Stanford

# Michael Lanz

Basic Life Res Scientist, Biology

## Bio

### ACADEMIC APPOINTMENTS

- Basic Life Res Scientist, Biology

### PROFESSIONAL EDUCATION

- PhD, Cornell University , Biochemistry, Molecular, and Cell Biology (2019)

## Publications

### PUBLICATIONS

- **The proportional scaling of mRNA and ribosome concentrations controls eukaryotic cell growth.** *Nature cell biology*
  Gao, X., Lanz, M., Grosely, R., Cremer, J., Puglisi, J., Skotheim, J. M.
  2026

- **Cell size-dependent mRNA transcription drives proteome remodeling.** *Cell reports*
  You, D. S., Bohrer, C. H., Rumde, P. H., Sanidas, I., Swaffer, M. P., Larson, D. R., Elias, J. E., Lanz, M. C., Skotheim, J. M.
  2026; 45 (6): 117488

- **Chromatin association promotes UBR5-mediated degradation of Rb.** *bioRxiv : the preprint server for biology*
  Zhang, S., Lanz, M. C., Konschnik, J., Skotheim, J. M.
  2026

- **Cell enlargement drives aging-associated proteome remodeling and shortens replicative lifespan.** *bioRxiv : the preprint server for biology*
  Lanz, M. C., Hotz, M., Kroll-Ling, R., Wang, E., Kim, J., Elias, J. E., Gottschling, D. E., Skotheim, J. M.
  2026

- **Identification and inhibition of the Cyclin D Rb-docking interface that drives cell division.** *bioRxiv : the preprint server for biology*
  Topacio, B. R., Fleming, C. B., Lanz, M. C., Zhang, S., Xie, S., Tuvikene, J., Weaver, A., Sanidas, I., Sage, J., Rubin, S. M., Kõivomägi, M., Skotheim, J. M.
  2026

- **Maintenance of cytoplasmic and membrane densities shapes cellular geometry in Escherichia coli.** *Nature communications*
  Chure, G., de Silva, R. T., Sharma, R., Lanz, M. C., Cremer, J.
  2025

- **Intracellular diffusion in the cytoplasm increases with cell size in fission yeast** *MOLECULAR BIOLOGY OF THE CELL*
  Tan, C., Lanz, M. C., Swaffer, M., Skotheim, J., Chang, F.
  2025; 36 (4): 1-13

- **Intracellular diffusion in the cytoplasm increases with cell size in fission yeast.** *Molecular biology of the cell*
  Tan, C., Lanz, M. C., Swaffer, M., Skotheim, J., Chang, F.
  2025: mbcE24110488

- **Genome concentration limits cell growth and modulates proteome composition in Escherichia coli.** *eLife*
  Mäkelä, J., Papagiannakis, A., Lin, W. H., Lanz, M. C., Glenn, S., Swaffer, M., Marinov, G. K., Skotheim, J. M., Jacobs-Wagner, C.
  2024; 13

- **Genome dilution by cell growth drives starvation-like proteome remodeling in mammalian and yeast cells.** *Nature structural & molecular biology*
  Lanz, M. C., Zhang, S., Swaffer, M. P., Ziv, I., Gotz, L. H., Kim, J., McCarthy, F., Jarosz, D. F., Elias, J. E., Skotheim, J. M.
  2024

- **Cell Size Contributes to Single-Cell Proteome Variation.** *Journal of proteome research*
  Lanz, M. C., Fuentes Valenzuela, L., Elias, J. E., Skotheim, J. M.
  2023

- **Increasing cell size remodels the proteome and promotes senescence.** *Molecular cell*
  Lanz, M. C., Zatulovskiy, E., Swaffer, M. P., Zhang, L., Ilerten, I., Zhang, S., You, D. S., Marinov, G., McAlpine, P., Elias, J. E., Skotheim, J. M.
  2022

- **Whi5 is diluted and protein synthesis does not dramatically increase in pre-Start G1.** *Molecular biology of the cell*
  Schmoller, K. M., Lanz, M. C., Kim, J., Koivomagi, M., Qu, Y., Tang, C., Kukhtevich, I. V., Schneider, R., Rudolf, F., Moreno, D. F., Aldea, M., Lucena, R., Skotheim, et al
  2022; 33 (5): lt1

- **Delineation of proteome changes driven by cell size and growth rate.** *Frontiers in cell and developmental biology*
  Zatulovskiy, E., Lanz, M. C., Zhang, S., McCarthy, F., Elias, J. E., Skotheim, J. M.
  2022; 10: 980721

- **In-depth and 3-dimensional exploration of the budding yeast phosphoproteome** *EMBO REPORTS*
  Lanz, M. C., Yugandhar, K., Gupta, S., Sanford, E. J., Faca, V. M., Vega, S., Joiner, A. M. N., Fromme, J., Yu, H., Smolka, M. B.
  2021: e51121