

Curriculum Vitae

Marina Blanton

Contact Information

Marina Blanton (née Bykova)
Computer Science and Engineering Department
University of Notre Dame, Notre Dame, IN
Office: 356C Fitzpatrick Hall
Email: mblanton@cse.nd.edu
WWW: <http://www.cse.nd.edu/~mblanton>

Research Interests

My research interests mainly lie in information security and, in particular, include anonymity in access control systems, key management and authentication, privacy-preserving computation, and applied cryptography.

Education

- Aug. 2007 PhD in CS, Purdue University. Advisor: Mikhail Atallah
- Dec. 2004 MS in CS, Purdue University. GPA: 4.00.
- Mar. 2002 MS in EECS, Ohio University. GPA: 3.93. Advisor: Shawn Ostermann
- Jun. 1999 BS in CS with Honors, Tyumen State Oil and Gas University, Russia. GPA: 4.00. Advisor: Mikhail Karatun

Work Experience

- Aug. 2007 – present Assistant Professor, Department of Computer Science and Engineering, University of Notre Dame, Indiana
- Aug. 2002 – Jul. 2007 Teaching/Research Assistant, Department of Computer Science, Purdue University, West Lafayette, Indiana
- Sep. 2001 – Jun. 2002 Network Engineer, Communications Network Services, Ohio University, Athens, Ohio
- Sep. 1999 – Aug. 2001 Software Designer, Communications Network Services, Ohio University, Athens, Ohio
- Sep. 1999 – Jun. 2001 Graduate/Teaching Assistant, School of Electrical Engineering and Computer Science, Ohio University, Athens, Ohio
- Aug. 1998 – Aug. 1999 Systems Engineer, Sibnefteprovod, JSC, Tyumen, Russia
- Dec. 1997 – Jun. 1998 System Coordinator Helper, Facilities Management, Ohio University, Athens, Ohio

Publications

In Books

1. M. Blanton, “Authentication,” *Encyclopedia of Database Systems*, to appear.

In Refereed Journals

2. V. Deshpande, L. Schwarz, M. Atallah, M. Blanton, and K. Frikken, “Outsourcing Manufacturing: Secure Price-Masking Mechanisms for Purchasing Component Parts,” *Production and Operation Management (POM)*, to appear.
3. M. Atallah, M. Blanton, N. Fazio, and K. Frikken, “Dynamic and Efficient Key Management for Access Hierarchies,” *ACM Transactions on Information and System Security (TISSEC)*, to appear.
4. A. Douglas, J. Mills, M. Niang, S. Stephenkova, S. Byun, C. Ruffini, S. Lee, J. Loutfi, J.-K. Lee, M. Atallah, and M. Blanton, “Internet Addiction: A Qualitative Meta-Synthesis of 1996–2006 Research,” *Computer in Human Behavior*, to appear.
5. M. Blanton and M. Atallah, “Succinct Representation of Flexible Privacy-Preserving Access Rights,” *Special Issue (Privacy-Preserving Data Management) of the International Journal on Very Large Data Bases (VLDBJ)*, Vol. 15, No. 4, pp. 334–354, Nov. 2006.
6. R. Balupari, B. Tjaden, S. Ostermann, M. Bykova, and A. Mitchell, “Real-Time Network-Based Anomaly Intrusion Detection,” *Special Issue (Real Time Security) of the Journal of Parallel and Distributed Computing Practices*, Vol. 4, No. 2, Jun. 2001.

