



Suzanne Pfeffer

Emma Pfeiffer Merner Professor in the Medical Sciences
Biochemistry

Bio

ACADEMIC APPOINTMENTS

- Professor, Biochemistry
- Member, Bio-X
- Member, Stanford Cancer Institute
- Faculty Fellow, Stanford ChEM-H

ADMINISTRATIVE APPOINTMENTS

- Assistant Professor, Stanford University School of Medicine-Biochemistry, (1986-1992)
- Associate Professor, Stanford University School of Medicine - Biochemistry, (1992-1998)

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HONORS AND AWARDS

- Presidential Young Investigator Award, National Science Foundation (1988-1993)
- Fellow, American Association for the Advancement of Science (1992)

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PROFESSIONAL EDUCATION

- A.B., U.C. Berkeley , Biochemistry (1978)
- Ph.D., U.C. San Francisco , Biochemistry (1983)

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LINKS

- Pfeffer Lab Site: <http://pfeffer.stanford.edu>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

During intracellular transport, proteins destined for the plasma membrane, secretory vesicles and lysosomes must be sorted from one another within the Golgi complex and sent to their appropriate addresses. The long term goal of our research is to elucidate the molecular mechanisms by which proteins are targeted to specific and distinct compartments. We would like to understand how transport vesicles select their contents, bud off from an organelle, translocate through the cytoplasm to recognize their target, and then fuse with their target to deliver specific cargo molecules. These events are regulated by small Rab GTPases.

A molecular understanding of membrane traffic has broad implications for our understanding of growth control in cancer, receptor trafficking errors in heart disease, regulation of insulin secretion in diabetes and synaptic vesicle biogenesis and transport in neurological disorders. LRRK2 that is hyperactive in some types of Parkinson's Disease specifically targets Rabs--we want to understand how this is linked to disease. We also study the NPC1 and NPC1L1 proteins which are essential for cholesterol transport in humans and can lead to Niemann Pick C disease when mutated.

Teaching

COURSES

2018-19

- Advanced Cell Biology: BIO 214, BIOC 224, MCP 221 (Win)

2017-18

- Advanced Cell Biology: BIO 214, BIOC 224, MCP 221 (Win)
- Biochemistry Bootcamp: BIOC 202 (Aut)

2016-17

- Advanced Cell Biology: BIO 214, BIOC 224, MCP 221 (Win)

2015-16

- Advanced Cell Biology: BIO 214, BIOC 224, MCP 221 (Win)

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STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Shahzad Khan, Yuriko Sobu, Paulina Wawro, Wondwossen Yeshaw

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biochemistry (Phd Program)
- Cancer Biology (Phd Program)

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Publications

PUBLICATIONS

- **NPC intracellular cholesterol transporter 1 (NPC1)-mediated cholesterol export from lysosomes.** *The Journal of biological chemistry*
Pfeffer, S. R.
2019; 294 (5): 1706-9
- **LRRK2 and Rab GTPases.** *Biochemical Society transactions*
Pfeffer, S. R.
2018

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