

Jedidiah Carlson, Ph.D.

POPULATION GENETICS | BIOINFORMATICS | METARESEARCH

Seattle, Washington, USA

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📁 Professional Experience

Postdoctoral Fellow

UNIVERSITY OF WASHINGTON — DEPARTMENT OF GENOME SCIENCES

- Postdoctoral mentor: Kelley Harris

Seattle, WA

11/2018 - Present

🎓 Education

University of Michigan

PH.D., BIOINFORMATICS

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

Ann Arbor, MI

2015-2018

University of Michigan

M.S., BIOSTATISTICS

- Certificate in Public Health Genetics

Ann Arbor, MI

2013-2015

Bethel University

B.A., MATHEMATICS

St. Paul, MN

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

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

NIH Bibliometrics & Research Assessment Symposium

[CONTRIBUTED TALK][VIRTUAL]

Bethesda, MD

10/2020

Germline Mutation Rate Workshop [CONTRIBUTED TALK][VIRTUAL]	<i>Copenhagen, DK</i> 06/2020
University College London Reproducibility Journal Club [INVITED TALK][VIRTUAL]	<i>London, UK</i> 06/2020
Probabilistic Modeling in Genomics [POSTER]	<i>Aussois, FR</i> 10/2019
Biology of Genomes Meeting [POSTER]	<i>Cold Spring Harbor, NY</i> 05/2019
University of Washington Department of Genome Sciences [INVITED TALK]	<i>Seattle, WA</i> 02/2018
Brown University Center for Computational Molecular Biology [INVITED TALK]	<i>Providence, RI</i> 02/2018
DNA Repair and Genome Instability Satellite Meeting, 67th Annual Meeting of The American Society of Human Genetics [INVITED TALK]	<i>Orlando, FL</i> 10/2017
67th Annual Meeting of The American Society of Human Genetics [POSTER]	<i>Orlando, FL</i> 10/2017
Fourth Midwest Population Genetics Conference [POSTER]	<i>East Lansing, MI</i> 07/2017
DNA Repair and Genome Instability Satellite Meeting, 66th Annual Meeting of The American Society of Human Genetics [INVITED TALK]	<i>Vancouver, BC</i> 10/2016
66th Annual Meeting of The American Society of Human Genetics [POSTER]	<i>Vancouver, BC</i> 10/2016
Third Midwest Population Genetics Conference [CONTRIBUTED TALK]	<i>Chicago, IL</i> 07/2016
Keystone Symposia: Understanding the Function of Human Genome Variation [POSTER]	<i>Uppsala, SE</i> 06/2016
NHGRI Research Training and Career Development Annual Meeting [POSTER]	<i>Bethesda, MD</i> 05/2016
Second Midwest Population Genetics Conference [CONTRIBUTED TALK]	<i>Ann Arbor, MI</i> 07/2015
Biology of Genomes Meeting [POSTER]	<i>Cold Spring Harbor, NY</i> 05/2015
First Midwest Population Genetics Conference [POSTER]	<i>Chicago, IL</i> 07/2014

Teaching Experience

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

Honors and Awards

Invited moderator for 'Natural Selection and Human Phenotypes' session 67TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS	<i>Orlando, FL</i>
Awarded 'Best Graduate Student Talk' FOURTH MIDWEST POPULATION GENETICS CONFERENCE	<i>East Lansing, MI</i> 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