Curriculum Vitae

Robert S. Gutzwiller, PhD

Associate Professor, Human Systems Engineering
Associate Director, Center for Human, AI, and Robot Teaming (CHART)
Arizona State University (ASU), Mesa, AZ, USA.

Build the next generation of human-factors professionals.
Ensure national security via human-centric systems engineering.

Quick links to...
Funding | Publications | Teaching & Mentorship | Service | Awards | Expertise | References

Personal

Citizenship: United States of America
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Web: Biographic Sketch, Publications
Citations: Google Scholar

Education

Ph.D., Cognitive Psychology, Colorado State University (2014)
Advisors: Ben Clegg, Chris Wickens, Kurt Kraiger, Stephen Hayne

M.S., Cognitive Psychology, Colorado State University (2011)
Advisors: Ben Clegg, Ed Delosh, Stephen Hayne

B.S., Psychology, Baylor University (2008)
Advisor: Charles Weaver, III

Experience

2018-p **==========**

Associate Professor, Arizona State University, Human Systems Engineering Program

- **Teaching**: Mentorship or supervision of >77 students across theses, dissertations, research programs, applied projects and portfolios ● Taught undergraduate and graduate seminars in applied attention theory, human systems engineering, and human systems integration in person and online.
- **Research**: Successful execution and performance >$4.4 million of awarded funding
- **Service and Leadership**: Internal (I) and External (Ext)
  - (I) **Associate Director** for ASU's Center for Human, AI & Robot Teaming, *2019-p.*
  - (I) **Chair** of HSE Industry Advisory Board, *2024-p*
  - (I) **Leader** of HSE Program's brownbag presentation series, *Fall 2019-p*
  - (I) Dean's Faculty Advisory Council (DFAC) [elected appointment], *2024-2027*
  - (I) Tenure-Track Faculty double-hiring committee in human systems engineering, *2022*
  - (I) HSE PhD Milestone Development committee, *2018-2019*
  - (I) Affiliate of ASU's Cybersecurity and Trusted Foundations (CTF), *2018-p*
  - (I) Faculty Sponsor, Cycling Club at ASU, *2022-p*
  - (Ext) **Chair** of the *Council of Technical Groups*, Human Factors and Ergonomics Society, 2022-2025
  - (Ext) **Chair** for *Cybersecurity Track, ErgoX* conferences, 2020-2022
  - (Ext) **Chair** of the *Cybersecurity Technical Group* for the Human Factors and Ergonomics Society; establishing Chair in 2019, served through 2022.

2014-2018 **==========**

Human Factors Scientist, US Navy, SPAWAR Pacific (now *Naval Information Warfare Center - NIWC),* USA

- Led teams of scientists, developers, engineers, and acquisition professionals to build complex, human in the loop simulations of a virtual cyber defense environment, and a command center on a ship.
- Created and maintained relationships with a variety of internal and external customers.
- Practical application of user-centered design methods, including goal-directed and cognitive task analysis techniques, user research (UR) methods, and user experience (UX).
- Advised several interns and new employees on project work.
- Awarded >$7 million in competitive funds.
- Published 14+ peer-reviewed articles in high quality outlets.

2008-2014 **==========**

Graduate Researcher, Colorado State University, USA

Worked on two major grants with advisors Ben Clegg and Chris Wickens. Taught several courses and guest-lectured routinely.

NASA - Modeled Human Performance for Long-Duration Space Missions

Examined and modeled cognition under fatigue, multi-task management, and automated failure states of a complex system of systems. ● Selected tasks and simulations for study. ● Conducted a published meta-analytic review on task switching choice. ● Created, analyzed and explored models over a series of programmatic experiments in multitasking.

Office of Naval Research (ONR) - Adaptive Supervisory Control Program

Applied knowledge of training, automation interaction, and feedback, into experiment design to test control strategies of multiple autonomous systems. ● Supervised data collection, conducted statistical analyses, and directed a large team of up to 15 research assistants. ● Core programming of a microworld simulation. ● Mentored two graduate students.

2011-2013 **==========**

Research Intern, US Navy, SPAWAR Pacific (now *Naval Information Warfare Center - NIWC),* USA

As part of three awarded scholarships (*NREIP* x2, *SMART* x1) I completed several internships with the US Navy, working on applied projects in autonomy and human interaction.

2009-2012 **==========**

Research Associate, Center for Error Management, USA

Aided in research on training skills necessary for human error avoidance in phlebotomy. ● Developed a research proposal to reduce error in blood draws in collaboration with Center for Error Management partners.

Funding

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Awards

Totaling >$4.4 million as PI or Co-PI across the DOD and IC while at ASU

$1,353,305 Reimagining Security with Cyberpsychology-Informed Network Defenses (ReSCIND).

ASU PI: Robert Gutzwiller, Co-I: Virginia Kwan

Goal: Leverage psychology of attention and decision-making to disrupt potential cyber attackers.

Source: *Intelligence Advanced Research Projects Activity (IARPA),* **2024-2025**

$2,443,976 Oppositional Human Factors (OHF) Research.

Sole PI: Robert Gutzwiller.

Goal: Develop and explore human factors methods to study and exploit potential cyber attackers and their cognition.

Source**:** *DOD*, **2018-2024**

$250,000 Cognitive Analysis Process Toward Understanding of Reverse Engineering. (CAPTURE)

PI: **Robert Gutzwiller.**

Goal: Use understanding of human attention and human performance to measure and understand the selection of points of interest in reverse engineering and binary analysis for cybersecurity.
Source: *Defense Advanced Research Projects Agency (DARPA)* CHESS Program, **2022-2023**

$271,298 Understanding influence networks and designing intervention points.
PI: Robert Gutzwiller. Co-PI: Scott Ruston, Andrew Maynard, Hazel Kwahn.
Goal: Study social and cognitive behavior around influence networks and design ethical tests of interventions using human factors.
Source: *Massachusetts Institute of Technology (MIT) Lincoln Laboratory,* **2020.**

$55,000 Predicting automation surprise using attentional modeling.
PI: Robert Gutzwiller. Co-I Hansol Rheem (post-doc).
Goal**:** Use a model of attention to understand and predict surprise driven by automation malfunction.
Source: *Arizona State University Global Security Initiative*. **2020**.

$199,258 Tools for Implementing Speech Agents in Crew Resource Management Training Systems.
PI: Scotty Craig. **Co-PIs: Robert Gutzwiller,** Nancy Cooke**.**
Goal: Designing a software training tool for the Navy that will help familiarize trainees with phraseology.
Source: *DOD*-STTR Phase II sub from *NAVAIR* to *Optimal Synthesis*. **2019-2020**

$5,587,000 Research and design of a contextualized operational display for cyber defense.
Co-PIs: Robert Gutzwiller, Kristen Liggett, Eric Holder.
Goal: Research and develop a cross-DoD service solution for cyber defenders to improve information sharing, team coordination and awareness.
Source: *Office of the Assistant Secretary of Defense, Behavioral Social Sciences in Cyber Security.* **2018-2021.**

$48,000 Designing a joint contextual operating platform for cyber defense.
Co-PIs: Robert Gutzwiller, Kristen Liggett, & Eric Holder.
Goal: Research and develop a cross-service solution for cyber defenders to improve information sharing, team coordination and awareness.
Source: *Assistant Secretary of Defense for Research and Engineering.* **2017**.

$980,000 Battlespace management aids, experimentation, and development.
PI: Robert Gutzwiller, Co-PI: Mark Iversen & Karl Van Orden.
Goal: Use goal-directed task analysis to develop and assess battle management aids, course of action tools, and decision aids for use in planning and real-time Navy operations.
Source: *Office of Naval Research, Naval Innovative Science and Engineering Grant*. **2016-2018**.

