

Lucia Williams

Montana State University
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Education **Montana State University (MSU)**
Ph.D., Computer Science, 2022
Advisor: Brendan Mumey
Dissertation: Flow Decomposition Algorithms for Multiassembly Problems

University of Washington
B.S., Applied Computational and Mathematical Sciences, 2014
B.A., Community, Environment, and Planning, 2014
Minor: Mathematics

Work **Research Assistant**
School of Computing, MSU, 2017-2022

Visiting PhD Researcher
Graph Algorithms/Bioinformatics Group, University of Helsinki, fall 2021

Instructor
MSU

- C Programming, summer 2021
- Python Programming, summers 2020 and 2019

Data Scientist
Marchex (online advertising company), 2014-2017

Data Visualization Intern
Mazama Science (data visualization consulting company), 2013

REU Student
MSU, summer 2013
Project: An integer linear programming solution to the collaborative group provisioning problem.

Grader
University of Washington, 2012-2014
Courses: Real Analysis, Linear Algebra, Multivariable Calculus,
Discrete Mathematical Modeling

Publications	<p>Fernando Dias, Lucia Williams, Alexandru I. Tomescu, Brendan Mumey. Fast, Flexible, and Exact Flow Decompositions via ILP. <i>Accepted at RECOMB 2022.</i></p> <p>Shahbaz Khan, Milla Kortelainen, Manuel Cáceres, Lucia Williams, Alexandru I. Tomescu. Safety and Completeness in Flow Decompositions for RNA Assembly. <i>Accepted at RECOMB 2022.</i></p> <p>Lucia Williams, Alexandru I. Tomescu, Brendan Mumey. Flow Decomposition with Subpath Constraints. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2022.</i></p> <p>Lucia Williams, Brendan Mumey. Maximal Perfect Haplotype Blocks with Wildcards. <i>iScience</i>, vol 101149. 2020. DOI: https://doi.org/10.1016/j.isci.2020.101149</p> <p>Lucia Williams, Brendan Mumey. Extending Maximal Perfect Haplotype Blocks to the Realm of Pangenomics. <i>Algorithms for Computational Biology (AlCoB)</i>. Lecture Notes in Computer Science, vol 12099. 2020.</p> <p>Robin Lynne Belton, Brittany Terese Fasy, Rostik Mertz, Samuel Micka, David L. Millman, Daniel Salinas, Anna Schenfisch, Jordan Schupbach, Lucia Williams. Reconstructing Embedded Graphs from Persistence Diagrams. <i>Computational Geometry</i>, 2020.</p> <p>Lucia Williams, Gillian Reynolds, Brendan Mumey. RNA Transcript Assembly Using Inexact Flows. <i>IEEE International Conference on Bioinformatics and Biomedicine (BIBM)</i>, 2019.</p>
	<p>Posters</p> <p><i>Decomposing inexact flows with application to RNA transcript assembly.</i> Research in Computational Molecular Biology (RECOMB), May 2019, Washington, D.C.</p>
	<p>Awards & Fellowships</p> <p>Scholarship Excellence Award MSU Graduate School, Spring 2022</p> <p>Finalist, Three Minute Thesis Competition MSU, February 2022</p> <p>Outstanding PhD Researcher Award MSU Computer Science Department, 2020-2021</p>

Benjamin Fellowship

MSU College of Engineering, 2017-2018

Travel & Conference Awards

- MSU School of Computing award to attend the Tapia Celebration of Diversity in Computing, fall 2020
- MSU Graduate School Professional Advancement Grant, spring 2020
- Montana INBRE Competitive Student Travel Award, spring 2019

Workshops **Computing Research Association Grad Cohort for Women**

- Chicago, 2019
- San Francisco, 2018

Service **Mentor**

Directed Reading Program (pairs undergraduate graduate and undergraduate student for semester-long project), spring 2020

Conference Volunteer

Research in Computational Molecular Biology (RECOMB), spring 2019

Organizer or Co-organizer

- MSU Graduate Career Ladder Program, spring 2022
- MSU computer science graduate student lunch series, fall 2021, funded by a Community Building Mini-Grant from the MSU Graduate School
- MSU Department of Computer Science prospective student visit day, spring 2019 and 2020
- MSU Department of Computer Science new graduate student orientation, fall 2020

Ultimate Frisbee Coach

- MSU women's club, 2018-present
- University of Washington women's club, 2015-2017

References	Dr. Brendan Mumey	Dr. David Millman
	Computer Science	Computer Science
	Montana State University	Montana State University
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