An overarching interest in my lab is the assembly, clearance and function of stress granules and P-bodies, which are conserved cytoplasmic assemblies of non-translating mRNA-protein complexes. A microscopy screen aimed at identifying genes that affect stress granules and P-bodies has led my lab over the past 5 ½ years to make several unexpected discoveries. These include identifying a role for endocytosis in neurodegenerative disease pathology and discovering a novel RNA-based scaffolding mechanism for P-bodies. In this talk, I will provide a general overview of these findings and highlight future directions we are pursuing.