

Jakobson, Christopher Matthew

Basic Life Research Scientist, Chemical and Systems Biology Operations

Publications

PUBLICATIONS

- **Prion-based protein self-assembly tunes mutagenesis to enable rapid adaptation.** *Cell*
Van Elgort, A., Jakobson, C. M., Chen, Y. R., Byers, J. S., Futia, R. A., Lozanoski, T. M., Harvey, Z. H., Xie, J. L., Garcia, D. M., Jarosz, D. F.
2026
- **Protein structure shapes natural genetic variation and de novo adaptation.** *bioRxiv : the preprint server for biology*
Jakobson, C. M., Van Elgort, A., Aguilar-Rodriguez, J., Jarosz, D. F.
2025
- **A genome-to-proteome map reveals how natural variants drive proteome diversity and shape fitness.** *Science (New York, N.Y.)*
Jakobson, C. M., Hartl, J., Trébulle, P., Mülleder, M., Jarosz, D. F., Ralser, M.
2025; 390 (6769): eadu3198
- **The Hsp90 molecular chaperone as a global modifier of the genotype-phenotype-fitness map: An evolutionary perspective.** *Journal of molecular biology*
Aguilar-Rodriguez, J., Jakobson, C. M., Jarosz, D. F.
2024: 168846
- **A genome-to-proteome atlas charts natural variants controlling proteome diversity and forecasts their fitness effects.** *bioRxiv : the preprint server for biology*
Jakobson, C. M., Hartl, J., Trébulle, P., Mülleder, M., Jarosz, D. F., Ralser, M.
2024
- **Hsp90 shapes adaptation by controlling the fitness consequences of regulatory variation.** *bioRxiv : the preprint server for biology*
Jakobson, C. M., Aguilar-Rodriguez, J., Jarosz, D. F.
2023
- **Metabolites control stress granule disassembly.** *Nature cell biology*
Jakobson, C. M., Jarosz, D. F.
2021
- **A prion accelerates proliferation at the expense of lifespan.** *eLife*
Garcia, D. M., Campbell, E. A., Jakobson, C. M., Tsuchiya, M., Shaw, E. A., DiNardo, A. L., Kaerberlein, M., Jarosz, D. F.
2021; 10
- **What Has a Century of Quantitative Genetics Taught Us About Nature's Genetic Toolkit?** *Annual review of genetics*
Jakobson, C. M., Jarosz, D. F.
2020
- **Widespread Prion-Based Control of Growth and Differentiation Strategies in *Saccharomyces cerevisiae*.** *Molecular cell*
Itakura, A. K., Chakravarty, A. K., Jakobson, C. M., Jarosz, D. F.
2019
- **Molecular Origins of Complex Heritability in Natural Genotype-to-Phenotype Relationships** *CELL SYSTEMS*
Jakobson, C. M., Jarosz, D. F.
2019; 8 (5): 363-+

- **Molecular Origins of Complex Heritability in Natural Genotype-to-Phenotype Relationships.** *Cell systems*
Jakobson, C. M., Jarosz, D. F.
2019
- **Pervasive function and evidence for selection across standing genetic variation in *S. cerevisiae*.** *Nature communications*
Jakobson, C. M., She, R., Jarosz, D. F.
2019; 10 (1): 1222
- **An estimate is worth about a thousand experiments: using order-of-magnitude estimates to identify cellular engineering targets** *MICROBIAL CELL FACTORIES*
Metcalf, K., Lee, M., Jakobson, C., Tullman-Ercek, D.
2018; 17: 135
- **Spatially organizing biochemistry: choosing a strategy to translate synthetic biology to the factory** *SCIENTIFIC REPORTS*
Jakobson, C. M., Tullman-Ercek, D., Mangan, N. M.
2018; 8: 8196
- **Quantitative characterization of all single amino acid variants of a viral capsid-based drug delivery vehicle** *NATURE COMMUNICATIONS*
Hartman, E. C., Jakobson, C. M., Favor, A. H., Lobba, M. J., Alvarez-Benedicto, E., Francis, M. B., Tullman-Ercek, D.
2018; 9: 1385
- **Organizing biochemistry in space and time using prion-like self-assembly.** *Current opinion in systems biology*
Jakobson, C. M., Jarosz, D. F.
2018; 8: 16–24
- **Evidence for Improved Encapsulated Pathway Behavior in a Bacterial Microcompartment through Shell Protein Engineering** *ACS SYNTHETIC BIOLOGY*
Lee, M., Jakobson, C. M., Tullman-Ercek, D.
2017; 6 (10): 1880–91
- **De novo design of signal sequences to localize cargo to the 1,2-propanediol utilization microcompartment** *PROTEIN SCIENCE*
Jakobson, C. M., Lee, M. F., Tullman-Ercek, D.
2017; 26 (5): 1086-1092