Tamara Silbergleit Lehman

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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
Courtesy appointment in the department of Computer Science
Currently advising 5 PhD. Students and 2 Undergraduate students.
Conduct and lead research on the intersection of computer architecture and security and issues surrounding democracy and technology. Develop and teach courses in computer engineering.

Visiting Professor November 2024
Facultad de Ciencias Exactas, Ciencia de la Computacion

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

(Note: Students whose names are in italics are main advisees)

1. **THORN-ML: Transparent Hardware Offloaded Resilient Networks for RDMA based Distributed ML Workloads**
   Maziyar Nazari*, Daniel Noland*, Giulio Sidoretti, Erika Hunhoff, **Tamara Lehman**, Eric Keller
   (under review) USENIX Symposium on Networked Systems Design and Implementation, 19% Acceptance Rate TBD

2. **CAPULET: Cache Pooling Metadata Caches in Secure Disaggregated Memory Systems**
   Samuel Thomas, R. Iris Bahar, **Tamara Silbergleit Lehman**
   (under review) ACM SIGMETRICS, 17% Acceptance Rate TBD

3. **AUTOPRUNE: A stochastic candidate pruning strategy for Souper**
   Ange-Thierry Ishimwe, Raghuveer Shivakumar, Heewoo Kim, **Tamara Silbergleit Lehman** and Joseph Izraelevitz
   (under review) ACM SIGMETRICS, 17% Acceptance Rate TBD

4. **CommTox: Community Context-Aware Perceived Toxicity Classification**
   Rhett Hanscom, Ayan Chowdhury**, Shivakant Mishra, Qin Lv and **Tamara Silbergleit Lehman**
   (under review) ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), 24% Acceptance Rate TBD

5. **A Survey of Hardware-Based AES SBoxes: Comparing ASIC Designs**
   Phaedra Curlinm, Jeff Heiges, Calvin Chan, **Tamara Silbergleit Lehman**
   (under review) ACM Computing Surveys TBD

6. **SMAD: Efficiently Defending Against Transient Execution Attacks**
   Ange Ishimwe, Zack Mckevitt, Sam Mcdiarmid Sterling and **Tamara Silbergleit Lehman**
   (under review) Transactions on Architecture and Code Optimization (TACO) TBD

7. **Characterization of Toxicity Across Social Media Platforms**
   Rhett Hanscom, Shivakant Mishra, Qin Lv and **Tamara Silbergleit Lehman**
   (under review) ACM Computing Surveys TBD

8. **A Midsummer Night's Tree: Efficient and High Performance Secure SCM**
   Samuel Thomas, Kidus Workneh, Jac McCarty, Joseph Izraelevitz, **Tamara Silbergleit Lehman** and R. Iris Bahar
   International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS), 12% Acceptance Rate April 2024

9. **Baobab Merkle Tree: Memoized Counters for Efficient Secure Memory**
   Samuel Thomas, Kidus Workneh, *Ange-Thierry Ishimwe*, *Zachary McKevitt*, *Phaedra Curlin*, Joseph Izraelevitz, R. Iris Bahar and **Tamara Silbergleit Lehman**
   Computer Architecture Letters (CAL), 20% Acceptance Rate March 2024

10. **SpecCheck: A Tool for Systematic Identification of Vulnerable Transient Execution in gem5**
    Zachary McKevitt, Ashutosh Trivedi, **Tamara Silbergleit Lehman** International Conference on Parallel Architectures and Compilation Techniques (PACT), 27% Acceptance Rate October 2023

11. **Do Twitter Users Change Their Behavior after Exposure to Misinformation? An In-depth Analysis**

Yichen Wang, Richard Han, **Tamara Silbergleit Lehman**, Qin Lv, Shivakant Mishra
Social Network Analysis and Mining (SNAM), 30% Acceptance Rate
Springer Journal November 2022

12. **Eliminating Micro-Architectural Side-Channel Attacks using Near Memory Processing**
Casey Nelson, Joseph Izraelevitz, R. Iris Bahar, **Tamara Silbergleit Lehman**
IEEE International Symposium on Secure and Private Execution Environment Design (SEED), 70% Acceptance Rate September 2022

