

Jedidiah Carlson, Ph.D.

POPULATION GENETICS | BIOINFORMATICS | METARESEARCH

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📁 Professional Experience

Research Associate

THE UNIVERSITY OF TEXAS AT AUSTIN — DEPARTMENT OF INTEGRATIVE BIOLOGY

11/2022 - present

Bioinformatics Scientist I

TWINSTRAND BIOSCIENCES

01/2022 - 10/2022

Senior Research Scientist

HELIX

02/2021 - 10/2021

Postdoctoral Fellow

UNIVERSITY OF WASHINGTON — DEPARTMENT OF GENOME SCIENCES

11/2018 - 02/2021

🎓 Education

University of Michigan

PH.D., BIOINFORMATICS

Ann Arbor, MI

2015-2018

- Dissertation title: “Mapping the Landscape of Mutation Rate Heterogeneity in the Human Genome: Approaches and Applications”
- Doctoral co-advisers: Sebastian Zöllner & Jun Z. Li

M.S., BIOSTATISTICS

2013-2015

- Certificate in Public Health Genetics

Bethel University

B.A., MATHEMATICS

St. Paul, MN

2008-2011

📄 Publications

- **J Carlson**, BM Henn, DR Al-Hindi, S Ramachandran. Counter the weaponization of genetics research by extremists. *Nature*. (2022). [doi:10.1038/d41586-022-03252-z].
- LA Bergeron, S Besenbacher, T Turner, CJ Versoza, RJ Wang, AL Price, et al. The mutationathon highlights the importance of reaching standardization in estimates of pedigree-based germline mutation rates. *eLife*. (2022). [doi:10.7554/elife.73577].
- **J Carlson**, K Harris. The apportionment of citations: A scientometric analysis of Lewontin 1972. *Philosophical Transactions of the Royal Society B: Biological Sciences*. (2022). [doi:10.1098/rstb.2020.0409].
- D Taliun, DN Harris, MD Kessler, **J Carlson**, ZA Szpiech, R Torres, et al. Sequencing of 53,831 diverse genomes from the NHLBI TOPMed Program. *Nature*. (2021). [doi:10.1038/s41586-021-03205-y].
- JR Adrion, CB Cole, N Dukler, JG Galloway, AL Gladstein, G Gower, et al. A community-maintained standard library of population genetic models. *eLife*. (2020). [doi:10.7554/eLife.54967].
- **J Carlson**, WS DeWitt, K Harris. Inferring evolutionary dynamics of mutation rates through the lens of mutation spectrum variation. *Current Opinion in Genetics and Development*. (2020). [doi:10.1016/j.gde.2020.05.024].
- **J Carlson**, K Harris. Quantifying and contextualizing the impact of bioRxiv preprints through automated social media audience segmentation. *PLoS Biology*. (2020). [doi:10.1371/journal.pbio.3000860].
- **J Carlson**, AE Locke, M Flickinger, M Zawistowski, S Levy, RM Myers, et al. Extremely rare variants reveal patterns of germline mutation rate heterogeneity in humans. *Nature Communications*. (2018). [doi:10.1038/s41467-018-05936-5].
- **J Carlson**, JZ Li, S Zöllner. Helmsman: Fast and efficient mutation signature analysis for massive sequencing datasets. *BMC Genomics*. (2018). [doi:10.1186/s12864-018-5264-y].

💰 Research Funding

Translational Data Science Postdoctoral Fellowship

FRED HUTCHINSON CANCER RESEARCH CENTER

2019-2021

Genome Sciences Travel Award

UNIVERSITY OF WASHINGTON DEPARTMENT OF GENOME SCIENCES

2019

Rackham Travel Grant

UNIVERSITY OF MICHIGAN

2015, 2016, 2017

University of Michigan Genome Science Training Program Fellowship (T32 HG00040)