$590,000 Human limitations and impediments for cyber situation awareness.
Sole PI: Robert Gutzwiller.
Goal: Understand the cognition of the cyber defensive analyst in depth and assess, then improve their situation awareness. A defensive scenario was built, and experiments were conducted.
Source: *Office of Naval Research, Naval Innovative Science and Engineering.* **2015-2018.**

$460,000 Ambient activity monitors for hidden system information.
PI: Jamie Lukos, **Co-PIs: Robert Gutzwiller**, Sunny Fugate.
Goal: Develop novel software visualization techniques to expose hidden system states to users. We had a patent in progress and a publication on a formal experiment.
Source: *Office of Naval Research, In-House Laboratory Independent Research Program Grant.* **2015-2018.**

Unfunded

£521,442 Testing Responsivity as a Unified Signal of Trust in AI: Agreements-Based Latent Evaluation (TRUSTABLE)
PI: Erin Chiou, **Co-Is: Robert Gutzwiller**, Mickey Mancenido
Source: *UK's AI Alignment Program,* **2025**

$150,000 COA Analysis and Strategy Simulation by Advancing Neurosymbolic AI with Dastardly Representative Adversaries (CASSANDRA)
PI: Robert Gutzwiller.
Source: *Defense Advanced Research Projects Agency (DARPA): Strategic Technologies Office (STO),* **2025**.

$1,570,000 Theory-Driven Models for Innovative and Adaptive Displays for Outdoor Augmented Reality.
PI: Robert Gutzwiller
Source: *ONR Multi University Research Initiative (MURI).* **2025***.*

$1,450,000 Visual Attention in Real-Virtual Hybrid Environments: Neural and Computational Principles for Operational Augmented Reality.
PI: Robert Gutzwiller
Source: *ONR Multi University Research Initiative (MURI).* **2025***.*

$3,017,121 Improving Team Resilience to Cognitive Warfare.
PI: Nancy Cooke, **Co-I: Robert Gutzwiller**.
Source: *Office of the Secretary of Defense, Minerva Research Initiative*. **2024**

$888,313 Pipelined Reasoning of Verifiers Enabling Robust Systems (PROVERS).
PI: Robert Gutzwiller.
Source: *Defense Advanced Research Projects Agency (DARPA): Information Innovation Office (I2O)*, **2023**

$1,233,301 Human interactive machine learning (HIML) for calibrated trust in teams of unmanned systems (UxS).
PI: Robert Gutzwiller.
Source: *Office of Naval Research (ONR)*, **2023**

$440,781 Cognition-Inspired Model of Diagnostic Image Quality for Mammography.
PI: Jorge Caviedes. **Co-PI: Robert Gutzwiller.**
Source: *National Institutes of Health (NIH),* **2022**

$100,000 Listicles and Threads: Ingredients for a 'Disinformation Sandwich'.
PI: **Robert Gutzwiller**, Co-I: *Raghav Bhat.*
Source: *Meta Corporation*. **2022**

$5,400,000 Trustworthy AI Systems for Enterprise Cyber Operations.
PI: Peng Liu, Co-PIs: **Robert Gutzwiller**, Minghui Zhu, Sushil Jajodia, Kun Sun, George Cybenko, Nancy Cooke, Polo Chau, & Xiaoyan Sun.
Source: *National Science Foundation (NSF) - Secure and Trustworthy Cyberspace Frontiers (SaTC Frontiers).* **2021.**

$50,000 Intel Rising Star Award to Robert Gutzwiller.
ASU Provost's Office selected Robert Gutzwiller as one of the university's two approved nominations for the Intel Rising Star Award program.
Source: *Intel Corporation,* **2021.**

$5,235,158 PERceptually-enabled SEmantic User-assistance System. (PERSEUS)
PI: Pavan Turaga. **Co-PI:** Chitta Baral, Baoxin Li, **Robert Gutzwiller**, Yezhou Yang, Robert LiKamWa.
Source: *Defense Advanced Research Projects Agency (DARPA).* **2021**-2025

$7,500,000 Human Bot Learning, Decision-making and Teaming for Cyber Autonomy. (HUMBOLDT)
PI: Peng Liu. **Co-Is: Robert Gutzwiller,** Sushil Jajodia, George Cybenko, VS Subrahmanian.
Source: *Army Research Office (ARO)*-Multi-University Research Initiative (MURI), **2021**.

$168,997 Hacking Sunk Cost.
PI: Robert Gutzwiller, Co-PI: Coty Gonzalez.
Source**:** *DOD-SCORE*, **2020**

$2,174,761 ACE: Selective Task Reliance on Autonomy through Interfaces for the Growth of Human Trust (STRAIGHT).
ASU PI: Robert Gutzwiller.
Source: Defense Advanced Research Projects Agency (DARPA)*: Strategic Technologies Office (STO*). **2019.**

$483,961 Interactive Machine Learning (IML) to Enhance Human-Agent Teaming.
Sole PI: Robert Gutzwiller.
Source: *Office of Naval Research (ONR) Young Investigator Program (YIP)*, **2019**

$99,000 Dynamic degree of artificial intelligence to individualize support for effective teamwork
PI: Ben Clegg. **Co-PIs**: Chris Wickens, Eric Heggestad, Marissa Shuffler, & **Robert Gutzwiller.**
Source: *Army Research Lab*, **2018**

$99,974 Interactive Machine Learning (IML) to Enhance Human Agent Teaming.
PI: Robert Gutzwiller. Co-PIs: Erin Chiou, Spring Berman.
Source: *Army Research Lab*, **2018**

$70,000 Using the STOM model to predict driver attention during transfer of control in autonomous vehicles.
Sole PI: Robert Gutzwiller.
Source: *Toyota Collaborative Safety Research Center*, **2018**.

$65,000 Applied human-autonomy interaction.
PI: Josh Kvavle, **Co-PIs**: **Robert Gutzwiller**, Jamie Lukos, Sunny Fugate.
Source: *Space and Naval Warfare Systems Center, Workforce Development*. **2016**.

$99,888 Memory for, and intention to apply, error management training in blood testing industries.
PI: Ben Clegg, **Co-PIs**: Kurt Kraiger & **Robert Gutzwiller**.
Source: *Agency for Healthcare Research and Quality (AHRQ), National Institutes of Health (NIH).* **2009**.

Publications

(Italics indicate student mentee co-authors) (return to top)

70 peer-reviewed papers, 1 book, 3 book chapters, 2 media articles, 7 technical reports. Cited >2684 times, *h*-index 25, *i10*-index 39.

Peer-Reviewed Journals

20 *Bhat, R.,* & **Gutzwiller, R. S.** (2026). Tall Man Lettering as a Solution for Look-Alike Sound-Alike Errors: A Systematic Literature Review. *Human Factors in Healthcare*

19 *Johnson, C. J.,* **Gutzwiller, R. S.,** Cooke, N. J., & Holder, E. (2026). A review of team workload theory and measures. *Human Factors.*

18 *McGuire, M.,* & **Gutzwiller, R. S.** (2025). The effect of stress on prospective memory in robotic command and control. *Cognitive Principles: Research and Practice.* Special Issue for Military Applied Psychology.

17 *Lee, J.*, & **Gutzwiller, R. S.** (2025). Do the eyes have it? A review of using eye tracking for automation trust measurement. *Human Factors*. ***Editor's pick, July 2025**

16 *Johnson, C. J.*, **Gutzwiller, R. S**., Cooke, N. J., Holder, E., & Amazeen, N. (2025). Exploring the relationship between team workload and communication in action teams. *Journal of Cognitive*

Engineering and Decision Making.

15 **Gutzwiller, R. S.**, Fugate, S., Weigand, K., & Lukos, J. (2024). A novel visual interface enables human detection of malware in Portable Document Format. *Journal of Cybersecurity, 10(1),* tyae016.

14 *Lewis, C. M.,* **Gutzwiller, R. S.,** *Johnson, C. K*. (2024). Instructed priority influences task selection decisions in multi-task management. *Applied Ergonomics, 119,* 104317.

13 **Gutzwiller, R. S.,** *Rheem, H.,* Ferguson-Walter, K. J., *Lewis, C. M., Johnson, C. K.,* & Major, M. (2023). Exploratory analysis of decision-making biases of professional red teamers in a cyber-attack dataset. *Journal of Cognitive Engineering & Decision Making*, *18*(1), 37-51. ***Editor's pick, June 2024**

12 *Lewis, C. M.,* & **Gutzwiller, R. S.** (2023). Examining post-error behavior in a complex multitasking environment. *Cognitive Research: Principles & Implications*

11 Ferguson-Walter, K.J., Major, M., *Johnson, C. K., Johnson, C. J., Scott, D. D.,* **Gutzwiller, R.S.,** & Shade, T. B. (2023). Cyber expert feedback: Experiences, expectations, and opinions about cyber deception. *Computers & Security*

10 **Gutzwiller, R. S.,** Dykstra, J., & Payne, B. (2020). Gaps and opportunities in situational awareness for cybersecurity. *Digital Threats: Research and Practice, 1*(3), 1-6.

