



## Molecular Machines vs. Protein Aggregates: Engineering Solutions for Neurodegeneration

**JiaBei Lin, Ph.D.**  
**Rowan University**  
**Assistant Professor,**  
**Chemistry & Biochemistry**



**Abstract:** The accumulation of toxic protein and RNA aggregates is a hallmark of neurodegenerative disease. My research addresses this challenge via two complementary approaches: first, engineering and evolving AAA+ protein motors to reverse misfolding and dissolve toxic aggregates; and second, elucidating the structure-function relationships of disease-associated RNA-binding proteins to determine how mutations drive loss- and gain-of-function pathologies. In parallel, we investigate the molecular mechanisms underlying AAA+ motor activation and substrate remodeling. Together, these insights guide the design of small molecules, RNA reagents, and short peptides that selectively modulate these processes and mitigate pathological protein and RNA aggregation.

**Wednesday, March 25th | 2:00pm-3:15pm | Science Hall 126**

For more information, visit our website: [go.rowan.edu/sciencehallseminars](http://go.rowan.edu/sciencehallseminars)