13. **Acuerdo: Fast Atomic Broadcast over RDMA**
Joseph Izraelevitz, Gaukas Wang, *Rhett Hanscom*, Kayli Silvers, **Tamara Silbergleit Lehman**, Gregory Chockler, Alexey Gotsman
International Conference on Parallel Processing (ICPP), 32% Acceptance Rate September 2022

14. **Understanding How Readers Determine the Legitimacy of Online Medical News Articles in the Era of Fake News**
Srihaasa Pidikiti, Shuo Zhang, Richard Han, **Tamara Silbergleit Lehman**, Qin Lv, Shivakant Mishra
Disease Control Through Social Network Surveillance
Springer Book Chapter May 2022

15. **Analyzing Behavioral Changes of Twitter Users After Exposure to Misinformation**
Yichen Wang, Richard Han, **Tamara Silbergleit Lehman**, Qin Lv, Shivakant Mishra
Foundations of Open Source Intelligence and Security Informatics (FOSINT-SI) November 2021

16. **A New Foe in GPUs: Power Side-Channel Attacks on Neural Network**
Hyeran Jeon, Nima Karimian, **Tamara Silbergleit Lehman**
International Symposium on Quality Electronic Design (ISQED) April 2021

17. **Analyzing Twitter Users' Behavior Before and After contact by Russia's Internet Research Agency**
Upasana Dutta, *Rhett Hanscom*, Jason Shuo Zhang, Richard Han, **Tamara Silbergleit Lehman**, Qin Lv, Shivakant Mishra
ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), 24% Acceptance Rate October 2021

18. **Understanding How Readers Determine the Legitimacy of Online News Articles in the Era of Fake News**
Srihaasa Pidikiti, Shuo Zhang, Richard Han, **Tamara Silbergleit Lehman**, Qin Lv, Shivakant Mishra
Foundations of Open Source Intelligence and Security Informatics (FOSINT-SI) December 2020

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

20. **MAPS: Understanding Metadata Access Patterns in Secure Memory**
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 April 2018

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

Patents

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

Teaching Experience

ECEN2360 Programming of Digital Systems - University of Colorado Boulder Spring 2025
Instructor of Record, remotely and in person
Developing the course, instructing, grading, guiding discussions.

gem5 Bootcamp - Universidad de Buenos Aires (UBA) November 2024
Instructor of Record along with Prof. Jason Lowe-Power (UC Davis)
Developing the course, instructing.

ECEN5593 Advanced Computer Architecture - University of Colorado Boulder Spring 2021-2025
Instructor of Record, remotely and in person
Developing the course, instructing, grading, guiding discussions.
Average Instructor FCQ Scores: 4.3/5.0

ECEN3593 Computer Organization - University of Colorado Boulder Fall 2020-2024
Instructor of Record, remotely and in person
Instructing, grading, guiding discussions.
Average Instructor FCQ Scores: 4.5/5.0

ECEN1100 Exploring ECE - University of Colorado Boulder Fall 2023
Instructor of Record, in person
Seminar organization, grading, guiding discussions.
Average Instructor FCQ Scores: 4.3/5.0

ECEN5793 Secure Computer Architectures - University of Colorado Boulder Fall 2019, 2022
Instructor of Record, in person
Developing the course, instructing, grading, guiding discussions. Designed the course.
Average Instructor FCQ Score: 4.5/6.0

ECE553 Compiler Construction - Duke University Spring 2015,2017
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

Invited Talks and Academic Presentations

1. **Secure, Efficient and High Performance Computing:**
   A Computer Architecture Perspective January 2025
   Tamara Silbergleit Lehman
   Invited talk at the Graduate Seminar for Electrical Engineering and Computer Science at the University of California Merced

2. **Secure, Efficient and High Performance Computing:**
   A Computer Architecture Perspective October 2024
   Tamara Silbergleit Lehman
   Invited talk at the Computer Science Colloquium at the University of California Santa Cruz

3. **Freshman Seminar: Computer Engineering** November 2020, October 2022, October 2024
   Tamara Silbergleit Lehman
   University of Colorado Boulder, guest Lecture. Online.