NATIONAL HUMAN GENOME RESEARCH INSTITUTE

2013-2016

Conferences Presentations and Invited Talks

Stanford University School of Medicine	Stanford, CA
[INVITED TALK]	12/2022
King's College London Social, Genetic, and Developmental Psychiatry Centre	London, UK
[INVITED TALK][VIRTUAL]	12/2022
Brown University Data Science Initiative	Providence, RI
[INVITED TALK]	11/2022
Johns Hopkins University, Project Bridge SciComm	Baltimore, MD
[INVITED TALK][VIRTUAL]	10/2022
University of Bristol Inclusive Research Collective	Bristol, UK
[INVITED TALK][VIRTUAL]	6/2022
Stanford University EvolGenome Seminar	Stanford, CA
[INVITED TALK][VIRTUAL]	11/2021
NIH Bibliometrics & Research Assessment Symposium	Bethesda, MD
[CONTRIBUTED TALK][VIRTUAL]	10/2020
Germline Mutation Rate Workshop	Copenhagen, DK
[CONTRIBUTED TALK][VIRTUAL]	06/2020
University College London ReproducibiliTea Journal Club	London, UK
[INVITED TALK][VIRTUAL]	06/2020
Probabilistic Modeling in Genomics	Aussois, FR
[POSTER]	10/2019
Biology of Genomes Meeting	Cold Spring Harbor, NY
[POSTER]	05/2019
University of Washington Department of Genome Sciences	Seattle, WA
[INVITED TALK]	02/2018
Brown University Center for Computational Molecular Biology	Providence, RI
[INVITED TALK]	02/2018
DNA Repair and Genome Instability Satellite Meeting, 67th Annual Meeting of The American Society of Human Genetics	Orlando, FL
[INVITED TALK]	10/2017
67th Annual Meeting of The American Society of Human Genetics	Orlando, FL
[POSTER]	10/2017
Fourth Midwest Population Genetics Conference	East Lansing, MI
[POSTER]	07/2017
DNA Repair and Genome Instability Satellite Meeting, 66th Annual Meeting of The American Society of Human Genetics	Vancouver, BC
[INVITED TALK]	10/2016
66th Annual Meeting of The American Society of Human Genetics	Vancouver, BC
[POSTER]	10/2016
Third Midwest Population Genetics Conference	Chicago, IL
[CONTRIBUTED TALK]	07/2016
Keystone Symposia: Understanding the Function of Human Genome Variation	Uppsala, SE
[POSTER]	06/2016
NHGRI Research Training and Career Development Annual Meeting	Bethesda, MD
[POSTER]	05/2016
Second Midwest Population Genetics Conference	Ann Arbor, MI
[CONTRIBUTED TALK]	07/2015
Biology of Genomes Meeting	Cold Spring Harbor, NY
[POSTER]	05/2015

Teaching Experience

Big Data Summer Institute

INSTRUCTOR

University of Michigan

2016, 2017, 2018

Department of Mathematics and Computer Science

TEACHING ASSISTANT AND GROUP TUTOR

Bethel University

2009-2011

Department of Physics

TEACHING ASSISTANT

Bethel University

2011

Honors and Awards

Paper selected as 'Editor's Top Pick'

PLOS BIOLOGY

05/2021

Invited moderator for 'Natural Selection and Human Phenotypes' session

67TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS

10/2017

Awarded 'Best Graduate Student Talk'

FOURTH MIDWEST POPULATION GENETICS CONFERENCE

07/2017

Sigma Zeta Honor Society

BETHEL UNIVERSITY

2009-2012

President's Scholarship

BETHEL UNIVERSITY

2008-2012

Edgar G. Johnson Physics Scholarship

BETHEL UNIVERSITY

2008-2012

National Merit Scholar

BETHEL UNIVERSITY

2008-2012

Service

Ad hoc reviewer

Bioinformatics, Biology Direct, BMC Biology, eLife, Genome Research, Nature Communications, Nature Machine Intelligence, PLOS Biology, PLOS Computational Biology, Science

Coordinator

UNIVERSITY OF MICHIGAN INTERDISCIPLINARY GROUP SEMINAR

2016-2017

Organizing committee

2ND MIDWEST POPULATION GENETICS CONFERENCE

2015

Media

Spread This Like Wildfire!

[AUTHOR]

Science for the People

09/2022

The Twisted 'Science' of Great Replacement Theory

[INTERVIEW]

Darts and Letters

06/2022

It's Not Just Great Replacement Theory That Influenced the Buffalo Shooter

[SOURCE]

Gizmodo

05/2022

Twitter's Science Stars Fight Misinformation

[SOURCE]

The Scientist

01/2022

Scientific Studies are Distorted on Social Media

[INTERVIEW]

KNKX Public Radio

09/2020

The Misinformation Virus

[INTERVIEW]

BBC Radio 4

12/2019

'It's a toxic place.' How the online world of white nationalists distorts population genetics

Science

[INTERVIEW]

05/2018

The Ancient Origins of Both Light and Dark Skin

The Atlantic

[SOURCE]

10/2017

Will the Alt-Right Promote a New Kind of Racist Genetics?

The Atlantic

[SOURCE]

12/2016

 **Skills**

Analytical

STATISTICAL MACHINE LEARNING — TOPIC MODELING — REGRESSION — ANOVA — ANOMALY DETECTION — DIMENSIONALITY
REDUCTION — BIG DATA

Programming

R — PYTHON — MONGODB — PERL — JULIA

Tools

GIT — DOCKER — JUPYTER — RSTUDIO — APACHE SPARK — AWS — IGV