In Refereed Conference Proceedings

7. M. Blanton, “Improved Conditional E-Payments,” *Applied Cryptography and Network Security (ACNS’08)*, pp. 188–206, Jun. 2008. (accept. rate: 22.9%)
8. M. Atallah, K. Frikken, M. Blanton, and Y. Cho, “Private Combinatorial Group Testing,” *ACM Symposium on Information, Computer and Communications Security (ASIACCS’08)*, pp. 312–320, Mar. 2008. (accept. rate for full papers: 17.6%)
9. M. Blanton, “Online Subscriptions with Anonymous Access,” *ACM Symposium on Information, Computer and Communications Security (ASIACCS’08)*, pp. 217–227, Mar. 2008. (accept. rate for full papers: 17.6%)
10. M. Atallah, M. Blanton, and K. Frikken, “Incorporating Temporal Capabilities in Existing Key Management Schemes,” *European Symposium on Research in Computer Security (ESORICS’07)*, pp. 515–530, Sep. 2007. (accept. rate: 23.8%)
11. M. Atallah, M. Blanton, M. Goodrich, and S. Polu, “Discrepancy-Sensitive Dynamic Fractional Cascading, Dominated Maxima Searching, and 2-d Nearest Neighbors in Any Minkowski Metric,” *Workshop on Algorithms and Data Structures (WADS’07)*, pp. 114–126, Aug. 2007. (accept. rate: 26.7%)
12. M. Atallah, M. Blanton, and K. Frikken, “Efficient Techniques for Realizing Geo-Spatial Access Control,” *ACM Symposium on Information, Computer and Communications Security (ASIACCS’07)*, pp. 82–92, Mar. 2007. (accept. rate: 18.9%)

13. G. Ateniese, M. Blanton, and J. Kirsch, "Secret Handshakes with Dynamic and Fuzzy Matching," *Network & Distributed System Security Symposium (NDSS'07)*, pp. 159–177, Feb. 2007. (accept. rate: 15.3%)
14. M. Atallah, M. Blanton, V. Deshpande, K. Frikken, J. Li, and L. Schwarz, "Secure Collaborative Planning, Forecasting, and Replenishment (SCPFR)," *Multi-Echelon/Public Applications of Supply Chain Management Conference*, Jun. 2006.
15. M. Atallah, M. Blanton, and K. Frikken, "Key Management for Non-Tree Access Hierarchies," *ACM Symposium on Access Control Models and Technologies (SACMAT'06)*, pp. 11–18, Jun. 2006. (accept. rate: 30.5%)
16. M. Atallah, M. Blanton, K. Frikken, and J. Li, "Efficient Correlated Action Selection," *Financial Cryptography and Data Security (FC'06)*, LNCS 4107, pp. 296–310, Feb. 2006. (accept. rate: 19.8%)
17. M. Atallah, K. Frikken, and M. Blanton, "Dynamic and Efficient Key Management for Access Hierarchies," *ACM Conference on Computer and Communications Security (CCS'05)*, pp. 190–201, Nov. 2005. (accept. rate: 15.3%)
18. M. Atallah, M. Blanton, V. Deshpande, K. Frikken, J. Li, and L. Schwarz, "Secure Collaborative Planning, Forecasting, and Replenishment (SCPFR)," *Manufacturing and Service Operation Management (M&SOM)*, Jun. 2005.
19. M. Blanton and M. Atallah, "Provable Bounds for Portable and Flexible Privacy-Preserving Access Rights," *ACM Symposium on Access Control Models and Technologies (SACMAT'05)*, pp. 95–101, Jun. 2005. (accept. rate: 21.1%)
20. K. Frikken, M. Atallah, and M. Bykova, "Remote Revocation of Smart Cards in a Private DRM System," *Australasian Information Security Workshop (AISW'05), Digital Rights Management*, pp. 169–177, Jan. 2005. (accept. rate: 37.1%)
21. M. Atallah, M. Bykova, J. Li, K. Frikken, and M. Topkara, "Private Collaborative Forecasting and Benchmarking," *ACM Workshop on Privacy in the Electronic Society (WPES'04)*, pp. 103–114, Oct. 2004. (accept. rate: 23.3%)
22. M. Atallah and M. Bykova, "Portable and Flexible Document Access Control Mechanisms," *European Symposium on Research in Computer Security (ESORICS'04)*, LNCS 3193, pp. 193–208, Sep. 2004. (accept. rate: 17.0%)
23. M. Bykova and M. Atallah, "Succinct Specifications of Portable Document Access Policies," *ACM Symposium on Access Control Models and Technologies (SACMAT'04)*, pp. 41–50, Jun. 2004. (accept. rate: 28.1%)
24. M. Bykova and S. Ostermann, "Statistical Analysis of Malformed Packets and Their Origins in the Modern Internet," *ACM Internet Measurement Workshop (IMW'02)*, pp. 83–88, Nov. 2002.
25. M. Bykova, S. Ostermann, and B. Tjaden, "Detecting Network Intrusions via a Statistical Analysis of Network Packet Characteristics," *IEEE Southeastern Symposium on System Theory (SSST'01)*, pp. 309–314, Mar. 2001.

