Sami Davies

samidavies.com

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Department of Mathematics
University of Washington

EDUCATION

University of Washington   2016 - present
Ph.D. in Mathematics

University of Illinois at Chicago   2015-2016
M.S. in Mathematics

Carnegie Mellon University   2011-2015
B.S. in Mathematical Sciences, Minor in Economics

RESEARCH INTERESTS

I design algorithms for a wide range of problems, including combinatorial optimization questions in scheduling and allocation, as well as statistical reconstruction problems.

PUBLICATIONS

1. Sami Davies, Janardhan Kulkarni, Thomas Rothvoss, Jakub Tarnawski, Yihao Zhang. "Hierarchies, Clustering in Metric Spaces, and Scheduling with Communication Delay," submitted to FOCS 2020.
   Answers one of the top 10 open questions in scheduling, as posed by Nikhil Bansal.

2. Sami Davies, Thomas Rothvoss, Yihao Zhang. "A Tale of Santa Claus, Hypergraphs and Matroids," in SODA 2020.

3. Sami Davies, Miklós Z. Rácz, Cyrus Rashtchian. "Reconstructing Trees from Traces," in COLT 2019.

4. Sami Davies, Chenxiao Xue, Carl R. Yerger, "Algorithms for finding knight's tours on Aztec diamonds," *Involve, a Journal of Mathematics*, Vol. 10 (2017), No. 5, 721-734.

INVITED PARTICIPATION

Dagstuhl Seminar in Scheduling   February 2020
Shloss Dagstuhl

Nebraska Conference for Women in Mathematics   February 2019
University of Nebraska Lincoln

Women in Theory   June 2018
Harvard University

Leadership Alliance Summer Research Program   Summer 2014
Brown University
Examining Euler Equations. Joint work with Johnny Guzman, Gopal Yalla

Summer Undergraduate Applied Mathematics Institute   Summer 2013
CMU
Patterns of the Bhargava Defined Factorial. Joint work with Joe Gault and Gregory Johnson.

Awards and Fellowships

McKibben and Merner Endowed Fellowship in Mathematics   2017-2019
University of Washington

Department of Mathematics, Statistics, and Computer Science Fellowship   2015
University of Illinois at Chicago

Senior Leadership Recognition Award   2015
Carnegie Mellon University

College and University Honors   2015
Carnegie Mellon University

Leadership Alliance Scholar   2014

Teaching

I taught the following courses:

Math 107	Math in Society	FEPPS Summer 2018
CSE 311	Foundations of Computing I	UW Spring 2020 (current quarter)

I served as a teaching assistant for the following courses:

Math 111	Algebra with Applications	UW Fall 2017
Math 124	Calculus I	UW Winter & Spring 2017
Math 126	Multivariable Calculus	UW Fall 2016
Math 121	Pre-Calculus	UIC Fall 2015 & Spring 2016
21-241	Matrices and Linear Transformations	CMU Spring 2015

Service and outreach

External Reviewer   2020
SODA 2020, ICALP 2020, *IEEE Transactions on Information Theory*

Freedom Education Project Puget Sound (FEPPS)   2017-2019
Tutor fall of 2017. Course instructor summer of 2018.

Math Circle   2018
Instructor spring of 2018.

Assocation for Women in Math   2016-present
Member since 2016. Secretary of the UW student chapter 2018-2019 academic year.