to understand how multiple mechanisms and enzymatic activities coordinate the formation of the mitotic microtubule spindle during cell division. We are interested in identifying and characterizing novel proteins that are required for proper mitotic spindle assembly. We use human cell lines and in vitro systems along with a combination of approaches, including Biochemistry, Molecular Biology, Cell Biology, Chemical Biology and Microscopy to determine the mechanism of action of these proteins.

Our research covers the areas of molecular, structural and computational biology. Our recent work focuses on large protein assemblies, including (1) giant protein capsids that serve as metabolic organelles in bacteria and (2) designed proteins that self-assemble into cages and other novel nanomaterials.

Friday, November 5, 2021
Mol Sci 3440
3:30 pm