Theses

26. M. Blanton, “Key Management in Hierarchical Access Control Systems,” *Ph.D. Thesis*, Purdue University, Aug. 2007.
27. M. Bykova, “Statistical Analysis of Malformed Packets and Their Origins in the Modern Internet,” *Master’s Thesis*, Ohio University, Mar. 2002.

Selected Technical Reports

Only technical reports that correspond to unpublished work or work under submission are listed.

28. M. Atallah, M. Blanton, and K. Frikken, “Incorporating Temporal Capabilities in Existing Key Management Schemes,” *Cryptology ePrint Archive Report 2007/245*, IACR, Jun. 2007.
29. M. Atallah, M. Blanton, and K. Frikken, “Efficient Key Derivation for Access Hierarchies,” *CERIAS Technical Report TR 2007–30*, Purdue University, Jun. 2007.
30. M. Atallah, M. Blanton, N. Fazio, and K. Frikken, “Dynamic and Efficient Key Management for Access Hierarchies,” *CERIAS Technical Report TR 2006-09*, Purdue University, Apr. 2006.
31. M. Blanton, “Empirical Evaluation of Secure Two-Party Computation Models,” *CERIAS Technical Report TR 2005–58*, Purdue University, Aug. 2005.
32. M. Bykova, “What Should a Good Security Model Be?” *CERIAS Technical Report TR 2004–38*, Purdue University, Sep. 2004.

Editorial Activities

- May 2006 – present M. Atallah and M. Blanton (Editors), “*Handbook of Algorithms and Theory of Computation. Volume I: Foundations.*”
- May 2006 – present M. Atallah and M. Blanton (Editors), “*Handbook of Algorithms and Theory of Computation. Volume II: Applications.*”

Refereeing for Conferences/Journals

- ACM Conference on Computer and Communications Security (CCS)
- ACM Symposium on Access Control Models and Technologies (SACMAT)
- ACM Symposium on Principles of Database Systems (PODS)
- ACM Transactions on Information and System Security (TISSEC)
- ACM Transactions on Internet Technology (TOIT)
- ACM Transactions on the Web (TWeb)
- Annual Computer Security Applications Conference (ACSAC) (On the 2006 reviewer committee)
- Applied Cryptography and Network Security (ACNS)
- Elsevier Computer Networks (COMNET)
- Elsevier Computer Standards & Interfaces (CSI)

- Elsevier Computers & Security
- Elsevier Journal of Systems and Software (JSS)
- Elsevier Theoretical Computer Science (TCS)
- IEEE/ACM International Conference on High Performance Computing (HiPC)
- IEEE Conference on Electronic Commerce (CEC)
- IEEE INFOCOM
- IEEE Network and Distributed System Security Symposium (NDSS)
- IEEE Security and Privacy (S&P)
- IEEE Transactions on Computers (TC)
- IEEE Transactions on Dependable and Secure Computing (TDSC)
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Software Engineering
- Information and Software Technology, International Journal
- Information Processing Letters (IPL)
- International Conference on Distributed Computing Systems (ICDCS)
- International Conference on Information and Communications Security (ICICS)
- International Conference on Information Security and Cryptology (ICISC)
- International Journal of Information Security (IJIS)
- International Symposium on Algorithms and Computation (ISAAC)
- Journal of Latin American Applied Research (LAAR)
- Workshop on Privacy Enhancing Technologies (PET)