4. **Secure 5G communications** August 2024
   Tamara Silbergleit Lehman
   Qualcomm Colorado office. Longmont, Colorado

5. **Secure 5G communications and metrics** June 2024
   Tamara Silbergleit Lehman
   Vail Computer Elements Workshop. Vail, Colorado

6. **Secure, Efficient and High Performance Computing:**
   A Computer Architecture Perspective January 2024
   Tamara Silbergleit Lehman
   Invited talk at the Computer Science Colloquium at the University of Colorado Boulder

7. **Keynote: Secure, Efficient and High Performance Computing:**
   A Computer Architecture Perspective June 2023
   Tamara Silbergleit Lehman
   Opening Keynote Speaker at International Conference on Engineering Applications of Neural Networks (EANN). Leon, Spain

8. **Securing 5G Communications with GHOST** August 2023
   Tamara Silbergleit Lehman and Keith Gremban
   Invited seminar at The Federal Communications Commission (FCC)

9. **Security as a First-Class Design Constraint** October 2022
   Tamara Silbergleit Lehman
   Invited seminar at Colorado School of Mines.

10. **My Path to Becoming a Computer Engineer** August 2021
    Tamara Silbergleit Lehman
    Invited talk at SciGirls Code camp.

11. **Design Strategies for Efficient and Secure Memory, and Beyond** April 2021
    Tamara Silbergleit Lehman
    Invited talk at TCP Seminar. Online.

12. **Design Strategies for Efficient and Secure Memory** November 2020
    Tamara Silbergleit Lehman
    Invited talk at AMD Research Tech Talk Seminar. Online.

13. **Data Science Companion Group: Investigating IRA Behavior in Twitter** November 2020
    Tamara Silbergleit Lehman
    University of Colorado Boulder, guest Lecture. Online.

14. **Misinformation on Social Media** October 2020
Tamara Silbergleit Lehman and Shivakant Mishra
Colorado Matter, Colorado Public Radio (CPR). Radio Interview.

15. **The Influence of Russian Social Media Bots** September 2020
Tamara Silbergleit Lehman and Shivakant Mishra
Colorado Matter, Colorado Public Radio (CPR). Radio Interview.

16. **Preparing Future Engineering Faculty Panel** September 2020
Tamara Silbergleit Lehman
Duke University, invited panelist. Online

17. **Secure Memory Systems** October 2019
Presentation for the ECEE Industrial Advisory Board
Tamara Silbergleit Lehman
University of Colorado Boulder. Boulder, CO.

18. **MAPS: Understanding Metadata Access Patterns in Secure Memory** April 2018
Tamara Silbergleit Lehman
Presentation at ISPASS 2018. Belfast, Northern Ireland.

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

20. **PoisonIvy: Safe Speculation for Secure Memory** October 2016
Tamara Silbergleit Lehman
Paper Presentation at MICRO 2016. Taipei, Taiwan.

21. **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.

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

Workshops and Posters

1. **Extending RISC-V Keystone to Include Efficient Secure Memory** November 2024
Zach Moolman and Tamara Silbergleit Lehman
Workshop on Computer Architecture Research on RISC-V (CARRV)
Austin, TX

2. **Evaluating Rowhammer Impact on Neural Network Accuracy** November 2024
Ishita Mehta
PACT Student Research Competition (SRC) - 2nd Place
Long Beach, CA

3. **An ASIC Implementation of an Open-Source AES Engine** July 2023
Phaedra Curlin, Calvin Chan and Tamara Silbergleit Lehman
Young Fellows of Design and Automation Conference (DAC)
San Francisco, CA

4. **SMAD: Efficiently Defending Against Transient Execution Attacks** March 2023
Ange Thierry Ishimwe and **Tamara Silbergleit Lehman**
Young Architect at ASPLOS
Vancouver, Canada

