

TRAVIS MAYBERRY

Education

Ph.D., Computer Science 2015
Northeastern University - Boston, MA
Advisors: Agnes Chan and Erik-Oliver Blass
Dissertation: *Practical Oblivious RAM and its Applications*

Bachelor of Science, Computer Science 2008
University of Maryland, Baltimore County - Baltimore, MD

Professional Experience

Assistant Professor Aug 2015
US Naval Academy - Annapolis, MD
As a founding faculty member of the Cyber Science department, helped develop the Cyber Operations major by contributing toward core curriculum and electives.

Research Assistant Sep 2012 to Aug 2015
Northeastern University - Boston, MA
Work on the PASMAL (Privacy and Security for MapReduce Clouds) project, contributing to research on practical cryptographic protocols for privacy-preserving cloud storage.

Research Assistant Jan 2011 to Sep 2012
MIT Lincoln Laboratory - Lexington, MA
Responsible for independent research on several projects pertaining to resilient systems, homomorphic encryption and privacy-preserving data outsourcing.

Software Developer Jun 2007 to Sep 2010
ImageScan - Lanham, MD
Created web applications and client software for financial services. Responsible for design and implementation of several software projects written in C# and ASP.NET.

Research Assistant Jan 2009 to Jan 2010
University of Maryland, Baltimore County - Baltimore, MD
Worked on cryptographically verifiable voting systems as part of the team implementing Scantegrity II and administering it in a binding election at Takoma Park, MD.

Teaching Experience

Assistant Professor August 2015 to Present
US Naval Academy - Annapolis, MD
Teach a variety of classes including Data Structures, Introduction to Cyber Science, and Security Fundamentals. Developed an elective course on Cloud Security and Cryptography.

Lecturer May 2013 to Sep 2013
Northeastern University - Boston, MA
Presented lecture materials and coursework for CS 7650 - Cryptography.

Teaching Assistant Sep 2010 to Dec 2011
Northeastern University - Boston, MA
Teaching assistant/lecturer for CS 1100 - Introduction to Computer Science. Responsibilities included lecturing and grading exams.

Teaching Assistant Sep 2008 to May 2010
University of Maryland, Baltimore County - Baltimore, MD
Teaching assistant for several courses, including Computer Graphics, Cryptography and Introduction to Programming.

Grants

2016 - \$335,000 - Co-PI NSF Secure and Trustworthy Cyberspace, *Achieving Practical Privacy for the Cloud*

2013 - \$20,000 - PI Visa, *New schemes for practical homomorphic encryption*

Invited Colloquium Talks

March 2016 Johns Hopkins University - *A Brief History of Oblivious RAM*
Oct 2014 Microsoft Research - *Hidden Volume Encryption and Oblivious RAM*
Oct 2014 University of Maryland, Baltimore County - *Combining Oblivious RAM and Private Information Retrieval*

Publications

Jeremy Martin, Douglas Alpuche, Kristina Bodeman, Lamont Brown, Ellis Fenske, Lucas Foppe, Travis Mayberry, Erik C. Rye, Brandon Sipes, Sam Teplov: **Handoff All Your Privacy - A Review of Apple's Bluetooth Low Energy Continuity Protocol..** Privacy Enhancing Technologies Symposium 2019

Anrin Chakraborti, Adam Aviv, Seung Geol Choi, Travis Mayberry, Daniel Roche, Radu Sion: **rORAM: Efficient Range ORAM with $O(\log^2 N)$ Locality.** Network and Distributed Systems Security Symposium 2019

Lucas Foppe, Jeremy Martin, Travis Mayberry, Erik C. Rye, Lamont Brown: **Exploiting TLS Client Authentication for Widespread User Tracking.** Privacy Enhancing Technologies Symposium 2018

Daniel Roche, Adam Aviv, Seung Geol Choi, Travis Mayberry: **Deterministic, Stash-Free Write-Only ORAM.** ACM Conference on Computer and Communication Security 2017

Jeremy Martin, Dane Brown, Kris Merrion, Lamont Brown, Travis Mayberry: **How Much Privacy Does \$3,165 Buy You? A Critical Look At Private OUI Registration.** International Conference on Privacy, Security and Trust 2017

John Roth, Jeremy Martin, Travis Mayberry: **A Graph-Theoretic Approach to Virtual Access Point Correlation.** IEEE Conference on Communications and Network Security 2017

Erik-Oliver Blass, Travis Mayberry, Guevara Noubir: **Multi-User Oblivious RAM Secure Against Malicious Servers.** Applied Cryptography and Network Security 2017

Jeremy Martin, Travis Mayberry, Collin Donahue, Lucas Foppe, Lamont Brown, Chadwick Riggins, Erik C. Rye, Dane Brown: **A Study of MAC Address Randomization in Mobile Devices and When it Fails.** Privacy Enhancing Technologies Symposium 2017

Adam Aviv, Seung Geol Choi, Travis Mayberry, Daniel Roche: **ObliviSync: Practical Oblivious File Backup and Synchronization.** Network and Distributed Security Symposium 2017

Tarik Moataz, Travis Mayberry, Erik-Oliver Blass: **Constant Communication ORAM with Small Blocksize.** ACM Conference on Computer and Communication Security 2015

Erik-Oliver Blass, Travis Mayberry, Guevara Noubir: **Practical Forward-Secure Range and Sort Queries with Update-Oblivious Linked Lists.** Privacy Enhancing Technologies Symposium 2015

Tarik Moataz, Travis Mayberry, Erik-Oliver Blass: **Resizable Tree Based Oblivious RAM.** Financial Cryptography 2015

Erik-Oliver Blass, Travis Mayberry, Guevara Noubir, Kaan Onarlioglu: **Toward Robust Hidden Volumes using Write-Only Oblivious RAM.** ACM Conference on Computer and Communications Security 2014

Travis Mayberry, Erik-Oliver Blass, Agnes Hui Chan: **Efficient Private File Retrieval by Combining ORAM and PIR.** Network and Distributed Systems Security Symposium 2014 (*Distinguished Paper Award*)

Travis Mayberry, Erik-Oliver Blass, Agnes Hui Chan: **PIRMAP: Efficient Private Information Retrieval for MapReduce.** Financial Cryptography 2013

Hamed Okhravi, Andrew Johnson, Joshua Haines, Travis Mayberry, Agnes Chan: **Dedicated vs. Distributed: a Study of Mission Survivability Metrics.** MILCOM 2011

Richard Carback, David Chaum, Jeremy Clark, John Conway, Aleksander Essex, Paul S. Herrnsen, Travis Mayberry, Stefan Popoveniuc, Ronald L. Rivest, Emily Shen, Alan T. Sherman, Poorvi L. Vora: **Scantegrity II Municipal Election at Takoma Park: The First E2E Binding Governmental Election with Ballot Privacy.** USENIX Security Symposium 2010

Alan T. Sherman, Richard Carback, David Chaum, Jeremy Clark, Aleksander Essex, Paul S. Herrnsen, Travis Mayberry, Stefan Popoveniuc, Ronald L. Rivest, Emily Shen, Bimal Sinha, Poorvi L. Vora: **Scantegrity Mock Election at Takoma Park.** Electronic Voting 2010

