

William & Mary
Department of Computer Science
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EDUCATION

Ph.D., University of Maryland, Computer Science, 2021
M.S. *with honors*, Johns Hopkins University, Computer Science, 2012
B.S. *summa cum laude*, University of Maryland, Mathematics, 2006

EMPLOYMENT

William & Mary	Assistant Professor	2022– <i>current</i>
Salisbury University	Adjunct Professor	2020
University of Maryland Medical Center	Application Developer	2015–2016
National Security Agency	Software Engineer	2010–2015
National Security Agency	Mathematics Researcher	2007–2010
US Census Bureau	Applied Mathematician	2006–2007
Joint Global Change Research Institute	Economic Intern	2005–2006

AWARDS

NSA Dilke-Allen Award 2013

GRANTS

<i>CRII: SaTC: Evolving I/O Protocols for Confidential Computing</i>	6/2024–5/2026
National Science Foundation (NSF)	\$165,000
Computer and Information Science and Engineering Research Initiation Initiative (CRII) Award #2348130 Principal Investigator	
<i>Securing Communication on the Interplanetary Internet</i>	3/2023–2/2024
Virginia Space Grant Consortium (VSGC) New Investigator Program (NIP) Principal Investigator	\$10,000

PUBLICATIONS

Conference Publications

PhD Dissertation: Execution Environments for Running Legacy Applications in Multi-Party Trust Settings
Stephen Herwig (Dr. Dave Levin, advisor)
July, 2021

Bento: Bringing Network Function Virtualization to Tor
Michael Reininger, Arushi Arora, **Stephen Herwig**, Nicholas Francino, Jayson Hurst,
Christina Garman, Dave Levin
ACM SIGCOMM, 2021

Achieving Keyless CDNs with Conclaves
Stephen Herwig, Christina Garman, Dave Levin
USENIX Security Symposium, 2020

Measurement and Analysis of Hajime: A Peer-to-peer IoT Botnet
Stephen Herwig, Katura Harvey, George Hughey, Richard Roberts, Dave Levin
Network and Distributed System Security Symposium (NDSS), 2019

DeTor: Provably Avoiding Geographic Regions in Tor
Zhihao Li, **Stephen Herwig**, Dave Levin
USENIX Security Symposium, 2017

secmodel_sandbox: An application sandbox for NetBSD
Stephen Herwig
BSDCan, 2017

Workshop Publications

Towards Protecting Billions and Billions of Bits on the Interplanetary Internet
Stephen Herwig
Workshop on Security of Space and Satellite Systems (SpaceSec), 2023
(co-located with NDSS)

DNSql: Processing Massive DNS Collections
Stephen Herwig, Dave Levin, Bobby Bhattacharjee, Neil Spring
DNS And Internet Naming Research Directions (DINR) Workshop, USC/ISI, 2016

Posters

Bento: Bringing Network Function Virtualization to Tor
Michael Reiningger, Arushi Arora, **Stephen Herwig**, Nicholas Francino, Christina Garman, Dave Levin
ACM Conference on Computer and Communications Security (CCS), Poster Session, 2020

Measurement and Analysis of Hajime: A Peer-to-peer IoT Botnet
Stephen Herwig, Katura Harvey, George Hughey, Richard Roberts, Dave Levin
ACM Internet Measurement Conference (IMC) Poster Session, 2018

TALKS

SecureCDN: Providing End-to-End Security in Content Delivery Networks
DC-Area Anonymity, Privacy, and Security Seminar, Georgetown University, 2018

PROFESSIONAL SERVICE

External Service

Funding Agency Proposal Review

- National Science Foundation ([NSF](#)) Secure and Trustworthy Cyberspace ([SaTC](#)) Reviewer: 2024
- National Science Foundation ([NSF](#)) Secure and Trustworthy Cyberspace ([SaTC](#)) Panelist: 2024

Conference Technical Program Committee

- ACM Conference on Computer and Communications Security ([CCS](#)): 2024
- IEEE International Conference on Distributed Computing Systems ([ICDCS](#)): 2024

Conference Artifact Evaluation Program Committee

- Annual Computer Security Applications Conference (ACSAC): 2023

Workshop Technical Program Committee

- Workshop on Artificial Intelligence System with Confidential Computing (AISCC): 2024 (co-located with NDSS)
- Hardware and Architectural Support for Security and Privacy (HASP): 2023 (co-located with MICRO)

Journal Reviewer

- ACM Transactions on Privacy and Security (TOPS): 2018

Service at William & Mary

School of Arts & Sciences

- Session Chair, *Graduate & Honors Research Symposium*, March 2024

Department of Computer Science

- Cybersecurity Committee: AY 2023
- Graduate Admissions Committee: AY 2023
- Graduate Symposium Committee: AY 2023
- Undergraduate Curriculum Committee: AY 2022
- Graduate Curriculum Committee: AY 2022
- Colloquium Committee: AY 2022

ADVISING

Doctoral Thesis Committee Member

- Tao Zhang, *Exploring Transient Execution Vulnerabilities, Side-Channel Attacks, and Defenses*, 2024

Masters Thesis Committee Member

- Andrés Bencomo Magana, *Overview of Variations for Multiprocessor Scheduling Problems*, 2023

TEACHING

William & Mary

- CSCI 780 - Distributed System Security: Spring 2024 (6)
- CSCI 780 - Secure & Trusted Computing: Spring 2023 (7)
- CSCI 515/415 - Systems Programming: Fall 2023 (35), Fall 2022 (39)
- CSCI 420 - Secure Cloud Storage: Fall 2023 (1)
- CSCI 320 - Directed Study: Fall 2023 (3)

Salisbury University

- COSC 117 - Programming Fundamentals: Fall 2022

OUTREACH

Speaker, William & Mary School of Education's *Focusing on the Future Conference*, March 2024