Tamas L. Nagy

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Education, Training, & Experience

2023— **Postdoctoral Scholar**, Department of Neurology, Univ. of California, Los Angeles
Advisor: Thomas A. Rando

2015—2023 **Ph.D.** in Biomedical Informatics, Univ. of California, San Francisco
Thesis: "Neutrophils actively swell to potentiate rapid migration"
Advisor: Orion D. Weiner

2011—2015 **B.S.** in Chemistry, **B.S.** in Mathematics, Univ. of Kentucky, Lexington

Research Interests

Cellular Biophysics; Cell Size Control; Cytoplasmic Architecture; Smart Microscopy; Optogenetics;

Selected Awards & Grants

2017-2020 **Moritz-Heyman Discovery Fellow**, University of California, San Francisco

2015-2020 **NSF Graduate Research Fellow**, National Science Foundation

2013 **AMGEN/CRSB Fellow** w/Jennifer Doudna, University of California, Berkeley

2011-2015 **Otis A. Singletary Scholar**, University of Kentucky (Tuition, Board, & stipend)

Publications

Nagy, T.L., Strickland, J., and Weiner, O.D. (2023). Neutrophils actively swell to potentiate rapid migration. *Elife* 12. https://doi.org/10.7554/eLife.90551.

Accepted, pending minor revisions **Editorial assessment: Fundamental and compelling**

Graziano, B. R., Town, J. P., Sitarska, E., **Nagy, T. L.**, Fošnarič, M., Penič, S., Iglič, A., Kralj-Iglič, V., Gov, N. S., Diz-Muñoz, A., & Weiner, O. D. (2019). Cell confinement reveals a branched-actin independent circuit for neutrophil polarity. *PLoS Biology*, 17(10), e3000457. https://doi.org/10.1371/journal.pbio.3000457

Saha, S., **Nagy, T. L.** & Weiner, O. D. Joining forces: crosstalk between biochemical signalling and physical forces orchestrates cellular polarity and dynamics. *Philos. Trans. R. Soc. Lond. B Biol. Sci.* 373, (2018). https://doi.org/10.1098/rstb.2017.0145

Mavor, D., Barlow, K.A.,…, **Nagy, T.L.**,…, et al. (2018). Extending chemical perturbations of the ubiquitin fitness landscape in a classroom setting reveals new constraints on sequence tolerance. *Biol. Open* 7. https://doi.org/10.1242/bio.036103.

Nagy, T. & Kampmann, M. CRISPulator: a discrete simulation tool for pooled genetic screens. *BMC Bioinformatics* 18, 347 (2017). https://doi.org/10.1186/s12859-017-1759-9

Webb, S., **Nagy, T.**, Moseley, H., Fried, M. & Dutch, R. E. Hendra virus fusion protein transmembrane domain contributes to pre-fusion protein stability. *J. Biol. Chem.* (2017). https://doi.org/10.1074/jbc.M117.777235

Mentorship

Winter 2022 Rotation Advisor to Sneha Rao (UCSF DSCB Student)

Fall 2018 Rotation Advisor to Jack Strickland (UCSF Biophysics Student)

Selected Talks & Posters

2023 **Talk** "Neutrophils actively swell to potentiate their migration"
American Society for Cell Biology Meeting, Boston, MA

2023 **Poster** "Immune cells actively increase their volumes to facilitate migration"
UCSF Cardiovascular Research Institute Departmental Retreat, Santa Cruz, CA
****Best Poster Award****

2023 **Poster** "Immune cells actively increase their volumes to facilitate migration"
Gordon Research Conference on Directed Cell Migration, Galveston, TX

2022 **Poster** "Dissecting the role of regulatory volume changes in neutrophil chemotaxis"
66th Annual Meeting of the Biophysical Society, San Francisco, CA
****Best Poster Award****

2020 **Talk** "Leveraging Julia for Data Science", invited speaker
Computational Biology Skills Seminar, UC Berkeley, remote

2019 **Poster** "Dissecting the mechanistic basis of the chemoattractant-induced volume increase in neutrophils," Gordon Research Conference on Directed Cell Migration, Galveston, TX

2018 **Poster** "Dissecting the mechanistic basis of the chemoattractant-induced volume increase in neutrophils," Ion Channels & Immunity Symposium, NYU, New York City, NY

2018 **Poster** "Active control of cell volume during immune cell migration"
Training Grantees Meeting, NIH NIBIB, Bethesda, MD

2016 **Talk** "Leveraging CRISPR for Precision Biology", Workshop with Martin Kampmann
American Society for Cell Biology Meeting, San Francisco, CA

2013 **Talk** "Engineered CRISPR/Cas-based System for RNA-guided, Tag-less, Spatiotemporal Imaging of Endogeneous RNA," AMGEN undergraduate research symposium, Berkeley, CA

Software

I regularly develop and release open-source software as part of my work, some of my most substantial packages are highlighted below

- `TiffImages.jl`: A high performance, extensible reader and writer for TIFF images in Julia
- `OMETIFF.jl`: Read and interact with high-dimensional images
- `Crispulator.jl`: Simulation tool for designing pooled CRISPR screens
- `jekyll-lab-notebook`: Simple and flexible electronic lab notebook based on the Jekyll static site generator

Service

2023— Co-Chair, 2025 Directed Cell Migration Gordon Research Seminar

2018 Teaching Assistant, Algorithms, UCSF

2017—2019 iPQB Graduate Student Admissions Interviewer and Committee Member, UCSF

2017 Teaching Assistant, Algorithms, UCSF
****UCSF Graduate Division Teaching Award****

2014 Teaching Assistant, Organic Chemistry II, University of Kentucky

2013 Teaching Assistant, Organic Chemistry I, University of Kentucky

2013—2014 Public Relations, Society for the Promotion of Undergraduate Research (SPUR)

References (Alphabetical)

Fred Chang, *UCSF*, PhD Thesis Chair, fred.chang@ucsf.edu
Jennifer A. Doudna, *UC Berkeley*, REU Mentor, doudna@berkeley.edu
Rebecca E. Dutch, *University of Kentucky*, Undergraduate Mentor, rdutc2@uky.edu
Martin Kampmann, *UCSF*, PhD Rotation Mentor, martin.kampmann@ucsf.edu
Thomas Rando, *UCLA*, Postdoc Advisor, TRando@mednet.ucla.edu
Orion Weiner, *UCSF*, PhD Advisor, orion.weiner@ucsf.edu

Built on 10 January 2024