

# JULIA OLIVIERI

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## RESEARCH AREAS

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Computational Biology, Genomics, Data Science, RNA Sequencing

## EDUCATION

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### Stanford University

Ph.D. Candidate, Institute for Computational & Mathematical Engineering

M.S., Institute for Computational & Mathematical Engineering

*Reading Committee:* Julia Salzman, Chiara Sabatti, Trevor Hastie

Sep 2016 - Sep 2022

*Stanford, CA*

### Oberlin College

B.A., Mathematics (*Highest Honors*)

B.A., Biology

Aug 2012 - May 2016

*Oberlin, OH*

## TEACHING EXPERIENCE

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### Assistant Professor of Computer Science

*University of the Paci c*

Aug 2022 - Present

*Stockton, CA*

*Courses taught:* Advanced Algorithms (graduate), Graph Theory for Computer Science (graduate), Data Analytics Programming (undergraduate and graduate), Computational Biology (graduate)

### Graduate Teaching Assistant

## FUNDED RESEARCH AND ACTIVITIES

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**Committee on Academic Planning and Development, Small Project Grant** Dec 2022  
*University of the Pacific* \$1,550  
"Teaching Academic Time Management in Graduate Level Computer Science Courses with the Help of the Faculty Success Program," PI: J. Olivieri

## SERVICE

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**"Be the Place" Working Group** Sep 2022 - Present  
*Committee member* Stockton, CA

Worked to transform University of the Pacific to the "place to be" for a successful, diverse, and supportive engineering and computer science community.

**Women in Data Science Workshop Committee** Jan 2022 - Dec 2022  
*Committee member* Stanford, CA

One of a group of five committee members who organize the monthly [WiDS workshops](#) as an extension of the WiDS yearly conference.

Coordinate speakers, plan workshops, shape the direction of the series.

**Women in Mathematics, Statistics, and Computational Engineering** Mar 2018 - Sep 2022  
*Co-Founder, Secretary, & Co-President* Stanford, CA

Co-founded an official student organization to support female graduate students across ICME, Mathematics, Management Science & Engineering, and Statistics departments.

Helped organize events ranging from panels of industry professionals giving career advice to community-building paint nights.

Encouraged networking between graduate students and professors by organizing small-scale lunches with female faculty members.

Petitioned for and regulated funding from various Stanford sources.

**Stanford Science Penpals** Dec 2020 - Present  
*Penpal* Stanford, CA

Exchange letters with a high school student interested in pursuing STEM to answer questions about higher education and encourage him to continue studying science.

**Stanford Women in Math Mentoring** Sep 2017 - Jun 2018  
*Mentor* Stanford, CA

Mentored a Stanford undergraduate prospective math major, reaching out for lunches every month and attending group events focused on retaining women in STEM.

**ICME Mentoring** Sep 2017 - Jun 2018  
*Mentor* Stanford, CA

Mentored an ICME first-year student, meeting up 2-3 times per quarter with the purpose of providing advice and support through the hectic and stressful first year of graduate school.

## SOFTWARE

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### SpliZ

<https://github.com/salzmanlab/SpliZ>

*A statistical pipeline to quantify splicing at a single cell level from scRNA-seq data*

### SICILIAN

<https://github.com/salzmanlab/SICILIAN>

*A statistical method for identifying RNA splice junctions using alignments reported from a spliced aligner.*

