

# Matthew G. Jones

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## Education

<sup>†</sup> Indicates expected

2017–2021 <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

### 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	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
- 2019 UC Berkeley Computational Biology Skills Seminar, seminar

### **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.