

# Matthew G. Jones

378 Stanley Hall  
University of California, Berkeley  
Berkeley, CA

Email: [matthew.jones@ucsf.edu](mailto:matthew.jones@ucsf.edu)  
Home: [mattjones315.github.io](https://mattjones315.github.io)  
ORCID iD: [orcid.org/0000-0002-0363-4493](https://orcid.org/0000-0002-0363-4493)

## Education

<sup>†</sup> Indicates expected

2017–2022 <sup>†</sup> Ph.D., Bioinformatics, University of California, San Francisco

Thesis Title: Computational tools for single-cell lineage tracing & applications to cancer biology

Research Advisors: Jonathan Weissman and Nir Yosef

2013–2017 B.A., Computer Science, University of California, Berkeley

Research Advisors: Rasmus Nielsen, Russ Corbett-Detig, & Nir Yosef

## Publications

### In Preparation

- (1) Yang D\*, **Jones MG\***, ..., Yosef N, Jacks T, Weissman JS. [Lineage Recording Reveals the Phylodynamics, Plasticity and Paths of Tumor Evolution](#). *In preparation*. 2021

### Preprints

- (1) **Jones MG\***, Rosen Y\*, Yosef N. [PhyloVision: Interactive Software for Integrated Analysis of Single-Cell Transcriptomic and Phylogenetic Data](#). *BioRxiv*. 2021.

### Journal Articles

- (1) Gong W\*, Granados A\*, Hu J\*, **Jones MG\***, Raz O\*, Salvador-Martinez I\*, Zhang H\*, ..., Meyer P. [Benchmarked approaches for cell lineage reconstructions of in vitro dividing cells and in silico models of Caenorhabditis elegans and Mus musculus developmental trees](#). *Cell Systems*. 2021.
- (2) Quinn JJQ\*, **Jones MG\***, Okimoto RA, Nanjo S, Chan MM, Yosef N, Bivona TG, Weissman JS. [Single-cell lineages reveal the rates, routes, and drivers of metastasis in cancer xenografts](#). *Science*. 2021
- (3) **Jones MG\***, Khodaverdian A\*, Quinn JJ\*, Chan MM, Hussmann JA, Wang R, Xu C, Weissman JS, Yosef N. [Inference of Single Cell Phylogenies from Lineage Tracing Data with Cassiopeia](#). *Genome Biology*. 2020

- (4) Newberry RW, ..., **Jones MG**, ..., DeGrado WF, Kampmann M. [Robust Sequence Determinants of  \$\alpha\$ -Synuclein Toxicity in Yeast Implicate Membrane Binding](#). *ACS Chem. Biol.*. 2020
- (5) DeTomaso D\*, **Jones MG\***, Subramaniam M, Ashuach T, Ye JC, Yosef N. [Functional Interpretation of Single-Cell Similarity Maps](#). *Nature Communications*. 2019
- (6) Chan MM\*, Smith ZD\*, Grosswendt S, Kretzmer H, Norman T, Adamson B, Jost M, Quinn JJ, Yang D, **Jones MG**, Khodaverdian A, Yosef N, Meissner A, Weissman JS. [Molecular recording of mammalian embryogenesis](#). *Nature*. 2019
- (7) Corbett-Detig, R. and **Jones, M.** [SELAM: Simulation of Epistasis and Local adaptation during Admixture with Mate choice](#). *Bioinformatics*. 2016

**\* denotes equal contribution**

### Refereed Workshop Papers

- (1) Ouardini K, Lopez R, **Jones MG**, Prillo S, Zhang R, Jordan MI, Yosef N. [Reconstructing unobserved cellular states from paired single-cell lineage tracing and transcriptomics data](#). ICML Workshop in Computational Biology. 2021.

### Teaching Assistant

2020	CS176: Algorithms for Computational Biology	University of California, Berkeley
2020	BP205B: Dynamical Systems Modeling	University of California, San Francisco
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### Funding, Awards & Honors

2019-2021	UCSF Discovery Fellowship
2020	Allen Institute Cell Lineage Reconstruction DREAM Challenge Best Performer
2019	Quantitative Biology Consortium Retreat Best Poster
2018	Quantitative Biology Consortium Retreat Best Poster

### Presentations

#### Invited Talks

2021	Greenleaf Lab @ Stanford, group meeting
2021	Cellular & Tissue Genomics @ Genentech, seminar
2021	Wysocka Lab @ Stanford, group meeting

2021 Chang Lab @ Stanford, group meeting  
2021 Weinberg Lab @ MIT, journal club  
2021 Royer Group @ Biohub & Wagner Group @ UCSF, group meeting  
2021 AI/ML @ Genentech, seminar  
2021 NIH Single Cell Users Group, seminar  
2021 Yale Center for Biomedical Data Science, seminar  
2020 UC Berkeley Computational Biology Skills Seminar, seminar  
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### **Contributed Talks**

2021 Society for Molecular Biology and Evolution (SMBE) Annual Meeting  
2021 The Cancer Target Discovery and Development Alliance NIH Site Visit  
2021 CZI Biohub Seed Networks Computational Biology Meeting  
2020 Hindsight 2020 - The Allen Institute Developmental Recording Symposium  
2020 CZI Seed Network 2020 Annual Meeting  
2020 Center for Genomic Editing and Recording (CGER) Retreat  
2019 UC Berkeley Computational and Genomic Biology Retreat  
2019 Quantitative Biology Consortium Retreat

### **Posters**

2019 Quantitative Biology Consortium Retreat  
2019 Chan-Zuckerberg Biohub Confab  
2019 Next Generation Genomics  
2018 Quantitative Biology Consortium Retreat

### **Industry Experience**

2020 Google Health Genomics, research intern  
2016 United States Medical Affairs @ Genentech, intern

### **Appointments**

2020                      Weizmann Institute - Rehovot, Israel (Hosts: Ido Amit & Nir Yosef)

## Professional Activities

2020-2021	UC Berkeley Computational Biology Skills Seminar, coordinator
2019	UC Berkeley Computational Biology Skills Seminar, participant
2018-2019	Northern California Computational Biology Student Symposium, coordinator
2019	UCSF Integrative Program in Quantitative Biology (IPQB) Bootcamp, coordinator
2018	UCSF Integrative Program in Quantitative Biology (IPQB) Bootcamp, Bioinformatics Module Leader

## Supervision

2019-	Richard Zhang, Research Engineer	UC Berkeley
2020-2021	Khalil Ouardini, MSc Student	ENS Cachan, MVA
2019-2021	Yanay Rosen, Undergraduate	UC Berkeley
2019-2021	Robert Wang, Undergraduate	UC Berkeley

## Software

<a href="#">Cassiopeia</a>	Analysis tools for single-cell lineage tracing data.
<a href="#">VISION</a>	Functional annotation of scRNA-seq data.
<a href="#">SELAM</a>	Simulation framework for large-scale population admixture.

## References

Available on request.