Melissa E. Chase

CONTACT INFORMATION

Computer Science Department
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RESEARCH INTERESTS

Cryptography
Recent work: definitions and constructions of new primitives, attribute-based encryption, simulatable verifiable random functions, NIZK proof techniques

EDUCATION

Brown University, Providence, Rhode Island (2003-present)
MS in Computer Science, May 2005
Candidate for Ph.D. (Advisor: Anna Lysyanskaya)

Harvey Mudd College, Claremont, California (1999-2003)
B.S. with High Honors in Computer Science, May 2003
B.S. with High Honors in Mathematics, May 2003

HONORS AND AWARDS

National Science Foundation Graduate Research Fellowship, 2003

IPAM Fellow, Fall 2006 (Long program – Securing Cyberspace: Applications and Foundations of Cryptography and Computer Security, UCLA, CA)

PUBLICATIONS

Belenkiy, Mira, M. Chase, Chris Erway, John Jannotti, Alptekin Kupcu, Anna Lysyanskaya, Eric Raclin. Making P2P Accountable without Losing Privacy. In proceedings of *Workshop on Privacy in the Electronic Society 2007*. (to appear)

Chase, M. and Anna Lysyanskaya. Simulatable VRFs with Applications to Multi-Theorem NIZK. In proceedings of *Advances in Cryptology - CRYPTO 2007*. (to appear)

Chase, M. Multi-Authority Attribute Based Encryption. In proceedings of *Theoretical Cryptography Conference 2007*.

Chase, M. and Anna Lysyanskaya. On Signatures of Knowledge. In *Advances in Cryptology - CRYPTO 2006*.

Chase, M., Alex Healey, Anna Lysyanskaya, Tal Malkin, and Leo Reyzin. Mercurial Commitments and Applications to Zero Knowledge Sets. In *Advances in Cryptology - EUROCRYPT 2005*.

PRESENTATIONS

Multi-Authority Attribute-Based Encryption. TCC 2007, Amsterdam, Netherlands – Feb 2007

Multi-Authority Attribute-Based Encryption. IPAM, UCLA – Nov 2006

On Signatures of Knowledge. CRYPTO 2006, Santa Barbara, CA – Aug 2006

Mercurial Commitments and Applications to Zero Knowledge Sets. Eurocrypt 2005, Aarhus, Denmark – May 2005

Mercurial Commitments. Brown Computer Science Theory Lunch – Apr 2005

Other Contributions

External Reviewer for TCC 2005, CRYPTO 2005, TCC 2006, PKC 2006, CRYPTO 2006, PKC 2007, Eurocrypt 2007, FOCS 2007, J. Computer Security.

Brown Computer Science Theory Lunch Organizer: Jan 2005 – May 2006

Brown Ballroom Dance Team Captain: Jan 2005 – Dec 2006

Relevant Coursework

Brown University

Information Theory (Fall 2003)
Introduction to Cryptography (Fall 2003)
Probabilistic Methods (Spring 2004)
Applied Theory of Computation (Spring 2004)
Combinatorial Optimization (Spring 2004)
Topics in Advanced Algorithms - Planar Graph Algorithms (Fall 2004)
Approximation Algorithms (Fall 2004)

Harvey Mudd College

Computer Science: Theory of Computation, Algorithms, Advanced Algorithms
Mathematics: Probability, Combinatorics, Graph Theory, Abstract Algebra, Number Theory

Undergraduate Research

Fall 2002 - Spring 2003: Undergraduate Thesis

Shortest Path Problems: Multiple Paths in a Stochastic Graph
Advisor: Ran Libeskind-Hadas, Harvey Mudd College

Summer 2002: Research in Programming Languages

Improving Error Reporting in SML Typechecker
Advisor: Christopher Stone, Harvey Mudd College

Fall 2001 - Spring 2003: Clinic project for ESRI, Inc.

Algorithms and Data Structures for Time-Dependent Graphs
Advisor: Ran Libeskind-Hadas, Harvey Mudd College