9 **Gutzwiller, R. S.,** & Reeder, J. (2020). Dances with algorithms: Interactive development creates greater preference and trust in machine-learned behaviors. *Human Factors, 63*(5), 854-867.

8 **Gutzwiller, R. S.**, Wickens, C. D., & Clegg, B. A. (2019). The role of reward and effort over time in task switching. *Theoretical Issues in Ergonomics Science*, *20*(2), 196-214.

7 Roscoe, R., Becker, D. V., Branaghan, R. J., Chiou, E. K., Gray, R., Craig, S. D., **Gutzwiller, R. S.,** & Cooke, N. J. (2019). Bridging psychology and engineering to make technology work for people. Special issue of *American Psychologist, 74*(3), 394-406.

6 Wickens, C. D., **Gutzwiller, R. S.,** Vieane, A., Clegg, B. A., Sebok, A., & Janes, J. (2016). Time sharing between robotics and process control: Validating a model of attention switching. *Human Factors, 58*(2), 322-343.

5 **Gutzwiller, R. S.**, Wickens, C. D., & Clegg, B. A. (2016). The role of time-on-task in task switching choice. *Journal of Applied Research in Memory & Cognition*, *5,* 176-184.

4 Wickens, C. D., **Gutzwiller, R. S.,** & Santamaria, A. (2015). Discrete task switching in overload: A meta-analysis and a model. Special issue of *International Journal of Human Computer Studies, 79,* 79-84.

3 Blalock, L. D., Sawyer, B., Kiken, A., **Gutzwiller, R. S**., McGill, C. L., & Clegg, B. A. (2014). Cognitive load while driving impairs memory of moving but not stationary elements within the environment. *Journal of Applied Research in Memory and Cognition, 5*(2), 95-100.

2 **Gutzwiller, R. S.**, Clegg, B. A., & Blitch, J. G. (2013, invited). Part-task training in the context of automation: Current and future directions. *American Journal of Psychology*, *126*(4), 417-432.

1 **Gutzwiller, R. S.,** & Clegg, B. A. (2013). The role of working memory in levels of situation awareness. *Journal of Cognitive Engineering and Decision Making, 7*(2), 141-154.

Peer-Reviewed Conference Proceedings

50 Guarino, S., Kelle, D., Wu, C., Bhat, K. R**., Gutzwiller, R. S.,** Slocum, M., Sieffert, M., & Neisser, M. (2025). Challenges and Solutions in Using Virtual Testbeds to Study Hacker Cognitive Constraints. *Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC)*

49 *Bhat, K. R.,* **Gutzwiller, R. S.,** Guarino, S., Lynn, S., Clegg, Benjamin A., Hypolite, J., Sieffert, M., Locasto, M., Kelle, D., Slocum, M., Wu, C., Harrison, S., Revelle, M., & Latiff, S. (2025). Exploiting Base Rate Neglect to Disrupt and Distract Cyber Attackers. *Hawaii International*

Conference on Systems Science (HICSS). **Nominated for HICSS Best Paper Award**

48 *Hao, R.,* Gorman, J., Cooke, N., & **Gutzwiller, R. S**. (2025). Error type influences communication recipient selection: Consistent patterns during autonomy and automation errors in a synthetic task environment. *Proceedings of the Human Factors and Ergonomics Annual Conference. p. 10711813251369388*

47 **Gutzwiller, R. S.,** *Yousefi, R.,* Larson-Calcano, T., *Lee, J.,* Tenhundfeld, N., *Verma, A.,* and *Maknojia, I.* (2025). Systematic review of the use and modifications of the 'Trust in Automated Systems Scale'. *Proceedings of the Human Factors and Ergonomics Annual Conference. p. 10711813251357911*

46 *McAlphin, M.,* **Gutzwiller, R. S**., & *Seymour, D.* (2025). Responses to and Recognition of Simultaneously Occurring Driving Hazards using Auditory and Visual In-Vehicle Alerts. *Applied Human Factors and Ergonomics (AHFE) Conference.* ***Won the AHFE 2025 Best Paper Award**

45 Wong, J., Chiou, E. K., **Gutzwiller, R. S.**, Cook, M., & Fallon, C. (2024). Human-Artificial Intelligence Teaming for the U.S. Navy: Developing a Holistic Research Roadmap. *Proceedings of the Human Factors and Ergonomics Annual Conference, 68,* 380-385.

44 **Gutzwiller, R. S.,** *Gilbert, M.*, *Drescher, T.J.,* Ferguson-Walter, K. J., *Campbell, N., Johnson, C. J., & Scott, D.* (2023). Frustration, confusion, surprise, confidence, and self-doubt: Cyber operators' affects during a realistic experiment. *Proceedings of the Human Factors and Ergonomics Annual Conference*, *67*, 233-239.

43 *Johnson, C. J., Lieber, C.,* **Gutzwiller, R. S.,** Cooke, N. J. (2023). Team workload in action teams: Exploring the impact of interdependence. *Proceedings of the Human Factors and Ergonomics Annual Conference*, *67*, 1127-1133.

42 Caviedes, J. E., Patel, B. K., **Gutzwiller, R.,** Li, B., *Bhat, K. R.,* & Chhabra, S. (2022). A cognitive perspective on subjective and objective diagnostic image quality models. *2022 IEEE International Conference on Image Processing (ICIP)*, pp. 246-250.

41 *Bhat, R., Curley, R.J.,* & **Gutzwiller, R. S.** (2022). Researching Influence Operation (IO) Mitigation: An HFE Step Forward. *Proceedings of the Human Factors and Ergonomics Annual Conference, 66,* 626-630.

40 *Johnson, C. J.,* Ferguson-Walter, K. J., **Gutzwiller, R. S.**, Scott, D., & Cooke, N. J. (2022). Investigating cyber attacker team cognition. *Proceedings of the Human Factors and Ergonomics Annual Conference, 66,* 105-109.

39 Ferguson-Walter, K. J., **Gutzwiller, R. S**., Scott, D., & *Johnson, C. J.* (2021). Oppositional human factors in cybersecurity: A preliminary analysis of affective states. *IEEE/ACM International Conference on Automated Software Engineering, Workshop on Human-centric Software Engineering and Cyber Security (HACS)*

38 *Johnson, C. K.,* **Gutzwiller, R. S**., *Gervais, J.,* Ferguson-Walter, K. J., Fugate, S. J., & Bilinski, M. (2021). Decision-making biases and cyber attackers. *IEEE/ACM International Conference on Automated Software Engineering, Workshop on Human-centric Software Engineering and Cyber Security (HACS)*

37 *Rheem, H.,* Steelman, K., & **Gutzwiller, R. S.** (2021). SEEV Modeler: A GUI-based tool for the SEEV model simulation. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 65,* 675-679.

36 *Zabala, G.,* & **Gutzwiller, R. S.** (2021). Validating the Strategic Task Overload Management (STOM) Model using MATB II and eye-tracking. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 65*, 700-704.

35 **Gutzwiller, R. S.**, & Van Bruggen, D. (2021). Human factors in automating cyber operations. *Hawaii International Conference on Systems Science (HICSS), 1968-1977*

34 *Burton, A.,* Chiou, E. K., & **Gutzwiller, R. S.** (2020). A brief literature review on human perceptions of service robots with a focus on healthcare. *Human Factors and Ergonomics Society Annual Meeting, 64,* 117-121.

33 Das, S., **Gutzwiller, R. S.,** Roscoe, R. D., Rajivan, P., Wang, Y., Camp, L. J., & Hoyle, R. (2020). Humans and technology for inclusive privacy and security. *Human Factors and Ergonomics Society Annual Meeting, 64,* 461-464.

