Cleotilde Gonzalez

Research Professor

Personal Website: https://www.cmu.edu/dietrich/sds/ddmlab/cotyweb/

Founding Director, Dynamic Decision-Making Laboratory (DDMLab) Social and Decision Sciences Department, Dietrich College of Humanities and Social Sciences Porter Hall 223-G DDMLab Website: <u>www.cmu.edu/ddmlab</u>

Research Co-Director, NSF National Institute for Societal Decision Making (AISDM) Machine Learning Department, School of Computer Science Social and Decision Sciences Department, Dietrich College of Humanities and Social Sciences AISDM Website: <u>https://www.cmu.edu/ai-sdm/</u>

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DEGREES

Ph.D., 1996	Texas Tech University College of Business Management Information Systems and Human Factors
M.Sc., 1992	Texas Tech University College of Business Management Information Systems
M.B.A., 1990	Universidad de las Americas-Puebla, Mexico College of Business
B.Sc., 1986	Universidad de las Americas-Puebla, Mexico Computer Engineering College of Engineering

RESEARCH INTERESTS

Learning; Decisions from experience; Dynamic Decision Making; Cognitive modeling; Cognitive engineering; Decision support.

FACULTY APPOINTMENTS

FACULTI AITOINTMENTS		
Full Research Professor	Department of Social and Decision Sciences (SDS) Carnegie Mellon University	2015-present
Associate Research Professor	Department of Social and Decision Sciences (SDS), Carnegie Mellon University	2007-2015
Assistant Professor	Department of Social and Decision Sciences (SDS), Carnegie Mellon University	2000–2006
Postdoctoral Fellow	Tepper School of Business, Carnegie Mellon University	1997–2000
Associate Professor	Department of Computer Engineering, Universidad de las Americas, Puebla, Mexico	1997
Assistant Professor	Department of Computer Engineering, Universidad de las Americas, Puebla, Mexico	1996

AFFILIATED FACULTY APPOINTMENTS

Carnegie Mellon University	
Societal Computing, Software and Societal Systems Department (S3D), School of Computer Science.	2021-present
Security and Privacy Institute, CyLab.	2019-present
Center for Neural Basis of Cognition, Psychology Department.	2007-present
Center for Behavioral Decision Research, Dietrich, Tepper, Heinz Colleges.	2006-present
Center for Cognitive Brain Imaging, Psychology Department.	2000-present
Human-Computer Interaction Institute, School of Computer Science.	2000-present
Center for Statistics and Applications in Forensic Evidence (CSAFE), Statistics Department.	2015-2017
University of Malaga, Spain	
Fulbright U.S. Scholar Program. Psychology Department.	2023
University of Colorado.	
Center for Research on Training, Psychology Department.	2006-2017

LEADERSHIP AND ADMINISTRATIVE APPOINTMENTS

Founding Director	Dynamic Decision-Making Laboratory (DDMLab) Department of Social and Decision Sciences (SDS), Dietrich College of Humanities and Social Sciences Carnegie Mellon University	2002-present
Research Co-Director	NSF AI Institute for Societal Decision Making (AI-SDM) Machine Learning Department, School of Computer Science Department of Social and Decision Sciences Dietrich College of Humanities and Social Sciences Carnegie Mellon University	2023–present
Research Assistant	Computing and Information Technologies, Texas Tech University	1991–1995
Chair	Analysis and Programming Department, Universidad de las Americas, Puebla, Mexico	1987–1991
Systems Analyst	Analysis and Programming Department, Universidad de las Americas, Puebla, Mexico	1986

