Tamara Silbergleit Lehman

ECOT 353
Boulder, CO 80309 tamara.lehman@colorado.edu

Research Interests

- Computer architecture, datacenter architecture
- Cache and memory systems architecture
- Security, hardware support for security, safe execution environment, secure memory.
- Democracy and technology, elections security

Education

PhD - Computer Engineering 2013 - 2019
Duke University, Durham, NC
Advisers: Benjamin C. Lee and Andrew Hilton
Thesis Title: Design Strategies for Efficient and Secure Memory.
Defended March 2019

Master of Engineering - Computer Engineering December 2013
Duke University, Durham, NC
GPA: 3.8 / 4.0

Bachelor of Science - Industrial Engineering December 2007
Minor in Business Administration
University of Florida, Gainesville, FL
GPA: 3.6 / 4.0, Magna Cum Laude

Professional Experience

Assistant Professor 2019-Present
Electrical, Computer and Energy Engineering, University of Colorado Boulder
Conduct and lead research on the intersection of computer architecture and security.

Graduate Technical Security Intern Summer 2015 and 2016
Security and Privacy Research, Intel Labs, Hillsboro, OR
Research development, studies with a cycle accurate simulator.

Software Engineer Intern Summer 2013
Software Development Unit, Cisco Systems. Research Triangle Park, NC
Software testing, configuration automation development, virtualization technologies.

Manager Domestic Postage Optimization 2008 - 2012
Product Management, DHL Global Mail. Weston, FL
Strategic decision making, data analysis and database management.

Publications

Analyzing Twitter Users' Behavior Before and After Contact by the Internet Research Agency May 2019
Upasana Dutta, Rhett Hanscom, Jason Shuo Zhang, Richard Han, Tamara Silbergleit Lehman, Qin Lv, Shivakant Mishra
arXiv preprint August 2019
Boulder, CO.

Design Strategies for Efficient and Secure Memory May 2019
Tamara Silbergleit Lehman
PhD. Thesis
Duke University, Durham, NC.

MAPS: Understanding Metadata Access Patterns in Secure Memory April 2018
Tamara Silbergleit Lehman, Andrew D. Hilton and Benjamin C. Lee
IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS).
Belfast, Northern Ireland.
Best Paper Award

PoisonIvy: Safe Speculation for Secure Memory October 2016
Tamara Silbergleit Lehman, Andrew D. Hilton and Benjamin C. Lee
49th International Symposium on Microarchitecture (MICRO).
Taipei, Taiwan.
IEEE Micro Top Pick Honorable Mention

Patents

Cryptographic Cache Lines for A Trusted Execution Environment February 2018
Siddhartha Chhabra, Francis X. McKeen, Carlos V. Rozas, Saeedeh Komijani and Tamara S. Lehman
United States Patent 9,904,805

Teaching Experience

ECEN3593 Computer Organization - University of Colorado Boulder Fall 2020
Instructor of Record
Instructing, grading, guiding discussions.

ECEN5033-002 Secure Computer Architectures - University of Colorado Boulder Fall 2019
Instructor of Record
Instructing, grading, guiding discussions. Designed the course.

ECE553 Compiler Construction - Duke University Spring 2015 and 2017
Teaching assistant
Grading and office hours.
Overall Evaluation Score: 4.5/5.0 and 4.7/5.0

ECE552 Advanced Computer Architecture - Duke University Fall 2016
Teaching assistant
Grading and office hours.
Overall Evaluation Score: 3.5/5.0

Academic Presentations and Posters

Classifying and Mitigating Side-Channel Vulnerabilities between VMs September 2017
Jinpeng Miao, Dwight Brown, Abdulrahman Alaraj, Tamara Silbergleit Lehman and Daniel Massey
Poster at ACSAC 2019. San Juan, Puerto Rico.

PoisonIvy: Safe Speculation for Secure Memory September 2017
Tamara Silbergleit Lehman
Presentation at SRC Techcon 2017. Austin, TX.
Best In Session Award

Datacenter Simulation Methodologies Tutorial December 2014, June 2015
Tamara Silbergleit Lehman, Qiuyun Wang, Seyed Majid Zahedi and Benjamin C. Lee
Presentation at 47th International Symposium on Microarchitecture (MICRO). Cambridge, UK.
Presentation at 42nd International Symposium on Computer Architecture (ISCA). Portland, OR.

Secure Memory Caching Strategies April 2015
Tamara Silbergleit Lehman
Poster at CRA-W Grad Cohort Workshop. San Francisco, CA.

External Service

Organizing Committee Member 2019, 2020
Annual Career Workshop for Women and Minorities in Computer Architecture (CWWMCA)

Program Committee Member 2020
Hardware and Architectural Support for Security and Privacy (HASP)

Program Committee Member 2020
International Conference on Computer Design (ICCD) Security Track

Program Committee Member 2020
International Conference on Computer Design (ICCD) Systems Track

Reviewer 2018, 2020
Computer Architecture Letters (CAL)

External Reviewer 2019
International Conference on Embedded Software (EMSOFT)

Vice-President Academic year 2018-2019
GWIS Research Triangle, Durham, NC
Lead and organize events to promote diversity in graduate studies in STEM fields.

Treasurer and Vice-President Academic year 2015-2016, 2018-2019
CRA-W Duke University Chapter, Durham, NC
Organize workshops and seminars to promote diversity in computer science and engineering.

Technical Skills

Programming Languages: C, C++, SML, JAVA, Assembly Language, VHDL.

Tools and applications: Emacs, GDB, LaTex, Linux, SVN, Git, Bash, Python, jGraph.

Spoken Languages: English, Spanish.

Honors and Awards

Outstanding Service in the Department, Duke University 2019

ISPASS Best Paper Award 2018

SRC Techcon Best In Session Award 2017

Charles Rowe Vail Memorial Outstanding Graduate Teaching Award 2015

Member of the Golden Key International Honor Society 2006 - 2007

President's Honor Roll 2006