Stanford

Tino Pleiner

Assistant Professor of Molecular and Cellular Physiology

Molecular & Cellular Physiology

NIH Biosketch available Online Curriculum Vitae available Online

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor, Molecular & Cellular Physiology
- Member, Bio-X

PROFESSIONAL EDUCATION

- B.Sc., University of Leipzig , Biochemistry (2010)
- M.Sc., Georg-August-University Göttingen (Max Planck Institute for Multidisciplinary Sciences) , Molecular Biology (2012)
- PhD, Georg-August-University Göttingen (Max Planck Institute for Multidisciplinary Sciences) , Molecular Biology (2016)

LINKS

- Lab website: https://www.pleinerlab.org

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The Pleiner lab combines mechanistic cell biology, structural biochemistry and protein engineering to dissect the pathways and molecular machines that mature human membrane proteins to a fully functional state. We also develop alpaca-derived and synthetic nanobodies as tools to modulate intracellular pathways that globally regulate protein homeostasis in health and disease.

Teaching

STANFORD ADVISEES

Orals Chair

Patricia Suriana

Publications

PUBLICATIONS

- **A nanobody-based strategy for rapid and scalable purification of human protein complexes.** *Nature protocols*
  Stevens, T. A., Tomaleri, G. P., Hazu, M., Wei, S., Nguyen, V. N., DeKalb, C., Voorhees, R. M., Pleiner, T.
  2023
- **A selectivity filter in the ER membrane protein complex limits protein misinsertion at the ER** *JOURNAL OF CELL BIOLOGY*
  Pleiner, T., Hazu, M., Tomaleri, G., Nguyen, V. N., Januszyk, K., Voorhees, R. M.

2023; 222 (8)

- **WNK1 is an assembly factor for the human ER membrane protein complex.** *Molecular cell*
  Pleiner, T., Hazu, M., Tomaleri, G. P., Januszyk, K., Oania, R. S., Sweredoski, M. J., Moradian, A., Guna, A., Voorhees, R. M.
  2021; 81 (13): 2693-2704.e12

- **Structural basis for membrane insertion by the human ER membrane protein complex.** *Science (New York, N.Y.)*
  Pleiner, T., Tomaleri, G. P., Januszyk, K., Inglis, A. J., Hazu, M., Voorhees, R. M.
  2020; 369 (6502): 433-436

- **Xpo7 is a broad-spectrum exportin and a nuclear import receptor.** *The Journal of cell biology*
  Aksu, M., Pleiner, T., Karaca, S., Kappert, C., Dehne, H. J., Seibel, K., Urlaub, H., Bohnsack, M. T., Görlich, D.
  2018; 217 (7): 2329-2340

- **A toolbox of anti-mouse and anti-rabbit IgG secondary nanobodies.** *The Journal of cell biology*
  Pleiner, T., Bates, M., Görlich, D.
  2018; 217 (3): 1143-1154

- **Strong signal increase in STED fluorescence microscopy by imaging regions of subdiffraction extent.** *Proceedings of the National Academy of Sciences of the United States of America*
  Göttfert, F., Pleiner, T., Heine, J., Westphal, V., Görlich, D., Sahl, S. J., Hell, S. W.
  2017; 114 (9): 2125-2130

- **Nanobodies: site-specific labeling for super-resolution imaging, rapid epitope-mapping and native protein complex isolation.** *eLife*
  Pleiner, T., Bates, M., Trakhanov, S., Lee, C. T., Schliep, J. E., Chug, H., Böhning, M., Stark, H., Urlaub, H., Görlich, D.
  2015; 4: e11349

- **Crystal structure of the metazoan Nup62•Nup58•Nup54 nucleoporin complex.** *Science (New York, N.Y.)*
  Chug, H., Trakhanov, S., Hülsmann, B. B., Pleiner, T., Görlich, D.
  2015; 350 (6256): 106-10

- **Well-defined biomimetic surfaces to characterize glycosaminoglycan-mediated interactions on the molecular, supramolecular and cellular levels.** *Biomaterials*
  Migliorini, E., Thakar, D., Sadir, R., Pleiner, T., Baleux, F., Lortat-Jacob, H., Coche-Guerente, L., Richter, R. P.
  2014; 35 (32): 8903-15