32 Ferguson-Walter, K. J., Major, M. M., van Bruggen, D. C., Fugate, S. J., & **Gutzwiller, R. S.** (2019). The World (of CTF) is Not Enough Data: Lessons learned from a cyber deception experiment. *IEEE International Conference on Collaboration and Internet Computing,* 346-353.

31 *Nyre-Yu, M.,* **Gutzwiller, R. S.**, & Caldwell, B. (2019). Observing cyber security incident response environments: Qualitative themes from field research. *Proceedings of the Human Factors and Ergonomics Society, 63,* 437-441.

30 **Gutzwiller, R. S.,** Ferguson-Walter, K. J., & Fugate, S. J. (2019). Are cyber attackers thinking fast and slow? Exploratory analysis reveals evidence of decision-making biases in red teamers. *Proceedings of the Human Factors and Ergonomics Society, 63,* 427-431.

29 **Gutzwiller, R. S.,** Chiou, E. K., Craig, S., *Lewis, C. M., Lematta, G.*, & *Hsiung, C.-P.* (2019). Positive bias in the 'Trust in Automated Systems Survey'? An examination of the Jian et al. (2000) scale. *Proceedings of the Human Factors and Ergonomics Society, 63,* 217-221.

28 Paul, C.L., Blaha, L. M., Bos, N., Fallon, C. K., Gonzalez, C., & **Gutzwiller, R. S.** (2019). Opportunities and challenges for human-machine teaming in cybersecurity operations. *Proceedings of the Human Factors and Ergonomics Society, 63,* 442-446.

27 **Gutzwiller, R. S.,** Cosley, D., Ferguson-Walter, K., Fraze, D., & Rahmer, R. (2019). Panel: Research Sponsors for Cybersecurity Research and the Human Factor. *Proceedings of the Human Factors and Ergonomics Society, 63,* 422-426.

26 Shulte, A., Donath, D., Lange, D., & **Gutzwiller, R. S.** (2018). A heterarchical urgency-based design pattern for human automation interaction. In *Engineering Psychology and Cognitive Ergonomics: 15th International Conference* (Vol. 10906, p. 42-54).

25 **Gutzwiller, R. S.**, Ferguson-Walter, K. J., Fugate, S. J., & Rogers, A. (2018) "Oh, look! A butterfly!" A framework for distracting attackers to improve cyber defense. *Proceedings of the Human Factors and Ergonomics Society, 62*, 272-276. ***Won the Marc Resnick Best Paper Award.**

24 **Gutzwiller, R. S.**, Espinosa, S. H., Kenny, C., & Lange, D. S. (2018). A design pattern for working agreements in human-autonomy teaming. *Advances in Intelligent Systems and Computing, 591*, 12–24.

23 Wickens, C. D., & **Gutzwiller, R. S.** (2017). The status of the Strategic Task Overload Model (STOM) for predicting multi-task management. *Proceedings of the Human Factors and Ergonomics Society, 61,* 757–761.

22 Borghetti, B., Funke, G., Pastel, R., & **Gutzwiller, R. S.** (2017). Cyber human research from the cyber operator's view. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 61,* 350.

21 **Gutzwiller, R. S.**, & Sitzman, D. M. (2017). Examining task priority effects in multi-task management. *Proceedings of the Human Factors and Ergonomics Society, 61*, 762–766.

20 Dzieciuch, I., Reeder, J., **Gutzwiller, R. S**., Gustafson, E., Coronado, B., Martinez, L., … Lange, D. S. (2017). Amplifying human ability through autonomics and machine learning in IMPACT. *Proceedings of SPIE Micro- and Nanotechnology Sensors, Systems, and Applications IX, 10194,* 101941Y1-11.

19 **Gutzwiller, R. S.**, & Reeder, J. (2017). Human interactive machine learning for trust in teams of

autonomous robots. *In IEEE Conference on Cognitive and Computational Aspects of Situation Management.*

18 Vieane, A. Z., Funke, G. J., **Gutzwiller, R. S.**, Mancuso, V. F., Sawyer, B. D., & Wickens, C. D. (2016). Addressing human factors gaps in cyber defense. *Proceedings of the Human Factors and Ergonomics Society, 60*, 770–773.

17 Fugate, S., Lukos, J., **Gutzwiller, R. S.**, & Lester, C. (2016). Position paper: Proposing ambient visualization and pre-attentive processing for threat detection. In *ACM International Conference Proceeding Series Part F1306.*

16 **Gutzwiller, R. S.**, & Lange, D. S. (2016). Tasking teams: Supervisory control and task management of autonomous unmanned systems. In *International Conference on Virtual, Augmented and Mixed Reality* (p. 397-405). Springer International Publishing.

15 **Gutzwiller, R. S.**, Hunt, S. M., & Lange, D. S. (2016). A task analysis toward characterizing cyber-cognitive situation awareness (CCSA) in cyber defense analysts. In *IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support,* 14-20.

14 Lange, D. S., & **Gutzwiller, R. S.** (2016). Human-autonomy teaming patterns in the command and control of teams of autonomous systems. In *International Conference on Engineering Psychology and Cognitive Ergonomics* (p. 179-188). Springer International Publishing.

13 **Gutzwiller, R. S.**, Fugate, S., Sawyer, B., & Hancock, P. A. (2015). The human factors of cyber network defense. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 59,* 322-326. ***Nominated for HFES best paper award.**

12 **Gutzwiller, R. S.**, Wickens, C. D., & Clegg, B. A. (2015). The role of individual differences in the executive attentional network in switching choice and multi-task management. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 59*, 632-636.

11 **Gutzwiller, R. S.**, Lange, D. S., Reeder, J., Morris, R. L., & Rodas, O. (2015). Human-computer collaboration in adaptive supervisory control and function allocation of autonomous system teams. In *International Conference on Virtual, Augmented and Mixed Reality* (pp. 447-456). Springer International Publishing.

10 Clegg, B. A., Wickens, C. D., Vieane, A., **Gutzwiller, R. S.**, & Sebok, A. (2015). Circadian effects on fault management and multitasking. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 59,* 627-631.

9 **Gutzwiller, R. S.**, Wickens, C. D., & Clegg, B. A. (2014). Workload overload modeling: An experiment with MATB II to inform a computational model of task management. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 58,* 849-853.

8 Clegg, B. A., Vieane, A., Wickens, C. D., **Gutzwiller, R. S.**, & Sebok, A. (2014). The effects of automation-induced complacency on fault diagnosis and management performance in process control. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 58*, 844-848.

7 Lange, D. S., **Gutzwiller, R. S.**, Verbancsics, P., & Sin, T. (2014). Task models for human-computer collaboration in supervisory control of teams of autonomous systems. *IEEE Conference on Cognitive and Computational Aspects of Situation Management,* 97-102.

6 **Gutzwiller, R. S.**, Clegg, B. A., Smith, C. A. P., *Lewis, J. L.,* & *Patterson, J. D.* (2013). Predicted failure alerting in a supervisory control task does not always enhance performance. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 57*, 364-368.

5 Lange, D., Verbancsics, P., **Gutzwiller, R. S.**, & Reeder, J. (2013). Trust in sparse supervisory control. *Trust and Autonomous Systems: Papers from the 2013 AAAI Spring Symposium,* 39-43.

4 **Gutzwiller, R. S.**, & Clegg, B. A. (2012). Training for unmanned vehicle allocation with automation

in a dynamic microworld. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 56*, 2497-2501.

3 Blitch, J. G., Bauder, C. J., **Gutzwiller, R. S.**, & Clegg, B. A. (2012). Correlations of spatial orientation with simulation based robot operator training. *Proceedings of the 4th International Conference on Applied Human Factors & Ergonomics (AHFE),* 1571–1580.

2 Lange, D., Verbancsics, P., **Gutzwiller, R. S.**, Reeder, J., & Sarles, C. (2012). Command and control of teams of autonomous systems. *Proceedings of the 17th Monterey Workshop for the Development, Operation and Management of Large-Scale Complex IT Systems,* Oxford, UK.

1 Sarles, C., Lange, D., Duarte, C., Moraski, L., Brizzolara, B., & **UV Sentry Team**. (2012). UV Sentry: A collaborative approach to creating a collaborative system. *American Society of Naval Engineers Conference "Naval Warfare – Critical Engineering Challenges"*.

