Jedidiah Carlson, Ph.D.

POPULATION GENETICS | BIOINFORMATICS | METARESEARCH

Seattle, Washington, USA

✉ jed [dot] e [dot] carlson [at] gmail [dot] com

🏠 jedidiahcarlson.com | carjed | carjed | 🐦 jedmsp | ⓘ 0000-0002-1363-872X

💼 Professional Experience

Postdoctoral Fellow   *Seattle, WA*

UNIVERSITY OF WASHINGTON — DEPARTMENT OF GENOME SCIENCES   *11/2018 - Present*

- Postdoctoral mentor: Kelley Harris

🏛 Education

University of Michigan   *Ann Arbor, MI*

PH.D., BIOINFORMATICS   *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

University of Michigan   *Ann Arbor, MI*

M.S., BIOSTATISTICS   *2013-2015*

- Certificate in Public Health Genetics

Bethel University   *St. Paul, MN*

B.A., MATHEMATICS   *2008-2011*

📄 Publications

- **Carlson J**, Harris K. Quantifying and contextualizing the impact of bioRxiv preprints through automated social media audience segmentation. *PLOS Biology*. (2020). [doi:10.1371/journal.pbio.3000860].
- **Carlson J**, DeWitt WS, Harris K. Inferring evolutionary dynamics of mutation rates through the lens of mutation spectrum variation. *Current Opinion in Genetics & Development*. (2020). [doi:10.1016/j.gde.2020.05.024].
- Adrion JR, Cole CB, Dukler N, Galloway JG, Gladstein AL, Gower G et al. A community-maintained standard library of population genetic models. *eLife*. (2020). [doi:10.7554/elife.54967].
- Taliun D, Harris DN, Kessler MD, **Carlson J**, Szpiech ZA, Torres R et al. Sequencing of 53,831 diverse genomes from the NHLBI TOPMed Program. *bioRxiv*. (2019). [doi:10.1101/563866].
- **Carlson J**, Li JZ, Zöllner S. Helmsman: fast and efficient mutation signature analysis for massive sequencing datasets. *BMC Genomics*. (2018). [doi:10.1186/s12864-018-5264-y].
- **Carlson J**, Locke AE, Flickinger M, Zawistowski M, Levy S, Myers RM et al. Extremely rare variants reveal patterns of germline mutation rate heterogeneity in humans. *Nature Communications*. (2018). [doi:10.1038/s41467-018-05936-5].

$ Research Funding

Translational Data Science Postdoctoral Fellowship

FRED HUTCHINSON CANCER RESEARCH CENTER   *2019-2021*

Genome Sciences Travel Award

UNIVERSTY 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   *2003-2016*

💬 Conferences Presentations and Invited Talks

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 Unviersity 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*
First Midwest Population Genetics Conference	*Chicago, IL*
[POSTER]	*07/2014*

🖥 Teaching Experience

Big Data Summer Institute	*Ann Arbor, MI*
INSTRUCTOR	*2016, 2017, 2018*
Department of Mathematics and Computer Science	*Bethel University*
TEACHING ASSISTANT	*2011*
Department of Physics	*Bethel University*
TEACHING ASSISTANT	*2011*
Department of Mathematics and Computer Science	*Bethel University*
GROUP TUTOR	*2009-2011*

🏅 Honors and Awards

Invited moderator for 'Natural Selection and Human Phenotypes' session	*Orlando, FL*
67TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS	
Awarded 'Best Graduate Student Talk'	*East Lansing, MI*
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, PLOS Biology, Science

Organizing committee

University of Michigan Teach-in for Freedom, Democracy, and Diversity   *2017*

Coordinator

University of Michigan Interdisciplinary Group Seminar   *2016-2017*

Organizing committee

2nd Midwest Population Genetics Conference   *2015*

👥 Memberships

Genetics Society of America   *since 2017*

American Society of Human Genetics   *since 2016*

Society for Molecular Biology and Evolution   *since 2016*

🖳 Media

The Misinformation Virus   *BBC Radio 4*

                                                                                                              12/2019

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

                                                                                                              05/2018

The Ancient Origins of Both Light and Dark Skin   *The Atlantic*

                                                                                                              10/2017

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

                                                                                                              12/2016

🧠 Skills

Analytical

Statistical Machine Learning — Topic Modeling — Regression — ANOVA — Anomaly Detection — Dimensionality Reduction — Big Data

Programming

R — Python — SQL — mongoDB — Perl — Julia

Tools

Git — Docker — Jupyter — RStudio — Markdown — LaTeX