5. **GPU Rowhammer Impact on Deep Learning Models** October 2022
   Alexander Juenemann, Tamara Silbergleit Lehman
   Workshop on Hardware and Architectural Support for Security and Privacy
   Chicago, IL
6. **An ASIC Implementation of an Open-Source AES Engine** October 2022
   Phaedra Curlin, Calvin Chan, Andrew Fisher and Tamara Silbergleit Lehman
   Career Workshop for Inclusion and Diversity in Computer Architecture
   Chicago, IL
7. **Zero Trust Architecture for Radio Astronomy & Research Organizations** October 2022
   Sylvia Llosa, Georgiana Weihe, Eloise Morris, Kevin Gifford, Tamara Lehman and Stefan Tschimben
   SecDev
   Atlanta, GA
8. **Security as a First-Class Design Constraint in Computer Architecture** October 2022
   Tamara Silbergleit Lehman
   DARPA Forward, Risers
   Fort Collins, CO
9. **SecureRPi: A Comparison Study of HW and SW Security on IOT Devices** October 2022
   Sylvia Llosa, Georgiana Weihe, Stefan Tschimben, Eloise Morris, Kevin Gifford and Tamara Silbergleit Lehman
   AIAA
   Boulder, CO
10. **VulnerabiliTree: A Taxonomy of Hardware and Software Computer Attacks for Heuristic Hacking Defense** October 2021
    Sylvia Llosa, Ange-Thierry Ishimwe, Tamara Silbergleit Lehman
    Workshop on Hardware and Architectural Support for Security and Privacy
    Virtual Workshop
11. **Automatic Transient Execution Attack Detection** October 2021
    Zack McKevitt, Ashutosh Trivedi, Tamara Silbergleit Lehman
    Workshop on Hardware and Architectural Support for Security and Privacy
    Virtual Workshop
12. **VulnerabiliTree: A Taxonomy of Hardware and Software Computer Attacks for Heuristic Hacking Defense** October 2021
    Sylvia Llosa, Ange-Thierry Ishimwe, Tamara Silbergleit Lehman
    Career Workshop for Inclusion and Diversity in Computer Architecture
    Virtual Workshop
13. **Investigating the Potential for Near Data Processing to Reduce Secure Memory Overheads** January 2021
    Casey Nelson, Tamara Silbergleit Lehman and R. Iris Bahar
    Boston Area Architecture Workshop (BARC). Virtual.
14. **Partial Recovery of Secure Non-Volatile Main Memories** January 2021
    Samuel Thomas, Tamara Silbergleit Lehman, Joseph Izraelevitz, and R. Iris Bahar
    Boston Area Architecture Workshop (BARC). Virtual.
15. **Classifying and Mitigating Side-Channel Vulnerabilities between VMs** September 2019
    Jinpeng Miao, Dwight Brown, Abdulrahman Alaraj, Tamara Silbergleit Lehman and Daniel Massey
    Poster at ACSAC 2019. San Juan, Puerto Rico.

Grants

1. Collaborative Research: SaTC 2.0: RES: Efficient Secure Memory for Heterogeneous Systems June 2025 - May 2028

Principal Investigator with Co-Principal Investigator R. Iris Bahar (Colorado School of Mines)
National Science Foundation
Pending Total Award (Lehman's Portion): $877,410 ($456,189)
ECEE, University of Colorado Boulder

2. Establishing a new field of Computer Engineering Economics May 2025 - September 2026
Co-Principal Investigator with Alessandro Peri
CU Boulder RIO SEED Funding
Pending Total Award (Lehman's Portion): $58,040 ($50,342)
ECEE, University of Colorado Boulder

3. CAREER: Security as a First-Class Design Constraint for Computer Architecture Jul 2025 - Jun 2030
Sole Principal Investigator.
National Science Foundation
Pending Total Award: $788,584
ECEE, University of Colorado Boulder

4. Collaborative Research: SHF: Small: Towards Robust Deep Learning Computing on GPUs - REU Supplement August 2024 - July 2025
Sole Principal Investigator
National Science Foundation
Total Award: $20,000
ECEE, University of Colorado Boulder

5. Conv. Accel.: 5G Hidden Operations through Securing Traffic (GHOST) Phase 2 Aug 2023 - Jul 2025
Co-Principal investigator with Keith Gremban, Alexandra Siegel and Eric Keller from University of Colorado Boulder, and Salvador D'Itri from Federated Wireless.
National Science Foundation
Total Award (Lehman's portion): $4,983,234 ($275,000)
ECEE, University of Colorado Boulder