Books

1. Wickens, C. D., McCarley, J. S., & **Gutzwiller, R. S.** (2022). *Applied Attention Theory, 2nd Edition.* New York, NY: Taylor & Francis.

Peer-Reviewed Book Chapters

3. **Gutzwiller, R. S.**, *Lewis, C. M.,* Pharmer, R., Clegg, B. A., Aggarwal, P., Henery, G., Ray, I., & Martey, R. (in press, 2025). Oppositional human factors. *Human Factors in Cybersecurity.*

2. Huang, L., Cooke, N. J., **Gutzwiller, R. S.**, Chiou, E. K., Berman, S., Demir, M., & Zhang, W. (2021). Distributed Dynamic Team Trust in Human, Artificial Intelligence, and Robot Teaming. In J. Lyons & C. Nam (eds.), *Trust in Human Robot Interaction.*

1. Heggestad, E. D., Clegg, B. A., Goh, A., & **Gutzwiller, R. S.** (2012). How automation-based training aides and learner cognitive abilities impact training effectiveness. In A. Healy and L. Bourne (Eds.), *Training cognition: Optimizing efficiency, durability, and generalizability* (pp. 112-133). New York, NY: Taylor & Francis.

Technical Reports & Patent Applications

8. **[TR] National Academies of Sciences, Engineering, and Medicine** (2021). *Looking Ahead at the Cybersecurity Workforce at the Federal Aviation Administration.* Washington, DC: The National Academies Press. https://doi.org/10.17226/26105.
7. **[TR]** Lange, D., Miller, C., Schulte, A., Donath, D., Shively, R., Coppin, G., Burski, L., **Gutzwiller, R. S.,** Espinosa, S., Kenny, C., Neerincx, M., Chen, J., & Barnes, M. (2020). Human Autonomy Teaming Design Patterns. In *Human-Autonomy Teaming: Supporting Dynamically Adjustable Collaboration, NATO STO TR-HFM-247*, pp. 4(1-59). https://www.researchgate.net/publication/354472303_Human-Autonomy_Teaming_Supporting_Dynamically_Adjustable_Collaboration
6. **[TR]** *Johnson, C. K.,* **Gutzwiller, R. S.,** Ferguson-Walter, K. J., & Fugate, S. J. (2020). A cyber-relevant table of decision making biases and their definitions. *ResearchGate Open Publication.* doi: 10.13140/RG.2.2.14891.87846/1, Available from www.researchgate.net/publication/344106644_A_Cyber-Relevant_Table_of_Decision_Making_Biases_and_their_Definitions
5. **[TR] Gutzwiller, R. S.** (2019). Situation awareness in defensive cyberspace operations: An annotated bibliographic assessment through 2015. *DTIC Technical Report* via Naval Information Warfare Center. Available from https://apps.dtic.mil/dtic/tr/fulltext/u2/1074248.pdf
4. **[TR]** Van Orden, K.F., Lemon, A.G., & **Gutzwiller, R.S.** (2017). Winning by design: How to improve the performance of shipboard command, control and combat system operator interfaces while reducing manpower requirements and associated costs. SSC Pacific Technical Report 3068: *Space and Naval Warfare Systems Center Pacific*, San Diego, CA.
3. **[TR]** Bass, T., Zuech, R., & **Gutzwiller, R. S.** (2017). Virtualized Cyberspace - Visualizing patterns & anomalies for cognitive cyber situational awareness. *ResearchGate* Open Publication. Available from https://www.researchgate.net/publication/320008976_Virtualized_Cyberspace_Visualizing_Patterns_Anomalies_for_Cognitive_Cyber_Situational_Awareness
2. **[PATENT,** abandoned**]** Fugate, S. J., Lukos, J. R., **Gutzwiller, R. S.**, & Wiegand, K. P. (2016). Computer System Anomaly Detection Using Human Responses to Ambient Representations of Hidden Computing System and Process Metadata. United States of America. *(abandoned).*

1. **[TR]** Fugate, S., & **Gutzwiller, R. S.** (2016). Re-thinking cyber symbology. *NATO Technical Report STO-MP-IST-HFM-154.* Available from https://www.researchgate.net/publication/314151044_Rethinking_Cyberspace_Symbology

Media Articles

2 Van Orden, K., & **Gutzwiller, R. S.** (2018). User-centered design should be a cornerstone requirement for system development. *Naval Proceedings, 144(10)*, 1388.

1 Van Orden, K., Lukos, J., **Gutzwiller, R. S.**, & Buck, H. (2018). Not just a fad: A cognitive science rationale for use of augmented and virtual reality technologies for the Warfighter. *Future Force, 5*(3).

Under Review

3 **Gutzwiller, R. S.** et al (under review). Exploiting loss aversion in a realistic cyber environment. Special Issue.

2 *Bhat, R.,* Burnett, A., **Gutzwiller, R. S.**, Nyre-Yu, M., *Seymour, D.,* Fugate, S., Maldonado, F., & Amresh, A. (under revision 1). A Mixed Methods Approach to Understanding Vulnerability Discovery in Binary Analysis.

1 *Sipe, P.*, Becker, V. D., Chiou, E. K**., Gutzwiller, R. S.,** & Butler, D. (under review). Police Jiu-Jitsu Training: More Optimal Use of Force Outcomes and Less Serious Injuries

In Prep

7 Wickens, C. D., **Gutzwiller, R. S.,** & *Lewis, C. M*. (in prep). Modeling cognitive tunneling.

6 *Lewis, C. M.,* **Gutzwiller, R. S.,** & Wickens, C. D. (in prep). A review of cognitive tunneling.

5 *Lewis, C. M.,* & **Gutzwiller, R. S.** (in prep). An experiment testing compellingness and task difficulty on cognitive tunneling.

4 *Bhat, R.,* **Gutzwiller, R. S.,** et al. (in prep). Exploiting anchoring bias as part of Oppositional Human Factors.

3 *Bhat, R.,* **Gutzwiller, R. S.,** et al. (in prep). Exploiting confirmation bias in cyber attackers.

2 *Lewis, C. M., Bhat, R.*, & **Gutzwiller, R. S.** (in prep). Asymmetric dominance (the decoy effect) as an Oppositional Human Factors mechanism in cyber defense.

1 Aggarwal, P., & **Gutzwiller, R. S**. (in prep). Applying attention theory to cyber defense as part of Oppositional Human Factors (OHF).

Invited Seminars, Webinars, Presentations, & Panels

19+ invited talks including **2 Keynote speeches @ major international conferences and workshops,** and to **Boeing**, **General Dynamics**, the **National Science Foundation (NSF)**, Pacific Northwest **National Labs** (PNNL), and the **DOD's** HSI Technical Advisory Group and Working Groups.

- Exploiting Cognitive Biases in Cyber Adversaries: Insights, Challenges, and Future Directions for Human-Centered Cyber Defenses (10/2025). **Panelist** *session at the Human Factors and Ergonomics Conference (ASPIRE).*
- **Gutzwiller, R. S.** (2025). Reviews of 2 trust measurement methods and providing a way forward for each. **Invited talk** to the Human-AI-Robot Teaming Technical Group of the Human Factors and Ergonomics Society (08/2025).
- **Gutzwiller, R. S.** (2024). Applying human factors to cybersecurity, automation and AI. **Invited talk** *to Clemson University's Industrial Engineering program.*
- Wong, J., Chiou, E. K., **Gutzwiller, R. S**., Cook, M., & Fallon, C. (2024). Human-Artificial Intelligence Teaming for the U.S. Navy: Developing a Holistic Research Roadmap. **Panelist***, session at the Human Factors and Ergonomics Conference (ASPIRE)*
- **Gutzwiller, R. S.** (2024). Working agreements for humans and automated systems. **Invited talk** to the *Human Factors and Ergonomics Society's Human-AI-Robot Teaming Technical Group.* (07/2024).
- *Bhat, R.,* Burnett, A., **Gutzwiller, R. S.**, Nyre-Yu, M., *Seymour, D.,* Fugate, S., Maldonado, F., & Amresh, A. (2024*).* Understanding Vulnerability Discovery in Expert and Novice Binary Analysts' Behavior. Presentation at the *Science of Security (HOTSOS) Conference, 2024.*
- **Gutzwiller, R. S.** (2024). Agreeing to Work Together: Working Agreements can Shape Trust between humans and Automated Systems. **Keynote** address for the *CARMA-AI workshop, 2024 Hawaii International Conference on System Sciences*. (01/2024). Available on YouTube. https://youtu.be/nzkFChE3wi8
- **Gutzwiller, R. S.** (2023). What is cyberpsychology? **Keynote** address for the *2023 Hawaii International Conference on System Sciences Workshop* on *Cyberpsychology, Cybersecurity, and the Human Factor*. (01/2023).
- **Gutzwiller, R. S.** (2022). Oppositional Human Factors**. Invited talk** to *Cognitive Security Institute*. (11/2022). Available on YouTube. https://www.youtube.com/watch?v=_EEK5CKftmo&ab_channel=CognitiveSecurityInstitute
- **Gutzwiller, R. S.** (2022). Human Factors in Cybersecurity. **Invited talk** to the *Psychology department at Michigan Technical University*. (10/2022)
- **Gutzwiller, R. S.** (2022). Dancing with Algorithms: Interactive Machine Learning for C2. **Invited talk** to the *Boeing HFE Enterprise Community of Excellence (CoE) Meeting.* (08/2022).

