



WPI

CHEMISTRY & BIOCHEMISTRY



**Department of Chemistry and Biochemistry
Worcester Polytechnic Institute**

Wednesday, April 22nd, 2026

12:00 PM

Gateway Park 1002

Dr. Tom Kirchhausen

Senior Investigator, Program in Cellular and Molecular Medicine at Boston Children's Hospital, Springer Family Professor of Pediatrics and Professor of Cell Biology at Harvard Medical School

“Endosome Escape”

I will present a recently uncovered process involving transient perforations in endo-lysosomal membranes that enables bidirectional exchange between the organelle lumen and cytosol, revealed through advanced live-cell imaging, EM, and vision transformer-based analysis. I will discuss how this process allows cytosolic seeding of tau and α -synuclein aggregates in neurons, revealing a fundamental and broadly relevant pathway in cell biology.

Host: Suzanne Scarlata