6. Travel: NSF Student Travel Grant for 2023 Intnl Symp. on Comp. Archi. (ISCA) Jun 2023 - May 2024
Sole Principal Investigator.
National Science Foundation
Total Award: $25,000
ECEE, University of Colorado Boulder

7. CNS Core: Small: Transparent Network Acceleration (TNA) May 2023 - Apr 2025
Co-Principal investigator with Eric Keller.
National Science Foundation
Total Award (Lehman's portion): $599,928 ($300,000)
ECEE, University of Colorado Boulder

8. Standard Security Metric Definition for Hardware Design Dec 2022 - Nov 2024
Sole Principal investigator.
Office of Naval Research
Total Award: $240,785
ECEE, University of Colorado Boulder

9. Convergence Accelerator Track G: 5G Hidden Operations through Securing Traffic (GHOST) Aug 2022 - Jul 2023
Co-Principal investigator with Keith Gremban, Alexandra Siegel and Eric Keller from University of Colorado Boulder, and Salvador D'Itri from Federated Wireless.
National Science Foundation
Total Award (Lehman's portion): $749,186 ($75,000)
ECEE, University of Colorado Boulder

10. Open Source Cryptographic Hardware Jan 2022 - Sep 2022
Sole Principal Investigator.

Sandia Labs
Total Award: $50,000
ECEE, University of Colorado Boulder

11. Collaborative Research: SHF: Small: Towards Robust Deep Learning Computing on GPUs - REU Supplement August 2022 - July 2023
Sole Principal Investigator
National Science Foundation
Total Award: $16,000
ECEE, University of Colorado Boulder

12. Collaborative Research: SHF: Small: Towards Robust Deep Learning Computing on GPUs 2021-2024
Co-Principal investigator with Hyeran Jeon (University of California Merced) and Nima Karimian (San Jose State University)
National Science Foundation, Software and Hardware Foundations Program.
Total Award (Lehman's portion): $511,991 ($176,000)
ECEE, University of Colorado Boulder

13. SWIFT: LARGE: Passive and Active Spectrum Sharing (PASS) Sep 2020- Aug 2023
Co-Principal investigator with Kevin Gifford.
National Science Foundation SWIFT Program.
Total Award (Lehman's portion): $1.45M ($380,000)
ECEE, University of Colorado Boulder

14. In-Kind Contribution of Equipment 2021
Ampere Computing, donated to Tamara Silbergleit Lehman
Total Amount: $32,000
ECEE, University of Colorado Boulder

Internal Service

1. **Faculty Mentor to Assistant Professor Ramin Ayanzadeh** 2024-Present
University of Colorado Boulder, CS
2. **School Of Computing Steering Committee** 2024-2025
University of Colorado Boulder, CS
3. **ECEE Graduate Committee** 2024-2025
University of Colorado Boulder, ECEE
4. **ECEE Undergraduate Committee** 2024-2025
University of Colorado Boulder, ECEE
5. **ECEE Executive Committee** 2022-2024
University of Colorado Boulder, ECEE
6. **Faculty and Staff Recruitment, Retention and Recognition Committee** 2020-2024
University of Colorado Boulder, ECEE
7. **Computer Engineering Search Committee** 2022-2023
University of Colorado Boulder, ECEE
8. **Participated in the Research Impact Fellows Program** 2021
University of Colorado Boulder, CEAS
9. **College Diversity ECEE Ad-Hoc Search Committee Chair** 2021
University of Colorado Boulder, ECEE
10. **College Diversity Search Committee** 2021
University of Colorado Boulder, CEAS
11. **CU/CMU Joint Instructor Search Committee** 2021
University of Colorado Boulder, ECEE

12. **Faculty Search Oversight Committee** 2020-2022
University of Colorado Boulder, ECEE
13. **College Level Ad-Hoc Budget Committee** 2020
University of Colorado Boulder, ECEE
14. **Faculty Search Committee** 2019-2020
University of Colorado Boulder, ECEE
15. **Curriculum Committee** 2019-2020
University of Colorado Boulder, ECEE