- **Gutzwiller, R. S.** (2022). Are cyber attackers thinking fast and slow? **Invited talk** at the *IEEE Euro S&P Active Defense and Deception Workshop, Italy*. (06-2022).
- **Gutzwiller, R. S.** (2021). Human Factors in Automating Cyber Defenses. **Panelist** at the *International Joint Conference on Artificial Intelligence Workshop on Autonomous Cyber Defense*. (08/2021).
- **Gutzwiller, R. S.** (2021). Why would you incorporate humans into machine learning? **Invited talk** to *Pacific Northwest National Labs (PNNL)*, part of the *Mathematics for Artificial Reasoning in Science* colloquium series.
- **Gutzwiller, R. S.** (2020). Dancing with algorithms: integrating humans and machine learning. **Invited talk**. *ASU Innovation Quarter,* Human-AI-Robot Teaming. (12/2022)
- **Gutzwiller, R. S.** (2020). Interactive machine learning: A novel approach to human-machine teaming. **Invited talk** to the *General Dynamics Corporation.* (04-2020),
- Lafon, D., **Gutzwiller, R. S.,** & Ferguson-Walter, K. (2020). Cyber Psychology aids National Security (**Panelist**). Chaired by McGuire, M., & Fugate, S. *Hawaii International Conference on System Sciences 53 Symposium*.
- **Gutzwiller, R. S.** (2019). Cyber human factors. **Invited talk** at National Science Foundation (NSF) *Workshop for Psychology and Cybersecurity Experts, Washington, DC, USA*
- **Gutzwiller, R. S.** (2019). Humans, AI and machine learning: Concerns and a way forward. Invited **Panelist** presentation at *Naval Applications of Machine Learning* (*NAML), U.S. Navy*.
- **Gutzwiller, R. S.** (2019). Interdependence in cyberspace: A view of automation as applied to cybersecurity. **Panelist** presentation at *Cyber TRAINsitions Workshop*, *held by the University of Central Florida*.
- **Gutzwiller, R. S.** (2018). Focus on the human! Human factors science will help develop automated and autonomous cyber operations **Invited talk** to the *Autonomous Cyber Operations (ACO) Workshop*, held by the Department of Defense, Maryland, USA.
- **Gutzwiller, R. S.** (2018). Predicting attention to tasks in complex systems. **Invited talk** to *Department of Psychology & Neuroscience, Baylor University*.
- **Gutzwiller, R. S.** (2018). The human role in cyber defense. **Webinar** series "Human Factors Applications to Cybersecurity", invited and sponsored by the *Human Factors and Ergonomics Society.*
- **Gutzwiller, R. S.** (2018). Attention to tasks in complex systems**. Invited talk** to *Human Systems Engineering program, Arizona State University.*
- **Gutzwiller, R. S.** (2017). What do humans mean for autonomy in the Navy? **Invited talk** to *Air Force Institute of Technology*.
- **Gutzwiller, R. S.** (2015). Cognition in the wild. **Invited talk** to *Department of Psychology, San Jose State University*.
- **Gutzwiller, R. S.** (2015). Human factors of cyber network defense. **Invited talk** to Navy's *Human-Systems Integration Working Group (HSI-WG)*
- **Gutzwiller, R. S.** (2015). A computational model of multi-task switching choice under cognitive load: STOM. **Invited talk** to *Department of Defense Human-Systems Integration (HSI) Technical Advisory Group (TAG)*
- **Gutzwiller, R. S.**, & Clegg, B. A. (2009). The generation effect on route memorization in a navigational task. Presentation. *Rocky Mountain Psychological Association Conference*, Albuquerque, NM, USA.

Poster Presentations

- **Gutzwiller, R. S.** et al. (2025). A systematic review of the Trust in Automated Systems scale. Poster presented at the *Human Factors and Ergonomics Society Annual Meeting.*
- **Gutzwiller, R. S.** (2019). The Applied Attention Research lab at Arizona State University. Lab poster presented at the *Human Factors and Ergonomics Society Annual Meeting.*
- Williams, S., & **Gutzwiller, R. S.** (2018). Battlespace management aids experimentation and development. Presented at the *Navy and Marine Corps. Naval Innovative Science and Engineering (NISE) Meeting,* Dahlgren, VA.
- Lukos, J., Weigand, K., **Gutzwiller, R.S.**, & Fugate, S. (2018). Ambient activity monitors (AAMs) to display hidden computer system information. *NDIA Conference*
- *Wanic, L.,* & **Gutzwiller, R. S.** (2017). Human centered design issues for cyber defense. *Navy Research Enterprise Internship Program review,* Space and Naval Warfare Systems Center Pacific.
- **Gutzwiller, R. S.** (2016). Characterizing human limitations and impediments to cyber situation awareness. *Presented at the Navy and Marine Corps. Naval Innovative Science and Engineering (NISE),* Pentagon, Washington, D.C.
- Hunt, S., **Gutzwiller, R. S.**, Rousseau, D., & Iden, R. (2015). Characterization of the human limitations and impediments for cyber situation awareness. *International Applied Human Factors and Ergonomics (AHFE) Meeting.*
- *Weeks^, V.,* **Gutzwiller, R. S.**, & Clegg, B. A. (2013). Retraining with errorless learning for driver education. Poster presented at the *Celebrate Undergraduate Research and Creativity conference.* **^Received a College Honors award.**
- **Gutzwiller, R. S.**, & Lange, D. S. (2012). Integration of machine learning and human factors for unmanned system teams. *Navy Research Enterprise Internship Program review,* Space and Naval Warfare Systems Center Pacific.
- **Gutzwiller, R. S.**, & Clegg, B. A. (2011). Situation awareness and training influence multiple vehicle control. *Association for Psychological Sciences Annual Meeting*, Washington, D.C.
- *Suozzi, K.,* **Gutzwiller, R. S**., & Clegg, B. A. (2010). Implicit sequence learning with direct stimulus-response mapping. *NSF Research Experience for Undergraduates (REU) program,* Colorado State University, Fort Collins, CO.
- *Huckleberry, K.,* **Gutzwiller, R. S**., Mong, H., & Clegg, B. A. (2009). Explicit knowledge results from incidental learning in the implicit change detection task. *NSF Research Experience for Undergraduates (REU) program,* Colorado State University, Fort Collins, CO.

Teaching & Mentorship Experience

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2019-p **Instructor of Record @** Arizona State University

Consistently high course ratings (*Mean*= 4.86, *SD*= 0.18, *Median*= 4.89) over more than >22 courses taught, with 5 as the highest.

