Stanford



Laura Seeholzer

Assistant Professor of Neurobiology

Bio

BIO

My laboratory studies how we detect, perceive, and respond to sensations from within our own bodies. We focus on understanding how the airways sense potentially harmful substances and trigger protective reflexes like coughing and sneezing. Using techniques ranging from molecular and biophysical studies of single cells to behavioral studies, we investigate how specialized epithelial cells lining the airways detect different types of stimuli and communicate this information to the nervous system. By studying epithelial cells from animal models and humans, we aim to understand how their dysfunction contributes to conditions like chronic cough and aspiration. We also examine how the brain processes these internal signals to create the conscious "urge" to cough or sneeze, and how we learn to suppress these reflexes in appropriate social contexts. This research advances our understanding of the fundamental mechanisms linking bodily sensations to conscious awareness, behavioral control, and disease.

I did my PhD at Rockefeller University with Dr. Vanessa Ruta and post-doctoral studies at UCSF with Dr. David Julius.

ACADEMIC APPOINTMENTS

- Assistant Professor, Neurobiology
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Assistant Professor, Neurobiology, (2025- present)

HONORS AND AWARDS

- Winner of 2024 Prize for Neurobiology, Eppendorf & Science (2024)
- Helen Hay Whitney Post-Doctoral Fellow, HHWF (2019)
- The Larry Sandler Award for Outstanding Drosophila Thesis Work, Genetics Society of America (2019)
- Graduate Research Fellow, National Science Foundation (2012)

Teaching

COURSES

2026-27

- Neuro-Cellular Core: NEPR 201 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Emma Theisen

Doctoral Dissertation Advisor (AC)

Ellie Hilgert, Summer Li