External Service

1. **Organizing Committee Member** 2019-2024 *Annual Career Workshop for Inclusion and Diversity in Computer Architecture (CWIDCA)*
2. **Organizing Committee Member, Finance Chair** 2024
International Symposium on Computer Architecture (ISCA)
3. **Poster Session Judge** 2023
PACT Student Research Competition (SRC)
4. **Organizing Committee Member, Travel Award Chair** 2023
International Symposium on Computer Architecture (ISCA)
5. **Program Committee Member** 2023
Young Architect Workshop (YArch)
6. **Long Term Mentor** 2022, 2023, 2024
Computer Architecture Long Term Mentoring Program (CALM)
7. **Organizing Committee Member, Finance Chair** 2022
International Symposium on Computer Architecture (ISCA)
8. **Review Panel** 2022
National Science Foundation (NSF), Graduate Research Fellows Program (GRFP)
9. **Program Committee Member** 2022, 2023, 2024, 2025
International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)
10. **Program Committee Member** 2023
International Symposium in Computer Architecture (ISCA)
11. **Program Committee Member** 2023
International Symposium on Microarchitecture (MICRO)
12. **Program Committee Member** 2023, 2024, 2025
International Symposium on High Performance Computer Architecture (HPCA)
13. **Program Committee Member** 2022
IEEE International Symposium on Secure and Private Execution Environment Design (SEED)
14. **Organizing Committee Member, Finance Chair** 2021
IEEE International Symposium on Secure and Private Execution Environment Design (SEED)
15. **External Reviewer** 2021, 2022
International Symposium on Microarchitecture (MICRO)
16. **External Reviewer** 2020,2021, 2022
International Symposium on Computer Architecture (ISCA)
17. **Program Committee Member** 2021, 2022
IEEE International On Workload Characterization (IISWC)

18. **Program Committee Member and Judge** 2021, 2022
MICRO Student Research Competition (SRC)

19. **Organizing Committee Member, Workshop and Tutorials Co-Chair** 2021
International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)

20. **Organizing Committee Member, Publication Chair** 2021,2022
International Symposium on High Performance Computer Architecture (HPCA)

21. **Review Panel** 2021, 2022
National Science Foundation (NSF), Secure and Trustworthy Cyberspace (SATC)

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

23. **Program Committee Member** 2020,2021
International Conference on Computer Design (ICCD) Security Track

24. **Reviewer** 2018, 2020, 2021, 2022, 2023
Computer Architecture Letters (CAL)

25. **External Reviewer** 2019
International Conference on Embedded Software (EMSOFT)

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

27. **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.

Graduate Research Advising

- Ian Barnaby, Electrical, Computer and Energy Department 2024-Present
Doctorate Student
- Zachary Moolman, Electrical, Computer and Energy Department 2023-Present
Doctorate Student
- Phaedra Curlin, Electrical, Computer and Energy Department 2022-Present
Doctorate Student
- Ange-Thierry Ishimwe, Electrical, Computer and Energy Department 2020-Present
Doctorate Student
- Rhett Hanscom, Computer Science Department 2020-Present
Doctorate Student
- Samuel Thomas, Brown University 2020-2025
Doctorate Student, Defense Committee
- Manan Doshi, Computer Science Department 2024
Master student, Independent Study
- Maziyar Nazari, Computer Science Department 2025
Defense Committee
- Ayan Chowdhury, Computer Science 2024-Present
Master Student, Independent Study and Research Assistant
- Sylvia Llosa, Electrical, Computer and Energy Department 2021-2023
Doctorate Student