HSE 598: Applied Attention Theory [Fall '19, Spring '19, '20, '21, '22, '24, '25, '26]

- Developed and teach a graduate seminar in *Applied Attention Theory*.
- The course uniquely focuses on the dynamic links between studying the nature of attention in the lab and applying this understanding to complex environments and engineering efforts, thereby improving safety and performance.
- A text co-written by me is used as part of the course (Wickens, McCarley, & Gutzwiller, 2022)

HSE 494: [Spring '20, '21, '22, '24, '25, '26]

- Undergraduate sections of Applied Attention Theory

HSE 225: Human Systems Integration [Fall '20, '21, '22, '23, '24, '25; Spring, '23, '24, '25, '26]

- Developed and taught an undergraduate course in human systems integration.
- The course focuses on the history and application of modern HSI efforts across military and industrial applications, using current HSI standards and references, modern examples, and in class exercises and practical assignments including task analysis, requirements development and product evaluation.
- **One of very few HSI classes in the country.**

HSE 101: Human Systems Engineering (fully online) [Spring '23]

- Introductory course in psychology and human factors as part of the human systems engineering major.
- The course is delivered fully online and focuses on modules in applied psychology, including its history, theories, and applications with a particular focus on cognition.

2011-2012 **Instructor of Record**, Colorado State University

- Taught an undergraduate, stand-alone lab course in Basic Cognitive Psychology.
- Taught an undergraduate, stand-alone lab course in Applied Cognitive Psychology similar in structure to the Basic lab. The focus was on applications such as attention and distraction in driving.

2008-2014 **Teaching Assistant**, Colorado State University

- Graduate TA for psychology courses, most ~50-100 students per section, including *Introductory Psychology* || *Research Methods in Psychology* || *Cognitive Psychology* || *Learning & Memory* || *Mind Brain & Behavior* || *Sensation & Perception*

Mentoring

(‡ indicates student completed)

Consistent record of mentoring >77+ undergraduate, MS and PhD students in research, practical skills, career paths and eventual graduation @ ASU

6 PHD Dissertations Chaired (*), + 12 Committee Memberships

18	*Derek Jackson	Applied Human Factors	S 2028
17	Xavier Wallace	Design of Interfaces	S 2027
16	*Emily Machniak	Applied Attention	S 2030
15	Tommy Tran	Human Factors	S 2027
14	Ray Hao	Human-AI Teaming	S 2027
13	*Raghav Bhatt	Mitigating Medication Errors with Design	F 2025‡
12	Nicole Darmawaskita	Cyber Psychology	S 2026
11	Chris Lieber	Teaming and Workload	S 2026
10	David Stinson	Team Task Switching	Sum 2025‡
9	*Christina Lewis	Cognitive Tunneling	S 2025‡
8	Paul Sipe	Human Factors in Police Training	S 2024‡
7	Natalie Griffiths (AUS, UWA)	Human Interaction, Autonomy Failure	S 2024‡
6	Verica Buchanan	Human Factors and AI	F 2023‡
5	Craig Johnson	Team Workload	F 2023‡
4	*Chelsea Johnson	Oppositional Human Factors	Sum 2022‡
3	*David Wallace	Design, T&E of a new Medical Apparatus	Sum 2021‡

2	Hansol Rheem	Bias Detection	F 2019‡
1	Mollie McGuire (Claremont U.)	Prospective Memory & Stress in Control	F 2016‡

8 MS Theses Chaired (*), 1 Co-Chaired (^), + 13 MS Committee Memberships

19	* Chase Colgate	S 2026
18	Jason Henn	S 2026
17	^ Srinivasan Ravichandran	S 2026‡
16	* Troy Buhr	S 2026
15	Stuart Rice	S 2026
14	* Colby Merkt	F 2024‡
13	* Morgan McAlphin	S 2023‡
12	Matthew Willett	S 2023‡
11	Jeska Clark	S 2023‡
10	Aaron Rios	S 2022‡
9	* Christina Lewis	F 2021‡
8	* Jimin (Joy) Kim	S 2021‡
7	Shawaiz Bhatti	Sum 2021‡
6	Akuadasuo Ezenyilimba	S 2021‡
5	* Garrett Zabala	Sum 2020‡
4	Christopher Lieber	F 2020‡
3	Craig Johnson	F 2020‡
2	Earl Radina	S 2019‡
1	Alyssa Thompson	S 2019‡

43 Additional Mentorships @ ASU

β= student was outside ASU

43	Donald Pollitt	UX Portfolio	MS 2025
42	Ellen Hales	UX Portfolio	MS 2025
41	Akhil Mudigonda	UX Portfolio	MS 2025
40	Launa Marie Schildknecht	UX Portfolio	MS 2025
39	Apoorva Verma	Mentor on research	PhD 2028
38	Kripa Patel	UX Portfolio	MS 2027
37	Sneha Tarannum	UX Portfolio	MS 2027
36	Mercedes Plata-Rodriguez	UX Portfolio	MS 2027
35	Shreya Chadha	UX Portfolio	MS 2027
34	Aseel Alghamdi	Mentor on aviation human factors research	MS 2027
33	Idil Kale	UX Portfolio	MS 2027
32	Amelia (Mia) Dufault	**Honors thesis**/research experiment	BS 2026
31	Ayushi Dattagupta	Mentor on research	BS 2026
30	Ray Hao	**Qualifying Exam Committee Member**	PhD 2026
29	Myke Cohen	**Graduate TA** HSE 225 course, mentor on research	PhD 2026
28	Nicole Darmawaskita	**Graduate TA** HSE 225 course	PhD 2026
27	Yue Liu	**Graduate TA** HSE 225 course	PhD 2026
26	Rezvan Yousefi	Mentor on research	PhD 2026
25	Christopher Lieber	**Qualifying Exam Committee Member**	PhD 2026
24	Jessica Lee	Mentor on research	PhD 2026
23	Chase Colgate	Mentor on research	BS 2025‡
22	Josh Mohabbat	Mentor on research, **Applied Project**	BS 2025
21	Glenn Lematta	Mentor on research	PhD 2025‡
20	Reece Brooks	**MS Portfolio Chair,** mentor on research	MS 2024‡
19	Cameron Kelly	MS mentorship	MS 2024‡
18	Iman Maknojia	**MS Portfolio Chair**, mentor on research	MS 2024‡
17	Allysa Hayden	Mentorship on research	UGR 2024
16	Madison Gilbert	**MS Portfolio Chair,** mentor on research	MS 2023‡
15	Noella Mikanda	**MS Portfolio Chair**, mentor on research	MS 2023‡
14	Hannah Dicksion	**Chair, Barrett Honor's Thesis**	UGR 2023
13	Peioneti Lam	**MS Portfolio Chair**	MS 2022‡
12	RJ Curley	Mentor on research	MS 2022‡
11	Morgan McAlphin	**Fulton Undergraduate Research Initiative Mentor**	BS 2022‡
10	Marcquette Johnson	**Undergraduate research project mentorship**	UGR 2022

9	Prajakta Rampure	**MS Portfolio Chair**	MS 2021‡
8	Jessika Smith β	Mentor on research	PhD 2021‡
7	Deepika Thamizhvanan	Program mentorship	MS 2020‡
6	Mathew Dusharm	Program mentorship	MS 2019‡
5	Kim Ferguson-Walter β	Mentor on research, statistics, psychology	PhD 2019‡
4	Megan Nyre-Yu β	Mentor on research	PhD 2019‡
3	Melissa Sheldrup β	Mentor on research	PhD 2019‡
2	Joe Gervais	**Chair**. *Deceased*	---
1	Sarah Ligda	**Qualifying Exam Committee Member**	---

2014-2018 **Mentoring @ US Navy**

- Mentored bright engineers and computer scientists (Josiah Bryan, Emmanuel Orozco, Liz Wanic, Anu Venkatesh) as part of summer internships or projects in cybersecurity and human factors.

2008- 2014 **Mentoring @ Colorado State University**

- Supervised 5-15 UG RAs / semester, ~ 20-40% new recruits each year. These became trained research assistants in testing protocols, human subjects' protection, data management and some made contributions to published research documents. During this time, I also mentored two undergraduate honors thesis projects and was NSF REU Mentor for two students.
- Supervised four paid RA students for grant research sponsored by ONR and NASA

Service

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ASU Dean's Faculty Advisory Council (DFAC)

2024-2027: Elected appointment to review tenure and promotion cases for the Schools of Engineering

Chair, Council of Technical Groups, *Human Factors and Ergonomics Society*

2025: Outgoing Council Chair. Continue to advise COTG chairs post-appointment.
2022-2024: Council Chair, Lead Council of Technical Groups projects • Oversaw operation of the Circle of Excellence program from 27 groups to inspire technical group excellence in communications and operations • Lead representative of the technical group membership to the Executive Council

Chair, Industry Advisory Board, *ASU Human Systems Engineering*

2024-p: Advisory Board Chair. Selected and lead a group of five standout industry partners external to ASU who all hire and work in human systems engineering domains across healthcare, military, and government. The group advises and contributes to ensuring students across our undergraduate and graduate programs learn and develop, gain internship experience, and chart a career trajectory that will be impactful.

