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.

Positions

Alex's Lemonade Stand Foundation — *Bala Cynwyd, PA, USA*

Data Scientist — *2022–Present*

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

Rowan University — *Glassboro, New Jersey, USA*

Assistant Professor — *2018-2022*

Temple University — *Philadelphia, Pennsylvania, PA*

Research Assistant Professor — *2016–2018*

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

The University of Texas at Austin — *Austin, Texas, USA*

Graduate Research Assistant — *2011–2016*

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

The University of Texas at Austin — *Austin, Texas, USA*

Graduate Teaching Assistant — *2011–2016*

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

Education

The University of Texas at Austin — *Austin, Texas, USA*

Ph.D., Integrative Biology — *2016*

- Research Advisor: Claus O. Wilke, PhD

Brown University — *Providence, RI, USA*

B.S., Biology with Honors — *2010*

- Research Advisor: Daniel M. Weinreich, PhD

Honors and Awards

Rowan University — *Glassboro, NJ, USA*

President's Award for Excellence in Innotative Instructional Delivery — *2021*

- Awarded by the Faculty Center for Teaching Excellence

The University of Texas at Austin — *Austin, Texas, USA*

Outstanding Dissertation Award — *2016*

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

The University of Texas at Austin — *Austin, Texas, USA*

Ruth L. Kirschstein National Research Service Award (F31) — *2015*

- Pre-doctoral fellowship awarded by NIH/NIGMS

The University of Texas at Austin — *Austin, Texas, USA*

Outstanding Teaching Award — *2014*

- Awarded by the Biology Instructional Office

Selected Publications

1. Shapiro, J. A., Gaonkar, K. S., Spielman, S. J., Savonen, C. L., Bethell, C. J., Jin, R., Rathi, 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