Dhiraj Holden

ADDRESS
32 Vassar Street
Room 32-G614
Cambridge, MA 02139

CONTACT
Email: dholden@mit.edu

EDUCATION

Massachusetts Institute of Technology
Ph.D. candidate, June 2021 (expected)
Advisor: Shafi Goldwasser
Electrical Engineering and Computer Science

Massachusetts Institute of Technology
S.M., June 2017
Thesis: The Complexity of Problems in P Given Correlated Instances
Advisor: Shafi Goldwasser
Electrical Engineering and Computer Science

California Institute of Technology
B.S. with Honor, June 2015
Computer Science

PUBLICATIONS

No-Signaling Proofs with $O(\sqrt{\log n})$ Provers are in PSPACE
Dhiraj Holden, Yael Tauman Kalai
To appear in Proceedings of the 52nd ACM Symposium on the Theory of Computing (STOC 2020)

Pseudo-deterministic Proofs
Shafi Goldwasser, Ofer Grossman, Dhiraj Holden
Proceedings of the 9th Innovations in Theoretical Computer Science (ITCS 2018)

The Complexity of Problems in P Given Correlated Instances
Shafi Goldwasser, Dhiraj Holden
Proceedings of the 8th Innovations in Theoretical Computer Science (ITCS 2017)

On the Power of Statistical Zero Knowledge
Adam Bouland, Lijie Chen, Dhiraj Holden, Justin Thaler, Prashant Nalini Vasudevan
Proceedings of the 58th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2017)

The Minimum Oracle Circuit Size Problem
Eric Allender, Dhiraj Holden, Valentine Kabanets
Computational Complexity, volume 26, issue 2 (2017)
Preliminary version in Proceedings of the 32nd Symposium on Theoretical Aspects of Computer Science (STACS 2015)

Fast Algorithmic Self-assembly of Simple Shapes Using Random Agitation
Ho-Lin Chen, David Doty, Dhiraj Holden, Chris Thachuk, Damien Woods, Chun-Tao Yang
Proceedings of the 20th International Conference on DNA Computing and Molecular Programming (DNA 2014)

Characterization of BshA, bacillithiol glycosyltransferase from Staphylococcus aureus and Bacillus subtilis
Heather Upton, Gerald L Newton, Melissa Gushiken, Kelly Lo, Dhiraj Holden, Robert C Fahey, Mamta Rawat
FEBS Letters, volume 586, issue 7 (2012)

Results on the 3x+1 and 3x+d Conjectures Dhiraj Holden
Fibonacci Quarterly, volume 49, issue 2 (2011)

RESEARCH POSITIONS

Visiting Researcher Simons Institute for the Theory of Computing, University of California, Berkeley, September-October 2018 (Host: Shafi Goldwasser), Oxford University, July-August 2018 (Host: Rahul Santhanam), Rutgers University, July-August 2014 (Host: Eric Allender)

Summer Undergraduate Research Fellow June-August 2013, Winfree Lab, Department of Computer Science, California Institute of Technology

TALKS

No-Signaling Proofs with $O(\sqrt{\log n})$ Provers are in PSPACE
MIT Cryptography and Information Security Seminar, December 2019
Princeton Theory Lunch, November 2019

Pseudo-deterministic Proofs
Innovations in Theoretical Computer Science, January 2018

The Complexity of Problems in P Given Correlated Instances
Innovations in Theoretical Computer Science, January 2017
MIT Algorithms and Complexity Seminar, November 2016

The Minimum Oracle Circuit Size Problem
University of Chicago Theory of Computation Seminar, March 2015
Symposium for Theoretical Aspects of Computer Science, March 2015

TEACHING EXPERIENCE

Teaching Assistant	Massachusetts Institute of Technology	Spring 2018
6.045: Automata, Computability, and Complexity		(1 semester)

Teaching Assistant	California Institute of Technology	Winter 2014 - Spring 2015
CS 21: Decidability and Tractability		(2 semesters)
CS 151: Complexity Theory		(1 semester)

HONORS AND AWARDS

MIT Akamai Presidential Graduate Fellowship — September 2015 - May 2016

REFERENCES

Shafi Goldwasser (shafi@theory.csail.mit.edu)
RSA Professor of Computer Science and Engineering, Massachusetts Institute of Technology
Director, Simons Institute for the Theory of Computing, University of California, Berkeley