Founding Chair, Cybersecurity Technical Group, *Human Factors and Ergonomics Society*

2022-p: Leadership Member • Continue to serve as consulting member with leadership
2019-2022: Establishing Chair. Established and led the creation of the Cybersecurity TG for HFES • Contributed to Council of Technical Groups leadership projects to review HFES guidelines and recommendations. • Contributed to the Standards Task Force by investigating standards use in human factors work in cybersecurity domains. • Oversaw donations made to the technical group during chair position >$5,000, 2019-2022. • Managed membership, represented members at Society level, leading TG elections and nominations. • Established virtual speaker series

Committee Member, National Academies of Sciences Engineering & Medicine (NASEM)

2020-2021: Produced NASEM report, *Cybersecurity Workforce of the Federal Aviation Administration*

Editorial Board Member

2024-p: Human Factors Journal
2025-p: Journal of Cognitive Engineering & Decision-Making

Reviewer for 32 International Journals

ACM Transactions on Human-Robot Interaction (THRI)
Acta Psychologia

AI and Ethics
AI Magazine
Applied Ergonomics
Computational Brain & Behavior
Computers in Human Behavior Reports
Computers & Security
Digital Threats: Research and Practice
Ergonomics
Ergonomics In Design
Frontiers in Virtual Reality
IEEE: Presence
IEEE: Systems
IEEE: Systems, Man, & Cybernetics (SMC)
IEEE: Transactions on Human-Machine Systems (THMS)
International Journal of Aerospace Psychology
International Journal of Human-Computer Interaction
International Journal of Human-Computer Studies
International Journal of Social Robotics
Human Factors Journal ***(*Editorial Board Member)***
Human Factors in Healthcare
Human Performance
Journal of Applied Research in Memory & Cognition (JARMAC)
Journal of Cognitive Engineering & Decision Making (JCEDM) ***(*Editorial Board Member)***
Journal of Cyber Security Technology
Journal of Experimental Psychology: Applied (JEP: A)
Journal of Responsible Technology
Memory & Cognition
Nature (npj): Digital Medicine
Robotics and Computer-Integrated Manufacturing
Transportation Research Part F: Traffic Psychology & Behavior

Reviewer for 8 International Conferences

Applied Human Factors and Ergonomics (AHFE)
Cognitive Science Society (CSS)
Computer-Human Interaction (CHI)
Human-Computer Interaction International (HCII)
Human Factors and Ergonomics Society (HFES)(ASPIRE)
Hawaii International Conference on System Sciences (HICSS)
IEEE Systems, Man & Cybernetics (SMC)
IEEE CogSIMA

International Conference & Track Committees / Chairs

2025-2026: Publication Co-Chair, Program Committee, *International IEEE CogSIMA.*
2025*:* Program Committee, *IEEE CAI* conference
2024: Program Committee, *NeuroIPS* conference, Adaptive Cyber Defense
2023: Track Committee, Behavioral Decisions Game Theory; *GameSec*
2021: Track Committee, Behavioral Decisions Game Theory; *GameSec*

Grant Reviewer, 2 International Organizations, 1 US Organization

(**Int'l**) *Swiss National Science Foundation (SNSF)*
(**Int'l**) *ONR Global (Office of Naval Research)*
(**US**) *DARPA (Defense Advanced Research Projects Agency)*

Awards & Scholarships Reviewing

2025*:* Award Committee Member, Alphonse Chapanis Best Student Paper Award, **HFES**

2021-2024: Reviewer**,** Alphonse Chapanis Best Student Paper Award, **HFES**
2020-2023: Reviewer, Department of Defense SMART Scholarship, **US DOD**
2018: Award Committee Member, Jerome H. Ely Best Journal Article, **HFES**

Founding Conference Chair, Cybersecurity @ ERGOX Conference
2020-2022: Led the first Cybersecurity ERGOX workshop in 2020 and 2021, including assembling panelists, and talks on cybersecurity and the human factor. • Co-Developed and Co-Led a third Cybersecurity ERGOX workshop in 2022.

DARPA Information Science and Technology (ISAT) panel contributor
2021: **Contributor** to DARPA Information Science & Technology ISAT panel on "AI Leveraging InterspeciEs iN Teams (ALIEN-Teams)"

Voting Member, Institutional Review Board (IRB), *U.S. Navy*.
2016-2018: Full Voting Member
2014-2016: Advisory Member

Awards

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- **2025: *Best Paper Award***, Applied Human Factors and Ergonomics conference (AHFE)
- **2019: *Lightning Bolt Innovation Team Award***, Naval Information Warfare Center (U.S. Navy).
- **2018: *Marc Resnick Award*** for the best paper in the Computer Systems/Internet Technical Track at the Human Factors and Ergonomics Society Annual Conference, Human Factors and Ergonomics Society.
- **2018: *Exemplary Achievement Award*** in recognition for achievements that have been of high value and benefit to the organization, SPAWAR (U.S. Navy).
- **2017: *Jerome H. Ely Award*** for the best paper in the Human Factors Journal, Human Factors and Ergonomics Society.
- **2017**: ***Distinguished Achievement in Leadership Award***, Command and Control Department, SPAWAR (U.S. Navy).
- **2014**: ***David P. McCabe Excellence in Research Award***, Colorado State University.
- **2012**: ***Science Mathematics and Research for Transformation (SMART) Scholarship Award***, 2012-2014, U.S. Department of Defense.
- **2012**: ***Naval Research Enterprise Internship Award,*** Office of Naval Research.
- **2011**: ***Naval Research Enterprise Internship Award***, Office of Naval Research.
- **2011**: *Graduate Student Travel Award* to present a paper at American Psychological Society, Washington, D.C., 2011, Colorado State University.
- **2008**: *Graduate Fellowship*, 2008-2012, Department of Psychology, Colorado State University.
- **2004**: *President's Baylor Scholarship*, Baylor University.

Press Coverage

***Wall Street Journal* --** [US Intelligence Wants to Use Psychology to Avert Cyberattacks]
https://www.wsj.com/articles/u-s-intelligence-wants-to-use-psychology-to-avert-cyberattacks-11674670443

***Naval Proceedings* --** [Make User-centered Design a Cornerstone of Navy Systems]
https://www.usni.org/magazines/proceedings/2018-10/make-user-centered-design-cornerstone-navy-systems

***Future Force* --** [Virtual Reality Really Does Benefit the Military]
http://futureforce.navylive.dodlive.mil/2018/05/not-just-a-fad-virtual-reality-really-does-benefit-the-military/

***Defense One* --** [Inside Navy's Secret Swarm Robot Experiment]
http://www.defenseone.com/technology/2014/10/inside-navys-secret-swarm-robot-experiment/95813/

Expertise

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- ⇒ **Program and Scientific Leadership** of complex multi-million-dollar research programs, and scientists and engineers across disciplines on medium and large projects.
- ⇒ **Teaching** courses in psychology, human factors engineering, and human systems integration.
- ⇒ **Service Leadership** as part of professional societies and academia as chair of various committees.
- ⇒ **Experimental Design** and implementation for research in psychology, cognition and applied human factors engineering, and human systems integration across multiple domains (military, navy, healthcare, cybersecurity, transportation, display design, symbology, AR/VR/MxR)
- ⇒ **Institutional Review Board (IRB)** ethics and approvals
- ⇒ **Human Systems Integration (HSI)** processes, defense acquisition, MIL STD documentation
- ⇒ **User Experience** (**UX**) and User Research experience performing goal-directed task analysis (**GDTA**), cognitive task analysis (**CTA**), knowledge elicitation (**KE**) techniques, session moderation, system usability assessments, and heuristic reviews.

References

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