

Stephanie J. Spielman, PhD

DATA SCIENTIST

Childhood Cancer Data Lab, Alex's Lemonade Stand Foundation 3 Bala Plaza, Bala Cynwyd, PA 19004

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I am a computational biologist and data scientist focused on developing open-source products to accelerate pediatric cancer research.

Education

The University of Texas at Austin

PH.D., INTEGRATIVE BIOLOGY

- Research Advisor: Claus O. Wilke, PhD

Austin, Texas, USA

2016

Brown University

B.S., BIOLOGY WITH HONORS

- Research Advisor: Daniel M. Weinreich, PhD

Providence, RI, USA

2010

Positions

Alex's Lemonade Stand Foundation

DATA SCIENTIST

- Develop open-source tools and data repositories, and lead training workshops to support pediatric cancer researchers

Bala Cynwyd, PA, USA

2022–Present

Rowan University

ASSISTANT PROFESSOR

Temple University

RESEARCH ASSISTANT PROFESSOR

- Developed research in methods for quantifying protein evolution and taught graduate-level courses in Biostatistics and Evolutionary Medicine.

Glassboro, New Jersey, USA

2018–2022

Philadelphia, Pennsylvania, PA

2016–2018

The University of Texas at Austin

GRADUATE RESEARCH ASSISTANT

- Computational molecular evolution research, including phylogenetic modeling and virus evolution.

Austin, Texas, USA

2011–2016

The University of Texas at Austin

GRADUATE TEACHING ASSISTANT

- Taught undergraduate level courses in Biostatistics, Computational Biology and Bioinformatics, and Evolutionary Biology

Austin, Texas, USA

2011–2016

Honors and Awards

Rowan University

PRESIDENT'S AWARD FOR EXCELLENCE IN INNOTATIVE INSTRUCTIONAL DELIVERY

- Awarded by the Faculty Center for Teaching Excellence

Glassboro, NJ, USA

2021

The University of Texas at Austin

OUTSTANDING DISSERTATION AWARD

- Awarded by the Office of Graduate Studies to the top dissertation among all of science, math, and engineering

Austin, Texas, USA

2016

The University of Texas at Austin

RUTH L. KIRSCHSTEIN NATIONAL RESEARCH SERVICE AWARD (F31)

- Pre-doctoral fellowship awarded by NIH/NIGMS

Austin, Texas, USA

2015

The University of Texas at Austin

OUTSTANDING TEACHING AWARD

- Awarded by the Biology Instructional Office

Austin, Texas, USA

2014

Selected Publications

- Shapiro, J. A., Gaonkar, K. S., Spielman, S. J., Savonen, C. L., Bethell, C. J., Jin, R., Rath, K. S., Zhu, Y., Egolf, L. E., Farrow, B. K., Miller, D. P., Yang, Y., Koganti, T., Noureen, N., Koptyra, M. P., Duong, N., Santi, M., Kim, J., Robins, S., ... Taroni, J. N. (2023). OpenPBTA: The open pediatric brain tumor atlas. *Cell Genomics*, 3(7), 100340. <https://doi.org/10.1016/j.xgen.2023.100340>

2. Spielman, S. J., & Miraglia, M. L. (2021). *Relative model selection of evolutionary substitution models can be sensitive to multiple sequence alignment uncertainty*. <https://doi.org/10.1186/s12862-021-01931-5>
3. Spielman, S. J. (2020). Relative model fit does not predict topological accuracy in single-gene protein phylogenetics. *Molecular Biology and Evolution*, 37(7), 2110–2123. <https://doi.org/10.1093/molbev/msaa075>
4. Spielman, S. J., & Moore, E. K. (2020). dragon: A new tool for exploring redox evolution preserved in the mineral record. *Frontiers in Earth Science*. <https://doi.org/10.3389/feart.2020.585087>
5. Spielman, S. J., & Kosakovsky Pond, S. L. (2018). Relative evolutionary rates in proteins are largely insensitive to the substitution model. *Molecular Biology and Evolution*, 35(9), 2307–2317. <https://doi.org/10.1093/molbev/msy127>
6. Spielman, S. J., & Wilke, C. O. (2016). Extensively parameterized mutationselection models reliably capture site-specific selective constraint. *Molecular Biology and Evolution*, 33(11), 2990–3002. <https://doi.org/10.1093/molbev/msw171>
7. Echave, J., Spielman, S. J., & Wilke, C. O. (2016). Causes of evolutionary rate variation among protein sites. *Nature Reviews Genetics*, 17(2), 109–121. <https://doi.org/10.1038/nrg.2015.18>
8. Meyer, A. G., Spielman, S. J., Bedford, T., & Wilke, C. O. (2015). Time dependence of evolutionary metrics during the 2009 pandemic influenza virus outbreak. *Virus Evolution*, 1(1), vev006. <https://doi.org/10.1093/ve/vev006>
9. Spielman, S. J., & Wilke, C. O. (2015). pyvolve: A flexible python module for simulating sequences along phylogenies. *PLOS ONE*, 10(9), e0139047. <https://doi.org/10.1371/journal.pone.0139047>
10. Spielman, S. J., & Wilke, C. O. (2015). The relationship between dN/dS and scaled selection coefficients. *Molecular Biology and Evolution*, 32(4), 1097–1108. <https://doi.org/10.1093/molbev/msv003>