

Thomas W. Watson

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CONTACT

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EDUCATION

Doctor of Philosophy, 2013 (expected)

- University of California, Berkeley
- Field: Computer Science
- Advisor: Professor Luca Trevisan

Bachelor of Science, 2008

- University of Wisconsin – Madison
- Majors: Computer Science, Mathematics, Computer Engineering
- Advisor: Professor Dieter van Melkebeek
- GPA: 4.0/4.0

RESEARCH INTERESTS

Computational complexity theory: pseudorandomness, average-case complexity, quantum computation

PUBLICATIONS

1. JOURNAL: Dieter van Melkebeek and Thomas Watson. Time-Space Efficient Simulations of Quantum Computations. *Theory of Computing*, 8(1):1–51, 2012.
2. JOURNAL: Anindya De and Thomas Watson. Extractors and Lower Bounds for Locally Samplable Sources. *ACM Transactions on Computation Theory*, 4(1):3, 2012. CONFERENCE: Anindya De and Thomas Watson. Extractors and Lower Bounds for Locally Samplable Sources. In *Proceedings of the 15th International Workshop on Randomization and Computation (RANDOM)*, pages 483–494, 2011.
3. CONFERENCE: Thomas Watson. Query Complexity in Errorless Hardness Amplification. In *Proceedings of the 15th International Workshop on Randomization and Computation (RANDOM)*, pages 688–699, 2011.
4. JOURNAL: Thomas Watson. Pseudorandom Generators for Combinatorial Checkerboards. To appear in *Computational Complexity*. CONFERENCE: Thomas Watson. Pseudorandom Generators for Combinatorial Checkerboards. In *Proceedings of the 26th IEEE Conference on Computational Complexity (CCC)*, pages 232–242, 2011.
5. CONFERENCE: Thomas Watson. Relativized Worlds Without Worst-Case to Average-Case Reductions for NP. In *Proceedings of the 14th International Workshop on Randomization and Computation (RANDOM)*, pages 752–765, 2010.

MANUSCRIPTS

1. Thomas Watson. Time Hierarchies for Sampling Distributions.
2. Thomas Watson. Advice Lower Bounds for the Dense Model Theorem.
3. Thomas Watson. Lift-and-Project Integrality Gaps for the Traveling Salesperson Problem.

FELLOWSHIPS AND SCHOLARSHIPS

- National Science Foundation Graduate Research Fellowship, 2009
- DeWitt Undergraduate Scholarship (UW-Madison Computer Science Department), 2008
- Barry M. Goldwater Scholarship, 2007
- Undergraduate Summer Research Assistantship (UW-Madison Computer Science Department), 2007
- Violet Higgitt Frank Scholarship (UW-Madison Mathematics Department), 2007
- Hilldale Fellowship for Undergraduate/Faculty Collaborative Research (UW-Madison), 2006
- Richard H. Thomas Family Distinguished Scholarship (UW-Madison Electrical and Computer Engineering Department), 2005
- Claude I. and Dora D. Richardson Memorial Fund for Excellence in Electrical and Computer Engineering Scholarship (UW-Madison Electrical and Computer Engineering Department), 2004, 2005, 2006, 2007
- National Merit Scholarship, 2003
- Freshman Engineering Scholarship (UW-Madison College of Engineering), 2003
- Kemper K. Knapp Scholarship, 2003

INVITED TALKS

- “Pseudorandom Generators for Combinatorial Checkerboards”, Dagstuhl Seminar on Computational Complexity of Discrete Problems, 2011

AWARDS

- First place at 2006 ACM International Collegiate Programming Contest NCNA Regionals, advanced to World Finals

TEACHING

- Head Graduate Student Instructor for CS 70: Discrete Mathematics and Probability Theory, UC Berkeley, Spring 2012
- Graduate Student Instructor for CS 170: Efficient Algorithms and Intractable Problems, UC Berkeley, Fall 2011

SERVICE

- Conference refereeing: STOC 2011
- Journal refereeing: SIAM Journal on Computing, Computational Complexity
- Volunteer for UC Berkeley Computer Science Education Day (for high school students): 2010, 2011