- Zachary McKevitt, Computer Science Department 2022-2023
  Master Thesis
- Yichen Wang, Computer Science Department 2021-2022
  Comprehensive Exam, Defense Committee Member
- Srihaasa Pidikiti, Computer Science Department 2021
  Master Thesis Defense
- Daniel Trahan, Electrical, Computer and Energy Department 2020-2021
  Doctorate Student
- Jinpeng Miao, Computer Science Department 2020-2021
  Doctorate Student
- Claire Savard, Computer Science Department 2019-2020, 2022.2024
  Independent Study, Comprehensive Exam and Defense Committee
- Marcelo De Abranches, Electrical, Computer and Energy Department 2020, 2022
  Preliminary Exam Committee, Comprehensive exam, Defense Committee Member
- Gregory Cusack, Electrical, Computer and Energy Department 2020, 2022
  Preliminary Exam Committee, Comprehensive exam, Defense Committee Member
- George Hodgkins, Electrical, Computer and Energy Department 2022,2024
  Preliminary Exam and Comprehensive Exam Committee
- Jack Wampler, Electrical, Computer and Energy Department 2022, 2023
  Comprehensive exam and Defense Committee Member

Undergraduate Research Advising

- *Victor Jimenez Rugama*, Electrical, Computer and Energy Engineering Department 2025
  Europe-Colorado Program
- *Sean Kadkhodayan*, Electrical, Computer and Energy Engineering Department 2024-2025
  Summer Program for Undergraduate Research (SPUR) and Independent Study
- *Suhana Zeutzius*, Computer Science Department 2023-2024
  Discovery Learning Apprenticeship (DLA) Program
- *Nicholas Cisne*, Electrical, Computer and Energy Engineering Department 2023-2024
  Discovery Learning Apprenticeship (DLA) Program
- *Andrew Johnson*, Denver Metro Community College 2023
  Summer Program for Undergraduate Research (SPUR)
- *Yatharth Brahmbhatt*,Computer Science Department 2023
  Summer Program for Undergraduate Research (SPUR)
- *Leo Ge*, Electrical, Computer and Energy Engineering Department 2023
  Summer Program for Undergraduate Research (SPUR)
- *Adam Richling*, Computer Science Department 2023-2024
  Summer Program for Undergraduate Research (SPUR), Research Assistant
- *Samuel McDiarmid-Sterling*, Electrical, Computer and Energy Engineering Department 2023-2025
  Summer Program for Undergraduate Research (SPUR), Research Assistant
- *Kasper Seglem*, Electrical, Computer and Energy Engineering Department 2022-2023
  Discovery Learning Apprenticeship (DLA) Program
- *Jack Blackburn*, Electrical, Computer and Energy Engineering Department 2022-2023
  Discovery Learning Apprenticeship (DLA) Program
- *Alexander Juenemann*, Computer Science Department 2022-2023
  Summer Program for Undergraduate Research (SPUR), Research Assistant

- *Tucker Travins*, Electrical, Computer and Energy Engineering Department 2022-2023
  Independent Study, Research Assistant
- *Albert Vilardell Barnosell*, Electrical, Computer and Energy Engineering Department 2021-2022
  Europe-Colorado Program
- *Pranav Subramanian*, Electrical, Computer and Energy Engineering Department 2021-2022
  Discovery Learning Apprenticeship (DLA) Program
- *Reiko Matsuda-Dunn*, Electrical, Computer and Energy Engineering Department 2021
  Independent Study
- *Zachary McKevitt*, Electrical, Computer and Energy Engineering Department 2020-2022
  Discovery Learning Apprenticeship (DLA) Program, Senior Thesis
- *Ailish Skinner*, Computer Science Department 2021
  Independent Study
- *Alex Han-Begler*, Computer Science Department 2020
  Independent Study

Honors and Awards

- WICArch Early-Career Fellowship 2024
- IEEE Computer Society Technical & Conference Activities Board Rising Star Service Award 2024
- Outstanding Mentor for the Discovery Learning Apprenticeship, University of Colorado Boulder 2022
- DARPA Riser, University of Colorado Boulder 2022
- Outstanding Service for Inclusion and Diversity, University of Colorado Boulder 2022
- Outstanding Service in the Department, Duke University 2019
- ISPASS Best Paper Award 2018
- SRC Techcon Best In Session Award 2017
- MICRO Top Picks Honorable Mention 2016
- Charles Rowe Vail Memorial Outstanding Graduate Teaching Award 2015
- Member of the Golden Key International Honor Society 2006 - 2007
- President's Honor Roll 2006