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Publications

Peter Williams, Radu Sion, Dennis Shasha. The Blind Stone Tablet: Outsourcing Durability. To appear in Proceedings of the Network and Distributed System Security Symposium (NDSS) 2009.
(acceptance rate: 11.7%)

Peter Williams, Radu Sion, Bogdan Carbunar. Building Castles out of Mud: Practical Access Pattern Privacy and Correctness on Untrusted Storage. ACM Conference on Computer and Communications Security (CCS) 2008.
(acceptance rate: 18.1%)

Peter Williams, Radu Sion. Usable PIR. Proceedings of the Network and Distributed System Security Symposium (NDSS) 2008.
(acceptance rate: 17.8%)

Ambros V, Lee RC, Lavanway A, Williams PT, Jewell D.
MicroRNAs and Other Tiny Endogenous RNAs in *C. elegans*.
Curr Biol 2003 May 13; 13(10):807-18.

Research Interests

Secure data outsourcing, network security, system security,
applied cryptography, private information retrieval.

Education

Ph.D. student in Computer Science, Stony Brook University, expected 2011.
B.S. in Computer Science, Summa Cum Laude, Brandeis University, 2005.

Awards and Honors

Graduate Council Fellowship, Stony Brook University, 2006-2011.
Michtom Prize for Academic Excellence in Computer Science, 2005.
Phi Beta Kappa 2005; Undergraduate GPA 3.89.
Dean's List all 8 semesters at Brandeis University.
Senior Honors Thesis: Design, Analysis, and Implementation of an Optimizing
Compiler of JScheme to the JVM.

Selected Projects

Usable PIR: Mechanism allowing users to efficiently download from a server with full privacy -- the potentially malicious server never learns what was downloaded. (Stony Brook)

Browser Isolation with MicroDomains: By viewing every site in a separate virtual machine, the browser's same-origin security policy is enforced externally; security flaws in the web browser are rendered harmless. (IBM Research)

Selected Projects, continued

Network Secure Searchable Storage with Privacy and Correctness:

Efficient data outsourcing to an untrusted service provider, offering full read/write privacy and correctness. (Stony Brook)

Network Services Restructuring. Redesign the internal information paths of the Brandeis IT department to support an XML-RPC interface, allowing better application interoperability, administration, and data consistency. (Brandeis University)

MicroRNAs and Other Tiny Endogenous RNAs in C.elegans. Use a computational genetics approach, aggregating information from multiple sources (pattern matching, free energy calculations, and evolutionary data) to predict and validate candidate microRNAs. (Dartmouth Medical School)

Refereed Posters

"Usable PIR": Cyber Security Awareness Week 2008.

"Privacy Threats in Online Stock Quotes": Financial Cryptography 2008.

"NS3: Networked Secure Searchable Storage": Usenix Security 2007.

Reviews

Paper reviews for CCS 2007, CCS 2008, IJIS, SIGMOD 2008, TISSEC 2007.

Work Experience

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| Research Assistant, Stony Brook University | 2006 - Present |
| Summer Research Intern, IBM Research (T.J. Watson) | 2007 |
| Web Developer, Brandeis University | 2005 - 2006 |
| Student Web Developer, Brandeis University | 2002 - 2005 |
| Research Assistant, Dartmouth Medical School | 2001 - 2005 |

Teaching

Lectures for CSE 409 - Introduction to System Security (Stony Brook)

Lectures for CSE 508 - Network Security (Stony Brook)

Programming Skills

7 Years experience programming in UNIX (Linux, Irix, MacOS X)
Adept at programming in C, C++, Java, Perl, PHP, SQL, XHTML/CSS
Confident in the areas of Web and Network Security, Databases, Web Programming, Algorithms, and Data Structures, Virtual Machines, Compilers

Selected Graduate Coursework

Secure Storage - Trusted hardware, provenance, regulatory compliance.

Secure Data Management - Encrypted file systems, protocols, cryptography.

Network Security - Protocols, algorithms, cryptography, and implementation.

Operating Systems - File systems, network stack. Linux kernel programming.