Professional Service

Conferences

- Program committee member, International Conference on Advanced Information Networking and Applications (AINA'09), Security, Privacy and Trust track
- Program committee member, International Conference on Information Security and Cryptology (Incrypt'08)
- Program committee member, IEEE/IFIP International Symposium on Trust, Security and Privacy for Pervasive Applications (TSP'08)
- Program committee member, ACM Workshop on Privacy in the Electronic Society (WPES'08)
- Program committee member, European Symposium on Research in Computer Security (ESORICS'08)
- Publicity chair, International Conference on Information Systems Security (ICISS'07)

University

- 2007–2008 Graduate Studies Committee, Department of Computer Science and Engineering, University of Notre Dame
- 2004–2006 Graduate Student Board, Department of Computer Science, Purdue University
- 2004–2005 Graduate Committee, Department of Computer Science, Purdue University
- 2004–2005 Grade Appeal Committee, School of Science, Purdue University
- 2000–2001 Electronic Theses and Dissertations Committee, Ohio University

Invited Talks

- Nov. 2008 Science Today Seminar, SUNY at Oswego, Oswego, NY
- Apr. 2007 CS Seminar, Texas A&M University, College Station, TX
- Apr. 2007 EECS Seminar Series, Case Western Reserve University, Cleveland, OH
- Mar. 2007 ECE Seminar, Iowa State University, Ames, IA
- Mar. 2007 CSE Seminar Series, University of Notre Dame, Notre Dame, IN
- Mar. 2007 DCS Colloquium, Rutgers University, Piscataway, NJ
- Mar. 2007 IBM T. J. Watson Research Center, Hawthorne, NY
- Feb. 2007 CS Colloquium, Florida State University, Tallahassee, FL
- Feb. 2007 Center for Applied Cybersecurity Research (CACR) Seminar, Indiana University, Bloomington, IN
- Jan. 2007 CS Seminar, California Institute of Technology, Pasadena, CA
- Jan. 2007 Security Seminar, University of Illinois at Urbana-Champaign, Urbana, IL
- Oct. 2006 CSE Colloquium, the Pennsylvania State University, University Park, PA
- Mar. 2006 CERIAS Security Seminar, Purdue University, West Lafayette, IN
- Oct. 2004 Guest lecture at Database Security CS 590S, Purdue University, West Lafayette, IN
- Sep. 2004 INRIA, the French National Institute for Research in Computer Science and Control, Rocquencourt, France
- Jul. 2001 NASA Glenn Research Center, Cleveland, OH

Student Supervision

I have served on the examination committees for the following students:

1. Michael Chappel (PhD)

Undergraduate students involved in research:

1. Phil Hudelson

Courses Taught

CSE 30151 Theory of Computing

CSE 40622/60622 Cryptography and Data Security

Awards and Recognitions

- May 2007 CRA Travel Grant for attending CRA-W Career Mentoring Workshop
- Apr. 2007 Women in Science Program (WISP) Travel Grant, Purdue University
- Apr. 2007 Siemens scholarship in recognition of research achievements
- Mar. 2007 Diamond Award (annual award for outstanding academic achievement), Center for Education and Research in Information Assurance and Security (CERIAS), Purdue University
- May 2006 UCLA Institute for Pure and Applied Mathematics (IPAM) Award for participation in the Securing Cyberspace (SC'06) Program (core participant, fall 2006)
- Apr. 2006 Intel Foundation Ph.D. Fellowship Award for 2006–2008 academic years (second year declined)
- Apr. 2004 Purdue Research Foundation (PRF) Summer Research Scholarship (support for June–July 2004)
- Mar. 2004 Women in Science Program (WISP) Travel Grant, Purdue University
- Sep. 2002 ACM/USENIX Student Travel Grant
- Mult. years Winner of university-wide and participant of regional programming contests and olympiads in physics

Membership

- Upsilon Pi Epsilon (UPE), International Honor Society for the Computing Sciences
- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE)