

BRIAN ROBERT CALLAHAN

Curriculum vitae

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EDUCATION

- Ph.D.** Science & Technology Studies, Rensselaer Polytechnic Institute, Troy, NY
August 2018
Dissertation: *Complexities of Collaboration: An Open Source Story*
Dissertation Chair: Mike Fortun
- MS** Science & Technology Studies, Rensselaer Polytechnic Institute, Troy, NY
December 2015
- MA** Anthropology, Monmouth University, West Long Branch, NJ
August 2014
Thesis: *From Basson to Fagott: Evolution vs. Revolution*
Thesis Advisor: William P. Mitchell
- BHA** Music Performance & Anthropology, Carnegie Mellon University, Pittsburgh, PA
May 2009
College Honors
University Honors

RESEARCH AND TEACHING INTERESTS

Business and social cases for Cybersecurity
Intersections of Cybersecurity and Generative AI, particularly the limitations of AI
Intersections of Cybersecurity and Quantum computing, privacy and cryptography
Quantum Cybersecurity education
Cloud security
Toolchain (compiler, assembler, linker) based security mitigations
Interaction of Cybersecurity in everyday life
Improving Cybersecurity awareness for the non-expert
Secure coding techniques
Digital humanities, particularly technical stewardship of infrastructure

REFEREED PUBLICATIONS

Journal Articles

Sugerman, Shoshana, Sanya Joseph, Quinn Colognato, Mary Cotrupi, Aanya Mehta, Tanvi Mehta, Emily Goldman, Ishneet Kaur, Victoria Cai, Gabriel Bezerra, Adam Kaplan, Arielle Revis, Lala Liu, Samuel Leung, Elif Kulahlioglu, Rachel Schneider, Mikah Schueller, Quinn Sharp, James Porvaznik, and **Brian Robert Callahan**.
Forthcoming. "A case study for combating student overuse of Generative Artificial Intelligence in Cybersecurity educational activities using Augmented Reality Capture-the-Flag development." *The Journal of The Colloquium for Information Systems Security (CISSE)*.

Callahan, Brian Robert, Keenan Schilp, Quinn Colognato, Emily Goldman, Shoshana Sugerman, Aanya Mehta, Angela Imanuel, Kaitlin Kaii, and Hannah Rose. 2025. "[Multidisciplinary quantum cybersecurity research for the undergraduate laboratory.](#)" The Journal of The Colloquium for Information Systems Security Education (CISSE) 12(1): 1-7. DOI: [10.53735/cisse.v12i1.206](#).
[Winner of Best Paper Presentation Award at 28th Colloquium.](#)

Callahan, Brian Robert, Charles Hathaway, and Mukkai Krishnamoorthy. 2016. "[Quantitative Metrics for Generative Justice: Graphing the Value of Diversity.](#)" Teknokultura 13(2): 567-586. DOI: [10.5209/rev_tekn.2016.v13.n2.52838](#)

Book Chapters

Fortun, Mike, Lindsay Poirier, Alli Morgan, **Brian Callahan**, and Kim Fortun. 2021. "[What's so funny 'bout PECE, TAF, and Data Sharing?](#)" In *Collaborative Anthropology Today: A Collection of Exceptions*, edited by Dominic Boyer and George E. Marcus, Pp. 115-140. Cornell University Press. DOI: [10.7591/cornell/9781501753343.003.0008](#).

Eglash, Ron, William Babbitt, Audrey Bennett, Kathryn Bennett, **Brian Callahan**, James Davis, John Drazen, et al. 2016. "[Culturally Situated Design Tools: Generative Justice as a Foundation for STEM Diversity.](#)" In *Moving Students of Color from Consumers to Producers of Technology*, edited by Yolanda Rankin and Jakita Thomas, Pp. 132-151. Hershey, PA: IGI Global. DOI: [10.4018/978-1-5225-2005-4.ch007](#).

Conference Proceedings

Esposito, Jenna, Aaila Arif, Raul Cortinas, and **Brian Robert Callahan**. Forthcoming. "Porting and Evaluating Return-Oriented Programming Defenses Implemented by the OpenBSD Operating System." Proceedings of the 14th International Symposium on Digital Forensics and Security (ISDFS). Endicott College. Boston, MA. Mar. 19-20, 2026.

Ivanicki, Michael and **Brian Robert Callahan**. Forthcoming. "An Explainable AI Study of Phishing Detection Model Degradation Across Real-World Events." Proceedings of the 14th International Symposium on Digital Forensics and Security (ISDFS). Endicott College. Boston, MA. Mar. 19-20, 2026.

Cotrupi, Mary L. and **Brian R. Callahan**. 2025. "Towards Practical Quantum Kernels for Network Intrusion Detection." Proceedings of the First AAAI Symposium on Quantum Information & Machine Learning (QIML): 339-342. AAAI Fall 2025 Symposium, Arlington, VA. Nov. 6-8, 2025. DOI: [10.1609/aaiss.v7i1.36903](#).

Callahan, Brian Robert*, Sanya Joseph*, Shoshana Sugerman*, Quinn Colognato*, Aanya Mehta, Tanvi Mehta, Emily Goldman, Mary Cotrupi, Ishneet Kaur, Victoria Cai, Gabriel Bezerra, Adam Kaplan, Arielle Revis, Lala Liu, Samuel Leung, Elif

Kulahlioglu, Rachel Schneider, Mikah Schueller, Quinn Sharp, and James Porvaznik. 2025. "[RC³TF, an Augmented Reality CTF: A case study in improving cybersecurity pedagogy for the undergraduate research laboratory.](#)" Proceedings of the 20th Annual Symposium on Information Assurance (ASIA): 73-82. University at Albany, State University of New York. Albany, NY. Jun. 3-4, 2025.
* Co-first authors

Cheng, Tiffany, Shoshana Sugerman, Colin Farley, and **Brian Robert Callahan**. 2025. "Quantum preprocessing for Internet of Things edge computing security devices." Proceedings of the 1st International Conference on Secure IoT, Assured and Trusted Computing (SATC): 1-7. Wright State University. Dayton, OH. Feb. 25-27, 2025. DOI: [10.1109/SATC65530.2025.11137057](#).

Callahan, Brian Robert. 2016. "SocialBSD: A Review of Diversity and Inclusivity Initiatives in the *BSD Community and Imagining Future Pathways." Proceedings of AsiaBSDCon 2016: 167-176.

AMATEUR RADIO PUBLICATIONS

Callahan, Brian Robert and Zhemin Zhang. 2023. "An AI-powered transcription bot for FM transmissions." QEX 336 (January/February 2023): 25-30.

Zhang, Zhemin and **Brian Robert Callahan**. 2022. "[Preliminary analysis of an AI-powered transcription bot for FM transmissions.](#)" Proceedings of the 41st Annual ARRL and TAPR Digital Communications Conference (DCC): 116-125.

Callahan, Brian Robert. 2022. "A first commentary on the CW Record Protocol." QEX 334 (September/October 2022): 19-22.

Callahan, Brian Robert. 2022. "Experiments in gaming over SSTV." QEX 333 (July/August 2022): 25-29.

Callahan, Brian Robert. 2022. "DataTV: A protocol for embedding data into SSTV transmissions." QEX 331 (March/April 2022): 25-28.

Callahan, Brian Robert. 2021. "Protocol for Formatting and Transmitting Binary Data over Morse CW." QEX 326 (May/June 2021): 31-33.

GRANTS/AWARDS WON

2025 Independent Colleges and Universities of NJ 2026 Undergraduate Research Symposium Grant: *Detecting Phishing Emails with Quantum Kernels*
\$2,500 Funder: Nokia Bell Labs
Sophia Ramirez Velandia, PI
Brian Callahan, Faculty sponsor

2025 School of Science Summer Quantum Undergraduate Research Program Grant: *Towards scalable network intrusion detection with quantum-enhanced topological data analysis*

\$6,700 Funder: Rensselaer Polytechnic Institute
Brian Callahan, PI
Mary Cotrupi, Co-PI

2024 [2024 Board of Trustees Outstanding Teacher Award](#)
\$10,000 Funder: Rensselaer Polytechnic Institute

2024 IBM-RPI Future of Computing Research Collaboration (FCRC) Grant: *Educating the quantum future: filling the pipeline from middle school to the workforce*
\$300,000 Funder: IBM
Brian Callahan, Lead PI (RPI)
Malik Magdon-Ismail, Ali Tajer, PIs (RPI)
Sophia Acquisto, Ph.D. student, Co-PI (RPI)
Jamie Garcia, Lead PI (IBM)
Bradley Holt, PI (IBM)

2024 Teaching and Learning Collaboratory Seed Grant: *The world's first cybersecurity VR CTF: A joint venture between RCC and RCOS*
\$25,000 Funder: Rensselaer Polytechnic Institute
Brian Callahan, PI
Wes Turner, Co-PI

2024 Office of Undergraduate Education Grant: *Quantum unveiling research*
\$6,000 Funder: Rensselaer Polytechnic Institute
Brian Callahan, PI

2022 Earth Science Information Partners (ESIP) 2022 FUNding Friday Award: *Next Generation Tools for Democratizing Data Exploration with NASA Data Pathfinder*
\$5,000 Funder: Earth Science Information Partners
Brian Callahan (RPI), PI
Elizabeth R. Joyner (NASA), Co-PI
Thilanka Munasinghe (RPI), Co-PI
Kathy Fontaine (RPI), Co-PI
Ross Bagwell (NASA), Co-PI

2020 Teaching and Learning Collaboratory Seed Grant: *The Rensselaer Cybersecurity Collaboratory*
\$10,000 Funder: Rensselaer Polytechnic Institute
Brian Callahan, PI

RESEARCH EXPERIENCE

2015-present CSO, Global Systems Administrator, and Code review group, Platform for Experimental and Collaborative Ethnography (PECE)
University of California, Irvine, Kim Fortun, PI

2015-present Lead Open Knowledge Developer, Platform for Experimental and

Collaborative Ethnography (PECE)
University of California, Irvine, Kim Fortun, PI

- 2025-present** Director, Monmouth University Cybersecurity Research Center (CRC)
Monmouth University, Brian Callahan, PI
- 2022-2025** Founder & Director, Rensselaer Cybersecurity Collaboratory (RCC)
Rensselaer Polytechnic Institute, Brian Callahan, PI
- 2022-2024** Co-Director, Rensselaer Blockchain Center of Excellence (BCCoE)
Rensselaer Polytechnic Institute, Rick Plotka, PI
- 2020-2022** Director, Cybersystems Security Research Group
Rensselaer Polytechnic Institute, Brian Callahan, PI
- 2014-2016** Fellow, GK-12/3Helix
Rensselaer Polytechnic Institute, Ron Eglash, PI

SCHOLARLY OUTPUTS

2025-present Director, Monmouth University Cybersecurity Research Center (CRC)
The CRC is Monmouth University's home for all things cybersecurity. It focuses on cybersecurity research for graduate and undergraduate students, and undergraduate cybersecurity pedagogy development. The CRC has particular speciality in cybersecurity at the intersections of emerging technologies, such as Quantum computing and Generative AI.

Our research wins grant money, winning \$2,500 to date.

The CRC is the home of Monmouth University's CTF team, the Monmouth Cyber Hawks. The Cyber Hawks have won competitions, such as the National Cyber League Fall 2025 individual game, and are ranked among the top in the NCL Power Rankings, **including a #2 in the country ranking in the Fall 2025 season.**

The CRC is the steward of the Monmouth University-ISC2 Academic Partnership.

CRC peer-reviewed publications, conference presentations, and invited talks

2026 Esposito, Jenna, Aaila Arif, Raul Cortinas, and Brian Robert Callahan. Forthcoming. "Porting and Evaluating Return-Oriented Programming Defenses Implemented by the OpenBSD Operating System." Proceedings of the 14th International Symposium on Digital Forensics and Security (ISDFS). Endicott College. Boston, MA. Mar. 19-20, 2026.

2026 Ivanicki, Michael and Brian Robert Callahan. Forthcoming. "An Explainable AI Study of Phishing Detection Model Degradation Across Real-World Events." Proceedings of the 14th International Symposium on Digital Forensics and Security (ISDFS). Endicott College. Boston, MA. Mar. 19-20, 2026.

CRC-sponsored research projects

2026 Phishing Mad Libs

2025-2026 Quantum Scratch

2025-2026 Developing and evaluating anti-ROPchain compiler mitigations

Advisee: Jenna Esposito (graduate, CSSE)

Advisee: Aaila Arif (graduate, CSSE)

2025-2026 Quantum-enhanced scalable anti-phishing detection

CRC-sponsored educational activities

Ongoing Cybersecurity certification preparation

9 students earned ISC2 CC certification.

2025 Enrolled 28 students into the National Cyber League Fall 2025 season.

[Ranked 2nd in the nation in NCL Power Rankings.](#)

Teams placed 11th, 88th, 91st, 111th, and 231st out of 4214 teams.

Individuals placed [1st](#), [2nd](#), [34th](#), 242nd, 329th, 334th, 344th, 348th, 395th, 398th, 406th, and 444th out of 7820 entrants.

2022-2025 Founder & Director, Rensselaer Cybersecurity Collaboratory (RCC)

The RCC was a research laboratory focusing on cybersecurity research for graduate and undergraduate students, and undergraduate cybersecurity pedagogy development. Its ultimate goals were to bolster RPI's cybersecurity research portfolio and to attain the National Centers for Academic Excellence in Cybersecurity (NCAE-C) designation in Cyber Defense (CAE-CD). RCC put cybersecurity and educational leadership in the hands of students.

Our research publications won special prizes.

Our research was grant competitive, winning **\$352,700** in grant money.

The RCC was the sponsor of RPI's premier CTF team. **We have been [ranked the top university in the nation](#) in the [Cyber Skyline](#) + [National Cyber League](#) Cyber Power Rankings for the Fall 2023 season, with two fourth place school rankings in the [Spring 2024](#) and [Spring 2023](#) seasons, alongside strong finishes in other CTFs. **Among our ranks includes a member of the [inaugural US Women's Cyber Team](#) and a member of the [Season 5 US Cyber Team](#).****

Our students went on to secure employment at a number of top organizations including the NSA, MITRE, and more.

RCC students routinely won the RPI Founders Award of Excellence, the top student prize at RPI.

Along with RPI DotCIO, the RCC was the host of the [ISC2 Capital District NY Chapter](#). All RCC student leadership were given student leadership positions in the Chapter.

Student researchers came from a variety of disciplines, including ITWS, Computer Science (CSCI), Electrical, Computer & Systems Engineering (ECSE), Science & Technology Studies (STS), Business, Mathematics, and Computational Biology. Students as early as first-semester freshmen through Ph.D. students participated in research. The CTF team included students from nearly all majors, undergraduate and graduate.

The RCC was the steward of the RPI-ISC2 Academic Partnership.

RCC peer-reviewed publications, conference presentations, and invited talks

2025 Sugerman, Shoshana, Emily Goldman, Tiffany Cheng, and Brian Callahan.

[“Applied quantum cybersecurity research for all: Go beyond the hype with the Rensselaer Cybersecurity Collaboratory and the students doing the real work.”](#) ISC2 Security Congress 2025. Nashville, TN. Oct. 28-30, 2025.

2025 Callahan, Brian Robert*, Sanya Joseph*, Shoshana Sugerman*, Quinn Colognato*, Aanya Mehta, Tanvi Mehta, Emily Goldman, Mary Cotrupi, Ishneet Kaur, Victoria Cai, Gabriel Bezerra, Adam Kaplan, Arielle Revis, Lala Liu, Samuel Leung, Elif Kulahlioglu, Rachel Schneider, Mikah Schueller, Quinn Sharp, and James Porvaznik. 2025. "[RC³TF, an Augmented Reality CTF: A case study in improving cybersecurity pedagogy for the undergraduate research laboratory.](#)" Proceedings of the 20th Annual Symposium on Information Assurance (ASIA): 73-82. University at Albany, State University of New York. Albany, NY. Jun. 3-4, 2025. * Co-first authors

2025 “The Rensselaer Cybersecurity Collaboratory,” ISC2 Central NY Chapter, Utica, NY, Apr. 29, 2025.

2025 Sugerman, Shoshana and Brian Callahan. 2025. “Benefits and Limitations of Generative AI for Cybersecurity Awareness Training.” KB4-CON 2025. Apr. 7-9, 2025.

2025 Cheng, Tiffany, Shoshana Sugerman, Colin Farley, and Brian Robert Callahan. 2025. “Quantum preprocessing for Internet of Things edge computing security devices.” Proceedings of the 2025 1st International Conference on Secure IoT, Assured and Trusted Computing (SATC). Wright State University. Dayton, OH. Feb. 25-27, 2025.

2025 “Generative AI for Cybersecurity Awareness Training: Benefits, Limitations, and New Skills for the Cyber Workforce” (with Shoshana Sugerman), Computer Coach webinar series, Feb. 7, 2025.

2024 Callahan, Brian Robert, Keenan Schilp, Quinn Colognato, Emily Goldman, Shoshana Sugerman, Aanya Mehta, Angela Imanuel, Kaitlin Kaii, and Hannah Rose. 2025. “Multidisciplinary quantum cybersecurity

research for the undergraduate laboratory.” The Journal of The Colloquium for Information Systems Security Education (CISSE).

[Winner of Best Paper Presentation Award at 28th Colloquium.](#)

- 2024 “Quantum Security workshop” (Colin Farley, Shoshana Sugerman), HackRPI XI: Urban Upgrades, Troy, NY, Nov. 9, 2024.
- 2024 Callahan, Brian and Shoshana Sugerman. 2024. “[Benefits and Limitations of Generative AI for Cybersecurity Awareness Training](#).” ISC2 Security Congress 2024: Boldly Forward. Las Vegas, NV. Oct. 14-16, 2024.
- 2024 Preview of “[Benefits and Limitations of Generative AI for Cybersecurity Awareness Training](#)” (with Shoshana Sugerman), ISC2 Capital District NY Chapter, Troy, NY, Sep. 25, 2024.
- 2024 “[RSA in the Quantum Era: A Cryptographic Exploration](#)” (Keenan Schilp, Emily Goldman, Hannah Rose), ISC2 Central NY Chapter, Utica, NY, Sep. 24, 2024.
- 2024 Callahan, Brian, Quinn Colognato, and Mary Cotrupi. 2024. “[Generative AI for Cybersecurity Awareness Training: Skills, Strategies, and Accountabilities](#).” BSides St. Pete 2024. Sep. 14, 2024.
- 2024 “[Using Generative AI to enhance cybersecurity awareness training capabilities, redux](#)” (with Shoshana Sugerman), ISC2 Central New York Chapter, Utica, NY, Jul. 23, 2024.
- 2024 Callahan, Brian and Shoshana Sugerman. 2024. “[Using Generative AI to enhance cybersecurity awareness training capabilities](#).” 26th Annual New York State Cybersecurity Conference. Jun. 4-5, 2024.
- 2024 Colognato, Quinn and Brian Callahan. 2024. “[From zero to the top in 18 months: How to get involved with CTFs, grow your skills, celebrate your successes, and enjoy every moment of it.](#)” BSides Buffalo 2024. Jun. 1, 2024.
- 2024 Schilp, Keenan, Hannah Rose, Emily Goldman, and Brian Callahan. “RSA in the Quantum Era: A Cryptographic Exploration.” Regeneron Capital Region College Poster Showcase. Apr. 19, 2024.
- 2024 Mehta, Aanya, Shoshana Sugerman, Quinn Colognato, Kaitlin Kaii, Angela Imanuel, Sanya Joseph, and Brian Callahan. “LLM Quantum Leap: Revolutionizing Generative AI with Quantum Power.” Regeneron Capital Region College Poster Showcase. Apr. 19, 2024.
- 2024 “[Limitations of Generative AI in the development of a cybersecurity awareness training program for a university](#)” (with Shoshana Sugerman, Sanya Joseph, and Sari Lewis), Leet Cyber Security CyBeer Meetup, Apr. 16, 2024.

- 2024 Schilp, Keenan, Hannah Rose, Emily Goldman, and Brian Callahan. "RSA in the Quantum Era: A Cryptographic Exploration." RPI Quantum Computing: Building the Stack. Apr. 3-5, 2024.
- 2024 Mehta, Aanya, Shoshana Sugerman, Quinn Colognato, Kaitlin Kaii, Angela Imanuel, Sanya Joseph, and Brian Callahan. "LLM Quantum Leap: Revolutionizing Generative AI with Quantum Power." RPI Quantum Computing: Building the Stack. Apr. 3-5, 2024.
- 2024 Bailey, Alecia and Emily Goldman. 2024. "Enhancing Cyber Risk Assessment Training in Healthcare: A Pathway to Improved Patient Safety." RCC Research Whitepaper Series.
- 2024 Hannert, Sydney. 2024. "Toxicity and Women in Competitive Video Games." RCC Research Whitepaper Series.
- 2023 "[Limitations of AI for Cybersecurity Training](#)" (with Ayah Tharwat), ISC2 Central New York Chapter, Utica, NY, Nov. 14, 2023.
- 2023 "Hacking the machine for fun (and sometimes profit)" (with Ayah Tharwat), HackRPI X, RPI, Nov. 4, 2023.
- 2023 "[Building a targeted, effective, university cybersecurity awareness training program--by your students!](#)" (ISC)² Central New York Chapter, Utica, NY, Jun. 20, 2023.

RCC-sponsored research projects

- 2025 Quantum-enhanced Intrusion Detection Systems
- 2024-2025 Augmented Reality-enhanced Cybersecurity CTF tournament
- 2024 Quantum-enhanced threat detection
- 2024 Classical computing support for quantum-enhanced threat detection
- 2024 On the desirability of quantum processing for Generative AI
- 2024 Evaluating cryptography breaking quantum algorithms
- 2024 Ethical limitations and best practices for Generative AI in Cybersecurity Awareness Training for a major university
- 2024 Development of cloud security usage policies for universities
- 2023-2024 A policy for secure systems administration best practices and secure coding standards for RPI club websites

2023-2024 Review and extension of anti-ROP mitigations as found in OpenBSD for other operating systems
Advisee: Ryan Zhou (graduate, ITWS)

2023-2024 Reverse engineering of off-the-shelf SOHO wifi router firmware

2023 Healthcare Information Systems Security Governance
Advisee: Alecia Bailey (graduate, ITWS)

2023 Use of AI for Cybersecurity Awareness Training development and implementation
Advisee: Ayah Tharwat (graduate, Lally School of Business)

2023 Privacy and safety for women and other gender minorities in online gaming spaces

2023 Next-generation cybersecurity pedagogy

2023 Security enhancements to production C/C++ compilers to defeat ROPchains

2022 Novel AI/ML systems to improve IDS/IPS anomaly detection accuracy

RCC-sponsored educational activities

2022-2025 Cybersecurity certification preparation

51 students earned ISC2 CC certification.

9 students earned Microsoft Security, Compliance, and Identity Fundamentals (SC-900) certification.

5 students earned ISC2 SSCP certification.

5 students earned CompTIA Security+ certification.

3 students earned GIAC GFACT certification.

2022-2025 Penetration testing of RPI club websites.

2022-2025 Develop cybersecurity awareness training for RPI students, staff, and faculty.

2022-2025 Develop cybersecurity best practices digital signage, posted around campus.

2022-2025 Coach and Faculty advisor for CTF teams.

2022-2025 Weekly CTF learning meetings, 50+ students from all majors regularly attending.

2022-2025 Monthly ISC2 Capital District NY Chapter meetings.

2025 [1 student \(Elan Smolar Eisenberg\) selected to represent the United States on the Season 5 US Cyber Team.](#)

US Cyber Games. <https://www.uscybergames.com/>

- 2025** Sponsored and coached one team for the MITRE eCTF 2025 competition. MITRE.
<https://mitre-engenuity.org/growing-impact/ectf-embedded-capture-the-flag/>
- 2024** Enrolled 103 students into the National Cyber League Fall 2024 season.
[*Ranked 16th in the nation in NCL Power Rankings.*](#)
Teams placed 18th, 23rd, 33rd, 61st, 85th, 103rd, 126th, 136th, 147th, 172nd, 199th, 202nd, 336th, 348th, 350th, and 366th out of 4894 teams. 141st out of 532 teams (Experienced bracket).
Individuals placed 49th, 52nd, 97th, 108th, 148th, 176th, 185th, 196th, 198th, 209th, 214th, 229th, 241st, 248th, 286th, 289th, 298th, 342nd, 351st, 373rd, 388th, 441st, 435th, 436th, and 493rd out of 8485 entrants. 203rd out of 691 entrants (Experienced bracket).
- 2024** 1 student (Kaitlin Kaii) placed third in The 28th Colloquium for Information Systems Security Education (CISSE) CTF tournament. University of Tampa.
- 2024** 3 students (Adam Todd, Bulmaro Nava-Camal, Devin Ross) won in-person finals of UND CyberHawks National Capture the Flag Competition 2024. University of North Dakota.
- 2024** Student part of the team that discovered and disclosed [CVE-2024-46070](#) and [CVE-2024-46071](#).
- 2024** Participated in PatriotCTF 2024. George Mason University. <https://competitivecyber.club/patriotctf/>
- 2024** Enrolled 4 students in UND CyberHawks National Capture the Flag Competition 2024, 1 team invited to finals. University of North Dakota.
<https://blogs.und.edu/cem/2024/07/registration-now-open-und-cyberhawks-national-capture-the-flag-ctf-competition/>
- 2024** Enrolled 2 students in NSA Codebreaker Challenge 2024. National Security Agency. <https://nsa-codebreaker.org/home>
- 2024** [1 student \(Elan Smolar Eisenberg\) selected to represent the United States on the inaugural US Women's Cyber Team.](#)
US Cyber Games. <https://www.uscybergames.com/us-women-cyber-team>
- 2024** 2 students invited to participate in the inaugural UAS Hack. Assured Information Security (AIS), Rome, NY. <https://uashack.org/>
- 2024** 1 student invited to apply for a position on the inaugural US Women's Cyber Team.

US Cyber Games. <https://www.uscybergames.com/>

- 2024** 1 student invited to participate in the Season IV US Cyber Combine.
US Cyber Games. <https://www.uscybergames.com/>
- 2024** Enrolled 2 students into the US DoD Cyber Sentinel Skills Challenge.
*Individuals placed **32nd** and 177th.*
- 2024** Enrolled 42 students into the National Cyber League Spring 2024 season.
[Ranked **4th** in the nation in NCL Power Rankings.](#)
*Teams placed **3rd**, **16th**, 138th, 209th, 299th, 308th, and 401st out of 4199 teams.*
*Individuals placed **23rd**, **88th**, **117th**, **189th**, 209th, 286th, 301st, 315th, 348th, 367th, 422nd, 427th, and 434th out of 7404 entrants.*
- 2024** Enrolled 8 students into the UConn CyberSEED 2024 CTF competition.
[Teams placed **6th** \(\\$500 prize\) and **28th**.](#)
- 2023** Enrolled 27 students into the National Cyber League Fall 2023 season.
[Ranked **1st** in the nation in NCL Power Rankings.](#)
*Teams placed **4th**, **83rd**, 237th, and 320th out of 4680 teams.*
*Individuals placed **2nd**, **123rd**, **143rd**, **152nd**, 379th, and 391st out of 7926 entrants*
- 2023** Participated in Sunshine CTF 2023.
*Placed **23rd** out of 821 teams. (Top 3%)*
- 2023** Participated in CSAW Qualifiers 2023.
Placed 41st in US region.
- 2023** Enrolled 13 students into the National Cyber League Spring 2023 season.
[Ranked **4th** in the nation in NCL Power Rankings.](#)
*Team placed **4th** out of 3593 teams.*
*Individuals placed **3rd** and 226th out of 6278 entrants.*
- 2023** Enrolled 4 students into the UConn CyberSEED 2023 CTF competition.
[17th place. \(Top 9%\)](#)
- 2022** Enrolled 14 students into the National Cyber League Fall 2022 season.
*Teams placed **48th** and 239th out of 3926 teams.*
Individual placed 266th out of 6679 entrants.

2022-2025 Faculty Co-Director, Microsoft Azure Cloud Computing Initiative
This initiative, led by the Information Technology & Web Science program, provides free Microsoft Azure Cloud resources to all ITWS students for use in courses and personal/professional use.

Contributions: Faculty Co-Director

Worked with RPI DotCIO (IT services) to establish hardware and software cloud

resource baselines, test cloud resource deployments, perform security evaluations, and oversee the execution of the initiative.

Contributions: Systems administrator

Maintain the integrity and security of deployed cloud resources.

Contributions: Cloud computing educator

Teach students DevOps and Cloud computing best practices.

Contributions: Cloud certification preparation

50 students earned at least one of AZ-900, AI-900, DP-900, or SC-900.

94 students earned Oracle Cloud Infrastructure 2023 Certified Foundations Associate.

Contributions: Pedagogy improvements

Use cloud resources as a core component in revamping existing ITWS courses.

2015-present Chief Security Office (CSO), PECE: the Platform for Experimental Collaborative Ethnography

<https://zenodo.org/record/7881638>

PECE has a global network of over 500 users working on a wide variety of projects from Asthma and pollution research, to Disaster Studies, to Cybersecurity, Japanese oral history, and more. Also used to support numerous graduate and undergraduate courses at UCI, RPI, and beyond.

Contributions: Lead Open Knowledge Developer

Technical knowledge: code (HTML/CSS/JS/PHP), documentation, best practices for technological stewardship

Contributions: Lead Systems Administrator

Systems administration lead for the entire global network of servers, cybersecurity/information security, installation lead, maintenance lead; install and maintain a fleet of Cloud (AWS) servers with PECE installed.

Contributions: CSO

Security lead for the entire global network of servers, incident response, security policy and implementation, security awareness/training, security communication

Current Instances maintained, selected list:

worldpece.org

theastmafiles.org

disaster-sts-network.org

centerforethnography.org

forschungswerk-stadt.de

cva.unifr.ch

Historical Instances maintained, selected list:

Japanese oral history project (decom. 2020)

2021-2024 Co-Director, Rensselaer Blockchain Center of Excellence (BCCoE)

The BCCoE is a public-private partnership that develops best practices for blockchain applications, including security, sustainability, inclusivity, documentation, and system administration, and applies state-of-the-art techniques to business applications of blockchain technologies.

BCCoE-sponsored research projects

2022-2023 THORChain Arbitrage bot
Advisee: Philip Chang (graduate, ITWS)

2022 Blockchain security and sustainability for data provenance

2022 THORChain node operator documentation for AWS deployment
Advisee: Carlos Power (graduate, ITWS)

Other contributions: Systems administrator

Manage Cloud (AWS) deployments of THORChain software, recommend security best practices.

FELLOWSHIPS AWARDED

2014-2016 [GK-12/3Helix Fellowship](#), NSF
Rensselaer Polytechnic Institute, Ron Eglash, PI

CONFERENCE PARTICIPATION

Workshops organized

2022 “Big Data Analytics for Humanitarian Crises” (with Thilanka Munasinghe, Jim Hendler, Rick Plotka, Kathy Fontaine, and Oshani Seneviratne), 2022 IEEE International Conference on Big Data, Osaka, Japan, Dec. 17-20, 2022.

Associate Editor

2026 European Conference on Information Systems (ECIS) 2026: “Reimagining Digital Technology for Business, Management, and Society,” [Track 08: Cybersecurity and Privacy](#), Bocconi University, Milan, Italy, Jun. 15-17, 2026.

Papers presented (Non-RCC)

2023 “How to build an AI-powered transcription bot for FM transmissions” (with Hisen Zhang), QSO Today Virtual Ham Expo, Mar. 24-26, 2023.

2022 “Hands-on workshop: writing an assembler for the Intel 8080 in D,” DConf Online 2022, Dec. 17-18, 2022.

2022 “Programs that create other programs: A beginner’s guide using D,” DConf Online 2022, Dec. 17-18, 2022.

2022 “Potentially illegal Amateur Radio transmissions,” 2022 Summer School Virtual

Conference, Jul. 25 - Aug. 6, 2022.

- 2022** "Data Dexterity to Tackle Humanitarian Crises: Enabling students with data literacy (data dexterity) on how to effectively use Earth Observational data and other data sources to find reliable and effective solutions for humanitarian crises," July 2022 Earth Science Information Partners (ESIP) Meeting: Data for All People: From Generation to Use and Understanding, Pittsburgh, PA, Jul. 19-22, 2022. (Thilanka Munasinghe, **Brian Callahan**, Kathy Fontaine, Rick Plotka, William Allen, Eryn Buhat, Tiffany Filawo, James Liu, Zijin Liu, Brianna Lopez, Yasmin Lu, Stone McLaren, Ronna Min, Jialin Yu, Nay Zaw Aung Win, Abraham Sandars)
- 2022** "PolyglotBSD," BSDCan 2022, Jun. 3-4, 2022.
- 2021** "Life Outside the Big 4: The Adventure of D on OpenBSD," DConf 2021, Nov. 20-21, 2021.
- 2021** "Stories from reviving and extending a university's information security program," Seattle GNU/Linux Conference 2021, Nov. 5-6, 2021.
- 2021** "Design your own communication protocols," QSO Today Virtual Ham Expo, Aug. 14-15, 2021.
- 2021** "Talking PECE: Translating social science speak to technologists and vice-versa," 2021 Summer School Virtual Conference, Jul 26 - Aug. 6, 2021.
- 2021** "The education of hacking: A year of teaching all the things," BSidesROC 2021, Rochester, NY. Mar. 20, 2021.
- 2020** "Middleware, Light Structure, Experimental Systems: Designing the Platform for Experimental Collaborative Ethnography (PECE)," 4S/EASTS Conference. August 2020. (Mike Fortun, Kim Fortun, Tim Schutz, Angela Okune, James Adams, Prerna Srigrayan, Lindsay Poirier, **Brian Callahan**, Brandon Costelloe-Kuehn, Ali Kenner, Aalok Khandekar, Renato Vasconcellos Gomes)
- 2020** "The education of hacking: A year of teaching all the things," BSidesROC 2020, Rochester, NY. Mar. 21, 2020. (Canceled/COVID-19)
- 2019** "Learning to (Open)BSD through its porting system," vBSDCon 2019, Reston, VA, Sep. 5-7, 2019.
- 2018** "Hosting the Platform for Experimental Collaborative Ethnography," Displacements: the Biennial Meeting of the Society for Cultural Anthropology, Apr. 19, 2018. (Kim Fortun, Mike Fortun, Lindsay Poirier, Alli Morgan, **Brian Callahan**, Brandon Costelloe-Kuehn, Alison Kennner, Brad Fidler, Aalok Khandekar)
- 2018** "Making it all work: The Infrastructures and Limits of (Digital) Collaboration," Institutions and Societies 2018, SUNY Albany, Albany, NY, Feb 23, 2018.

- 2017** "Coding Collaboration: Exploring a Definition Through a Transgender Hacker Collective," American Anthropological Association Annual Meeting 2017, Washington, D.C., Nov. 29-Dec. 3, 2017.
- 2017** "Leveraging Collaborative Mentorship to Strengthen Your Free Software Community" (with Lisa Marie Maginnis), Seattle GNU/Linux Conference, Seattle Central University, Seattle, WA, Oct. 6-7, 2017.
- 2017** "Rethinking Citizen Science by Doing Citizen Science" (with J. Dylan Rees), Society for the Social Studies of Science Conference 2017, Boston, MA, Aug. 30-Sep. 2, 2017.
- 2017** "Collaboration as a multi-scalar phenomenon," Northeast Science and Technology Studies Conference 2017, York University, Toronto, Ontario, Canada, Apr. 22-23, 2017.
- 2016** "Trans Tech: Ethnography of a Hacker Collective," American Anthropological Association Annual Meeting 2016, Minneapolis, MN, Nov. 16-20, 2016.
- 2016** "Towards a Transgender Technoscience," Trans*Studies Conference 2016, University of Arizona, Tucson, AZ, Sep. 7-10, 2016.
- 2016** "Diverse Be-longings: Trans Hacker Collectives as New Sites of Tech Diversity Understandings," Theorizing the Web 2016, New York, NY, Apr. 15-16, 2016.
- 2016** "Trans Code: Free Software as Model & Critique of Diversity by Transgender Hackers" (with Lillian Lemmer), LibrePlanet 2016, MIT, Cambridge, MA, Mar. 19-20, 2016.
- 2016** "SocialBSD: A Review of Diversity and Inclusivity Initiatives in the *BSD Community and Imagining Future Pathways," AsiaBSDCon 2016, Tokyo University of Science, Tokyo, Japan, Mar. 10-13, 2016.
- 2016** "The Trans Tech Network: Using Culture to Challenge Structure and Diversity," Institutions and Societies 2016, SUNY Albany, Albany, NY, Feb. 26, 2016.
- 2015** "Pathways to Social Justice in Social Science-Computer Science Collaboration," American Anthropological Association Annual Meeting 2015, Denver, CO, Nov. 18-22, 2015.
- 2015** "Devio.us, the Free OpenBSD Shell Provider and Online *BSD User Group: Technical and Social Lessons Learned from Half a Decade of Service" (with Bryce Chidester), vBSDcon 2015, Reston, VA, Sep. 11-13, 2015.
- 2015** "Building BUGs: A Broad View of the New York City *BSD User Group" (with George Rosamond), BSDCan 2015, University of Ottawa, Ottawa, Canada, Jun. 10-13, 2015.

Posters presented (Non-RCC)

- 2023 “Data Dexterity Results: Answering Renewable Energy Questions and More! Findings and Lessons Learned” (**Brian Callahan**, Kathy Fontaine, Thilanka Munasinghe, Elizabeth Joyner, Ross Bagwell), July 2023 Earth Science Information Partners (ESIP) Meeting: Opening Doors to Open Science, Burlington, VT, Jul. 18-21, 2023.
- 2023 “Solar vs. Wind: Viable Renewable Energy Source” (Christos Kreatsoulas, Jingrui Feng, Kazuki Neo, Ryan Carrido, Wendy Yang, **Brian Callahan**), July 2023 Earth Science Information Partners (ESIP) Meeting: Opening Doors to Open Science, Burlington, VT, Jul. 18-21, 2023.
- 2022 “Enabling Data Dexterity Among Students Using a NASA Data Pathfinder” (Kathy Fontaine, Thilanka Munasinghe, **Brian Callahan**, Rick Plotka, Ross Bagwell, Elizabeth Joyner), American Geophysical Union Fall Meeting 2022, Chicago, IL, Dec. 12-13, 2022.

Conferences organized

- 2014 New York City *BSD Conference 2014, New York, New York, Feb. 8, 2014.

INVITED TALKS

- 2025 “[Panel Discussion: Quantum Education](#),” AAAI Fall Symposium Series: First AAAI Symposium on Quantum Information & Machine Learning (QIML), Nov. 6-8, 2025.
- 2025 “[Your Sneak Peek into Quantum at ISC2 Security Congress 2025 \(#2\)](#)” (with Christopher G. Pope and Deepak Behal), ISC2 Security Briefings, August 7, 2025.
- 2025 “Cybersecurity and Quantum for Today's Estate Planning Professional”, Estate Planning Council of Eastern New York Annual Meeting, May 13, 2025.
- 2025 “The Rensselaer Cybersecurity Collaboratory,” Lectures on Tap series, Rensselaer Alumni Association Hudson Chapter, May 8, 2025.
- 2025 “[Panel Discussion: HPC and Quantum](#),” Quantum Forum 2025, RPI, Troy, NY, Apr. 1-2, 2025.
- 2024 “OpenBSD: The backbone of your security since 1996, Redux,” ISC2 Central NY Chapter meeting, Sep. 24, 2024.
- 2024 “[“Once again, I’ve done something no one asked for”: New \(and old!\) C/C++ compilers for your next *BSD adventure: a tale of advocacy: and a sub-sub-subtitle to drum up intrigue](#),” New York City *BSD User Group, Aug. 7, 2024.
- 2024 “Polyglot *BSD, Redux,” Leet Cyber Security CyBeer Meetup, May 21, 2024.
- 2024 Youth Climate Career Summit, Faculty Panelist, RPI, Apr. 3, 2024.

- 2024 "[OpenBSD: The backbone of your security since 1996](#)," Leet Cyber Security CyBeer Meetup, Mar. 13, 2024.
- 2023 Coding&&Community Spring Hackathon keynote speaker, RPI, Apr. 16, 2023.
- 2021 CU Boulder Technology, Cybersecurity & Policy Seminar Series, CU Boulder, Oct. 25, 2021.
- 2021 "PolyglotBSD," New York City *BSD User Group, May 5, 2021.
- 2020 "Introducing the CW Record Protocol," Troy Amateur Radio Association, Nov. 17, 2020.
- 2019 "Hypatia Software Organization: A who, what, why, and how of advancing diversity in technology," Defcon 201, Sep. 20, 2019.
- 2018 "OpenBSD and You," Defcon 201, Dec. 21, 2018.

WHITEPAPERS

- 2024 "Harnessing the Future of Computing: Opportunities, Challenges, and Innovations." **Brian Callahan**, Christopher Carothers, Thomas Ferguson, Andrew Fitzgerald, Jianxi Gao, Aparna Gupta, James Hendler, Agung Julius, Liu Liu, Sandipan Mishra, Sergei Nirenburg, Santiago Paternain, Stacy Patterson, Jennifer Pazour, Osama Raisuddin, Oshani Seneviratne, Dennis Shelden, Michael Sofka, Bolek Szymanski, Deepak Vashishth, Meng Wang, John Wen, and Tong Zhang. FOCl: Future of Computing Institute, RPI.

INTERVIEWS

- 2025 TV Globo quantum cybersecurity interview, Jan. 29, 2025.
- 2023 "Catalysts and Collaborations," NASA, Jul. 11, 2023:
<https://www.earthdata.nasa.gov/learn/articles/nasa-rpi-collaboration>.
- 2023 "Cyber Leaders of the World: Dr. Brian Callahan," Cyber Leaders series, Centraleyes, Mar. 22, 2023:
<https://www.centraleyes.com/dr-brian-callahan-itwsrpi-pece/>
- 2022 "Eclectic Tech," Episode 60, American Radio Relay League, May 19, 2022:
<https://www.arrl.org/files/file/EclecticTech/2022/Episode%2060.mp3>.
- 2021 "Open Source Voices," Episode 26, Dec. 14, 2021:
<https://www.opensourcevoices.org/26>.
- 2021 "QSO Today," Episode 371, Oct. 16, 2021:
<https://www.qsotoday.com/podcasts/ad2ba>.
- 2021 "BSD Now," Episode 422: "The Brian Callahan Interview," Sep. 30, 2021:
<https://www.bsdnow.tv/422>.

2021 "Eclectic Tech," Episode 38, American Radio Relay League, Jul. 15, 2021:
<https://www.arrl.org/files/file/EclecticTech/2021/Episode%2038.mp3>.

POPULAR PRESS COVERAGE

- 2025 "Junior Ikey Sasson, Cyber Hawks Earn National Recognition in First Cybersecurity Competition," Monmouth Now magazine, Nov. 19, 2025:
<https://www.monmouth.edu/news/junior-ikey-sasson-cyber-hawks-earn-national-recognition-in-first-cybersecurity-competition/>.
- 2024 "#ISC2Congress: Benefits and Limitations of Generative AI for Cybersecurity Awareness Training," ISC2 Insights, Oct. 28, 2024:
<https://www.isc2.org/Insights/2024/10/ISC2Congress-Generative-AI-for-Cybersecurity-Awareness-Training>.
- 2024 "Can Security Experts Leverage Generative AI Without Prompt Engineering Skills?" TechRepublic, Oct. 22, 2024:
<https://www.techrepublic.com/article/generative-ai-security-training/>.
- 2024 "First US women's cyber team includes student from RPI," WTEN News 10, Sep. 19, 2024:
<https://www.news10.com/news/technology/first-us-womens-cyber-team-includes-student-from-rpi/>.
- 2024 "RPI student selected for US Women's Cyber Team," Troy Record, Aug. 18, 2024:
<https://www.troyrecord.com/2024/08/18/rpi-student-selected-for-us-womens-cyber-team/>.

MEDIA INQUIRIES

- 2024 "10 Everyday Apps That Put Your Data at Risk in 2024: How to Protect Yourself?" Techopedia, Oct. 19, 2024:
<https://www.techopedia.com/everyday-apps-that-put-your-data-at-risk>.
- 2024 "Why it's time to take warnings about using public Wi-Fi, in places like airports, seriously," CNBC, Sep. 29, 2024:
<https://www.cNBC.com/2024/09/29/its-time-to-take-warnings-about-using-airport-public-wi-fi-seriously.html>.
- 2024 "Why Google Says 'Cookies Are Staying' Despite Widespread Opposition," Techopedia, Aug. 12, 2024:
<https://www.techopedia.com/why-google-says-cookies-are-staying-despite-widespread-opposition>.
- 2024 "What Is Flipper Zero?" Built In, Jul. 29, 2024:
<https://builtin.com/articles/what-is-flipper-zero>.
- 2024 "How to Reduce Your Risk When Using Personal-Finance Apps," The Wall Street Journal,

Jun. 6, 2024:

<https://www.wsj.com/tech/personal-tech/reduce-risk-personal-finance-apps-1bd6472c>.

2024 “Reject all cookies but get them anyway? Websites abusing “legitimate interest””
Cybernews, May 23, 2024:

<https://cybernews.com/privacy/websites-abusing-legitimate-interest-placing-cookies/>.

2024 “Best Password Managers in the UK,” U.S. News & World Report, Apr. 23, 2024:

<https://www.usnews.com/uk/360-reviews/privacy/password-managers>.

2023 “The #1 Elder Financial Scam And How To Protect Your Loved Ones–According to Top
Cyber Security Experts,” Parade, Oct. 29, 2023:

<https://parade.com/living/how-to-avoid-elder-financial-scams-according-to-cyber-security-experts>.

2023 “6 iPhone Tips To Keep Thieves From Wiping Out Your Bank Account,” GOBankingRates,
Oct. 13, 2023:

<https://www.gobankingrates.com/money/finance/iphone-tips-to-keep-thieves-from-wiping-out-your-bank-account/>.

2023 “Map Apps Keep Revealing Your Location–Are They Worth It?” Lifewire, Jun. 16, 2023:

<https://www.lifewire.com/your-apps-could-leak-your-location-7547641>.

2022 “Your Password Manager Might Not Be as Secure as You Think–Here’s Why,” Lifewire,
Dec. 8, 2022:

<https://www.lifewire.com/your-password-manager-might-not-be-as-secure-as-you-think-heres-why-6836148>.

CAMPUS/DEPARTMENTAL TALKS

Monmouth University, West Long Branch, NJ

Department of Computer Science and Software Engineering

Fall 2025 Cybersecurity in the Age of Quantum (with Shoshana Sugerman)

Rensselaer Polytechnic Institute, Troy, NY

Department of Computer Science

Introduction to Open Source: Lab, Open Source Documentation and Community
Interaction (Spring 2017, Fall 2016, Spring 2016, Fall 2015)

Spring 2015 Rensselaer Center for Open Source: Lecture, Welcome to OpenBSD!

Department of Interdisciplinary Humanities and Social Sciences

Fall 2016 Open Source Art, Music, and Culture: Lecture, Transgender Communities in Open
Source

Lally School of Business

Fall 2023 Cybersecurity for Business Majors (Computer and Information Systems)

TEACHING EXPERIENCE

Courses Taught

Monmouth University, West Long Branch, NJ

Department of Computer Science and Software Engineering

Spring 2026 Cybersecurity Games for Phishing Awareness (as group independent study)

Fall 2025 Fundamentals of Computer Security and Cryptography
Cyber Security
Introduction to Computer Science I
Introduction to Problem Solving and Software Development
Quantum Cybersecurity (as independent study)
Red team research (as independent study)
Anti-phishing AI Techniques (as independent study)

Rensselaer Polytechnic Institute, Troy, NY

IT & Web Science Program

Spring 2025 Information Systems Security
MITRE eCTF competition
Web Science Systems Development

Fall 2024 Modern Binary Exploitation
Web Systems Development
Data Analytics on Gender Representation in Technology (as independent study)

Spring 2024 Information Systems Security
Web Science Systems Development
CompTIA Security+ & ISC2 SSCP certification (as independent study)

Fall 2023 Cloud Security
Web Systems Development

Spring 2023 Information Systems Security
Web Science Systems Development

Winter 2022 (ISC)² SSCP & CC Infosec Certification Crash Course

Fall 2022 Modern Binary Exploitation
Web Systems Development
Deep Learning & Security (as independent study)

Spring 2022 Information Systems Security
Web Science Systems Development
Technology Studies (as independent study)

Winter 2021 CompTIA Security+ Certification Crash Course

Fall 2021 SSCP Infosec Certification

Web Systems Development

- Spring 2021** Information Systems Security
Web Science Systems Development
OSCP Certification (as independent study)
SSCP Certification (as independent study)
- Fall 2020** Modern Binary Exploitation
Web Systems Development
SSCP Certification (as independent study)
Modern Cryptography Applications (as independent study)
- Spring 2020** Information Systems Security
Web Systems Science Development
- Fall 2019** Modern Binary Exploitation (Instructor of Record; co-taught with Dr. Ana Milanova, Computer Science)
Web Systems Development
Web Science Systems Development (as large-group independent study)
- Spring 2019** Information Systems Security
Web Science Systems Development
Modern Binary Exploitation (as large-group independent study)
Penetration Testing (independent study)
- Spring 2017** IT & Society

Department of Science & Technology Studies

- Spring 2018** Introduction to STS
Sustainability by Design
Sustainability Careers
- Fall 2017** Gender in Culture
Gender in History
Introduction to STS
- Spring 2017** Design in Culture
Race as a Global Challenge
Race in Culture
Sustainability by Design
- Fall 2016** Gender in Culture
Introduction to STS

Russell Sage College, Troy, NY

Department of Arts & Letters

- Fall 2018** Public Speaking & Presentations

DEPARTMENTAL/UNIVERSITY SERVICE

2025-Present	Faculty advisor, Coach, & Sponsor, Monmouth University Cyber Hawks, the CTF team at Monmouth University
2023-2025	Development of Cybersecurity Awareness Training in partnership with DotCIO (RPI IT Services)
2023-2025	ITWS Student Leadership faculty advisor, Information Technology & Web Science
2022-2025	Graduate Program Director, Information Technology & Web Science
2022-2025	Faculty advisor, Coach, & Sponsor, Rensselaer Cybersecurity Collaboratory, the premier CTF team at RPI
2021-2025	Faculty advisor & FCC Station Trustee, W2SZ, the amateur radio club at RPI
2021-2025	Graduate Admissions Committee, Information Technology & Web Science, Chair
2021-2025	Graduate Curriculum Committee, Information Technology & Web Science, Chair
2020-2025	RPI admissions ITWS representative
2019-2025	Undergraduate Curriculum Committee, Information Technology & Web Science, Member
2019-2025	Focus Track advisor, Information Dominance, Graduate, ITWS
2019-2025	Focus Track advisor, Information Security, Graduate, ITWS
2019-2025	Focus Track advisor, STS, Undergraduate, ITWS
2019-2025	Focus Track advisor, Information Security, Undergraduate, ITWS
2019-2025	Director and Faculty advisor, RPI-Sage chapter of Hillel International: The Foundation for Jewish Life at Colleges and Universities
2025	Cybersecurity CTF Challenge, Black Families Technology Awareness Day Rensselaer Polytechnic Institute
2024	Judge, HackRPI XI
2024	Cybersecurity Awareness Month (October) programming and events for

the RPI campus community (with DotCIO), RPI

2024	CTF tournament, 1st Annual NSBE-SHPE hackathon, RPI
2023	PicoCTF Cybersecurity Introduction, ACM-W
2023	Judge, HackRPI X
2022	Judge, HackRPI IX
2021-2022	Graduate Administrator, Information Technology & Web Science
2021	Judge, HackRPI VIII
2019-2020	Faculty advisor, RPISEC, the Information Security Club and CTF Team at RPI
2019-2020	Graduate Admissions Committee, Information Technology & Web Science, Member
2019-2020	Graduate Curriculum Committee, Information Technology & Web Science, Member
2019-2020	Cybersecurity Analysis Team, Member Rensselaer Polytechnic Institute
2016-2019	Principal Bassoonist, University Orchestra Rensselaer Polytechnic Institute
2016-2017	Department of Science & Technology Studies Colloquium Committee Rensselaer Polytechnic Institute
2016-2017	Department of Science & Technology Studies Graduate Representative Rensselaer Polytechnic Institute
2012-2014	Information Technology University Steering Council, Graduate Representative Monmouth University
2012-2014	Principal Bassoonist, University Orchestra Monmouth University

GRADUATE THESES ADVISED

2022-2023	THORChain Arbitrage bot Advisee: Philip Chang, Information Technology & Web Science
2022	THORChain node operator documentation for AWS deployment

Advisee: Carlos Power, Information Technology & Web Science (co-advised with Rick Plotka, Information Technology & Web Science)

2022 Graph relationship interfaces for unstructured data management
Advisee: Nick Meyer, Information Technology & Web Science

2021-2022 Advisee: Astra Ford, Computer Science

2021-2022 Malware investigations
Advisee: Stephen Trempel, Computer Science (co-advised with Dr. Bulent Yener, Computer Science)

2021 A security-focused open source clone of the Amazon SQS messaging service
Advisee: Honghao Li, Information Technology & Web Science

2021 A security policy combating counterfeiting for the average small business
Advisee: Isaac Llewellyn, Information Technology & Web Science

UNDERGRADUATE THESES ADVISED

2025 The Role of Support Systems for Pre-Law Students at STEM-Focused Institutions and Their Impact on Gender Equality and Inclusivity
Advisee: Shreya Mahesh, Business & Management and Science & Technology Studies

2017 Pedestrian Dis/Order: Reimagining Our Urban Streets
Advisee: Morgan Johnson, Science & Technology Studies

PROFESSIONAL AFFILIATIONS

Association for Computing Machinery (ACM)

Cloud Security Alliance (CSA)

Computing Technology Industry Association (CompTIA)

Earth Science Information Partners (ESIP)

Institute of Electrical and Electronics Engineers (IEEE)

International Information Systems Security Certification Consortium (ISC2)

ISACA

Lambda Alpha National Anthropology Honor Society (Alpha of NJ Chapter, Monmouth University)

Upsilon Pi Epsilon International Honor Society for the Computing and Information Disciplines (RPI Chapter)

PROFESSIONAL CERTIFICATIONS

ISC2

[ISC2 Authorized Instructor](#)

[ISSMP: Information Systems Security Management Professional](#)

[CISSP: Certified Information Systems Security Professional](#)

[CCSP: Certified Cloud Security Professional](#)

[SSCP: Systems Security Certified Practitioner](#)

CC: Certified in Cybersecurity

ISACA

AAISM: Advanced in AI Security Management

CISM: Certified Information Security Manager

CompTIA

A+ CE

Cloud Essentials+

Cloud+ CE

CloudNetX CE

CySA+ CE

Data+ CE

DataSys+ CE

ITF+

Linux+ CE

Network+ CE

PenTest+ CE

Project+

Security+ CE

SecurityX CE

Server+

CCAP: CompTIA Cloud Admin Professional (Network+/Cloud+)

CIOS: CompTIA IT Operations Specialist (A+/Network+)

CLNP: CompTIA Linux Network Professional (Network+/Linux+)

CNIP: CompTIA Network Infrastructure Professional (Network+/Server+)

CNSP: CompTIA Network Security Professional (Security+/PenTest+/CySA+)

CNVP: CompTIA Network Vulnerability Assessment Professional (Security+/PenTest+)

CSAE: CompTIA Security Analytics Expert (Security+/CySA+/SecurityX)

CSAP: CompTIA Security Analytics Professional (Security+/CySA+)

CSCP: CompTIA Secure Cloud Professional (Security+/Cloud+)

CSIE: CompTIA Secure Infrastructure Expert (Security+/CySA+/PenTest+/SecurityX)

CSIS: CompTIA Secure Infrastructure Specialist (A+/Network+/Security+)

CSSS: CompTIA Systems Support Specialist (A+/Linux+)

CSA

CCSK: Certificate of Cloud Security Knowledge v5

CCSK: Certificate of Cloud Security Knowledge v4

CCZT: Certificate of Competence in Zero Trust

Microsoft Certified

AI-102: Azure AI Engineer Associate

AI-900: Azure AI Fundamentals

AZ-900: Azure Fundamentals

DP-900: Azure Data Fundamentals

PL-900: Power Platform Fundamentals

[SC-900: Security, Compliance, and Identity Fundamentals](#)

Scrum.org

[PSFS: Professional Scrum Facilitation Skills](#)

[PSM I: Professional Scrum Master I](#)

[PSPO I: Professional Scrum Product Owner I](#)

Cato Networks

[SASE Expert Level 1](#)

[SASE Expert Level 2](#)

[SSE Expert](#)

Fortinet

[Fortinet Certified Associate Cybersecurity](#)

[Fortinet Certified Fundamentals Cybersecurity](#)

Google

[Google Cybersecurity Certificate](#)

[Google IT Support Certificate](#)

IBM

[Enterprise Design Thinking Practitioner](#)

IBM SkillsBuild

[Cybersecurity Fundamentals](#)

NON-PROFIT/PROFESSIONAL EXPERIENCE/VOLUNTEERING

- 2013-present** Developer, [The OpenBSD Project](#)
Calgary, Alberta, Canada
- 2021-present** Developer & OpenBSD maintainer, [D Programming Language](#)
Kenmore, WA
- 2024-present** [Content Advisory Panel member](#), Unified Body of Knowledge (UBK)
project, ISC2
Alexandria, VA
- 2024-present** [Technical Advisory Panel member](#), Unified Body of Knowledge (UBK)
project, ISC2
Alexandria, VA
- 2025-present** [ISC2 Standards & Practice Unified Body of Knowledge RFC Lead Reviewer](#),
Unified Body of Knowledge (UBK) project, ISC2
Alexandria, VA
- May 2024- June 2025** President, [ISC2 Capital District NY Chapter](#)
Troy, NY

- 2024** [Digital Forensics Focus Group member](#), Unified Body of Knowledge (UBK)
project, ISC2
Alexandria, VA
- 2020-2024** Owner & Developer, FreeBee.fun
Troy, NY
- 2023** Member, Women Cyber Leaders committee, [Center for Cyber Safety and
Education](#), ISC2
Clearwater, FL
- 2022** Judge, Joseph Henry Science Fair (elementary and junior high school
science fair), College of Saint Rose
Albany, NY
- 2016-2021** Clerk, Hypatia Software Organization, Inc.
Boston, MA
- 2016-2021** Director, Hypatia Software Organization, Inc.
Boston, MA
- 2015-2016** Developer, LiteBSD
- 2014-2016** Developer, RetroBSD