## SELECTED PUBLICATIONS

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1. Julia E Olivieri, Roozbeh Dehghannasiri, Julia Salzman. 2022. *"The SpliZ generalizes" Percent Spliced In" to reveal regulated splicing at single-cell resolution.*" *Nature Methods* 19(3), 307-310. <https://doi.org/10.1038/s41592-022-01400-x>.
2. Julia E Olivieri, Roozbeh Dehghannasiri, Peter Wang, Antoine de Morree, Serena Tan, SoRi Jang, Timothy Wu, Julia Salzman. 2021. *"RNA splicing programs de ne tissue compartments and cell types at single cell resolution."* *eLife* 10:e70692. <https://doi.org/10.7554/eLife.70692>.
3. Roozbeh Dehghannasiri, Julia E Olivieri, Julia Salzman. 2021. *"Specific splice junction detection in single cells with SICILIAN."* *Genome Biology* 22, 219. <https://doi.org/10.1186/s13059-021-02434-8>.
4. The Tabula Sapiens Consortium. 2021. *"The Tabula Sapiens: a single cell transcriptomic atlas of multiple organs from individual human donors."* *bioRxiv* 2021.07.19.452956, July. <https://doi.org/10.1101/2021.07.19.452956>.
5. The Tabula Microcebus Consortium. 2021. *"Tabula Microcebus: A transcriptomic cell atlas of mouse lemur, an emerging primate model organism."* *bioRxiv* 2021.12.12.469460, December. <https://doi.org/10.1101/2021.12.12.469460>
6. Gregory McInnes, Yosuke Tanigawa, Chris DeBoever, Adam Lavertu, Julia E Olivieri, Matthew Aguirre, Manuel A Rivas. 2019. *"Global Biobank Engine: enabling genotype-phenotype browsing for biobank summary statistics."* *Bioinformatics* 35 (14): 2495-2497. <https://doi.org/10.1093/bioinformatics/bty999>.
7. Guhan Ram Venkataraman, Julia E Olivieri, Christopher DeBoever, Yosuke Tanigawa, Johanne Marie Justesen, Alexander Dilthey, Manuel A Rivas. 2020. *"Pervasive additive and non-additive effects within the HLA region contribute to disease risk in the UK Biobank."* *bioRxiv* 2020.05.28.119669, May. <https://doi.org/10.1101/2020.05.28.119669>.
8. Ning Wang, Ya Yang, Michael J Moore, Samuel F Brockington, Joseph F Walker, Joseph W Brown, Bin Liang, Tao Feng, Caroline Edwards, Jessica Mikenas, Julia E Olivieri, Vera Hutchison, Alfonso Timoneda, Tommy Stoughton, Raul Puente, Lucas C Majure, Urs Eggli, Stephen A Smith. 2019. *"Evolution of Portulacineae marked by gene tree conflict and gene family expansion associated with adaptation to harsh environments."* *Molecular biology and evolution* 36(1): 112-126. <https://doi.org/10.1093/molbev/msy200>.
9. Naomi R Latorraca, Jason K Wang, Brian Bauer, Raphael JL Townshend, Scott A Hollingsworth, Julia E Olivieri, H Eric Xu, Martha E Sommer, Ron O Dror. 2018. *"Molecular mechanism of GPCR-mediated arrestin activation."* *Nature* doi:10.1038/s41586-018-0440-1 [(J609.454w9(T)83(ao)-4lBon)-49(T)83(s)-44A0d1]

- Helga Ochoterena, Samuel F Brockington, Michael J Moore, Stephen A Smith. 2018. *\From cacti to carnivores: Improved phylotranscriptomic sampling and hierarchical homology inference provide further insight into the evolution of Caryophyllales.*" American Journal of Botany 105 (3): 446-462. <https://doi.org/10.1002/ajb2.1069>.
11. Ya Yang, Michael J Moore, Samuel F Brockington, Jessica Mikenas, **Julia E Olivieri**, Joseph F Walker, Stephen A Smith. 2019. *\Improved transcriptome sampling pinpoints 26 ancient and more recent polyploidy events in Caryophyllales, including two allopolyploidy events.*" New Phytologist 217 (2): 855-870. <https://doi.org/10.1111/nph.14812>.
  12. Robert Bosch, **Julia E Olivieri**. 2014. *\Designing Game of Life mosaics with integer programming.*" Journal of Mathematics and the Arts 8 (3-4): 120-132. <https://doi.org/10.1080/17513472.2014.982483>.
  13. Robert Bosch, **Julia E Olivieri**. 2014. *\Game-of-Life mosaics.*" Bridges: 325-329. <https://archive.bridgesmathart.org/2014/bridges2014-325.html>.