RESEARCH GRANTS

- 1. Co-PI. SAI: Integrating Social Dynamics into Cyber-Physical Systems for Enhanced Facilities Design, Maintenance, and Operation. National Science Foundation (NSF)-CEE: Civil & Environmental Engineering. In collaboration with Katherine Flanigan, Mario E. Berges, & Christopher McComb (CMU). \$Approx. \$750K (CMU ONLY) (2024-2027).
- Co-PI. Psychologically-Inspired Cognitive Cyber Defenses (PsyCCDef). IARPA-ReSCIND Program. In collaboration with Palvi Aggarwal and Chris Kiekintveld, UTEP; Prashanth Rajivan, UW; and Ritu Chadha and Sridhar Venkatesan, Peraton Labs). \$1.8M (CMU only) (2024-2027).
- 3. Co-PI and Institute's Research Co-Director. *Institute for AI-enabled Societal Decision Making (AI-SDM)*. National Science Foundation (NSF). In collaboration with Aarti Singh, CMU, and others. \$20M (2023-2028).
- Co-PI. Cyber Autonomy through Robust Learning and Effective Human-Bot Teaming. Army Research Office, Australia-US Multidisciplinary University Research Initiative (AUS-MURI). In collaboration with Somesh Jha, University of Wisconsin (US MURI Lead); Lujo Bauer, CMU, and other universities in the US; Ben Rubinstein, University of Melbourne (AUSMURI lead) and other universities in Australia. Approx. \$1.5M (CMU only) (2021–2026).
- Principal Investigator. TRUST'M: Behavioral Models, Methods & Metrics for Trust Establishment, Maintenance and Repair in Human Machine Co-Training. Air Force Office of Scientific Research (AFOSR). In collaboration with Summer Rebensky, Aptima, Inc. Approx. \$340K (2022-2023).
- 6. Co-PI. *An Integrated Theory of Human-Machine Teaming*. **Defense Advanced Research Projects Agency. DARPA's ASIST program**. In collaboration with Anita Woolley and Henny Admoni, CMU. Approx. \$2.9M (CMU only) (2019–2023).
- Co-PI. Realizing Cyber Inception: Towards a Science of Personalized Deception for Cyber Defense. Army Research Office, Multidisciplinary University Research Initiative (MURI). In collaboration with Milind Tambe, Harvard University; Christian Lebiere, and Lujo Bauer, CMU, and others. Approx. \$1.9M (CMU only) (2017–2023).
- 8. Principal Investigator. *Advancing Learning Science for Improved Human-Machine Team Effectiveness*. Air Force Research Laboratory (AFRL), Sub-award from L3 Technologies, Inc., Link, Simulation & Training. Approx. \$550K (2020-2022).
- 9. Principal Investigator. *Personalized Phishing Detection Training Using Cognitive Models*. CyLab grant. In collaboration with Christian Lebiere, CMU. \$50K. (2021-2022).
- Principal Investigator. Scaling up Models of Decisions from Experience: Information and Incentives in Networks. Army Research Office, Network Science Program. Approx. \$400K. (2017–2021).

- Co-PI. Homo SocioNeticus: Scaling the Cognitive Foundations of Online Social Behavior. Defense Advanced Research Projects Agency. DARPA's SocialSim program. In collaboration with Christian Lebiere & David Plaut, CMU, and other institutions. Approx. \$250K (Gonzalez only). (2017–2021).
- Co-PI. Human Factors in Identification Decisions: A cross-cutting interdisciplinary approach. National Institute of Standards and Technology. Part of the Center for Statistics and Applications in Forensic Evidence. Statistics Department, Carnegie Mellon University, and Iowa State University. Approx. \$150K. (2016-2017).
- 13. Principal Investigator. An Integrated Learning Theory of Descriptive and Experience-Based Decisions. National Science Foundation, Decision, Risk and Management Science. \$483K. (2015-2019).
- Principal Investigator. MACRO: Models for Enabling Continuous Reconfigurability of Secure Missions. Cyber-Security Collaborative Research Alliance (CRA). Army Research Laboratories. Carnegie Mellon University. Lead of Behavioral Science research on cybersecurity. Approx. \$2.5M (C. Gonzalez only). (2013-2023).
- 15. Principal Investigator. Integrating and Extending Decisions from Experience Phenomena with Instance-Based Learning Models. National Science Foundation, Decision, Risk and Management Science. \$575K. (2012-2015).
- Co-PI. Usable Automated Data Inference for End Users. Qatar National Research Fund. National Priorities Research Program (NPRP-Cycle 4). In collaboration with Iliano Cervesato, Carnegie Mellon University-Qatar Campus. \$1.05M (C. Gonzalez only). (2012-2015).
- Co-PI. Cognitive Models of Trust and Scalable Recommendation and Information Sources. Network Science Collaborative Technology Alliance (NS-CTA) of the Army Research Laboratories. In collaboration with T. Höllerer and John O'Donovan, University of California, Santa Barbara. Approx. \$1.3M (C. Gonzalez only). (2011-2016).
- 18. Principal Investigator. Understanding Conflict with a Socio-Cognitive Computational Approach. Defense Threat Reduction Agency. In collaboration with Christian Lebiere, Carnegie Mellon University. \$1.75M over 5 years (2009-2014).
- 19. Principal Investigator. Dynamic Decision Making in Mine Emergency Situations. National Institute for Occupational Safety and Health. \$216K. (2009-2011).
- Co-PI. Computer-aided Human Centric Cyber Situation Awareness. Army Research Office, Multidisciplinary University Research Initiative (MURI). In collaboration with Peng Liu, Penn State University, Arizona State, George Mason, and North Carolina State University. \$666K (C. Gonzalez only). (2009–2014).
- Principal Investigator. Decision Making and Diplomacy. Richard Lounsbery Foundation, In collaboration with Dr. Kiron Skinner, Social and Decision Sciences, and Laurie Eisenberg, History department, Carnegie Mellon University. \$63K. (2007-2008).
- 22. Principal Investigator. *Hypothesis Generation and Feedback in Dynamic Decision Making*. National Science Foundation, Human and Social Dynamics Priority Area. In collaboration with Rickey Thomas, University of Oklahoma and Robert Hamm, University of Oklahoma Health Sciences Center. \$675K. (2006-2009).
- Co-PI. Training Knowledge and Skills for the Networked Battlefield. Army Research Office, Multidisciplinary University Research Initiative (MURI). In collaboration with Alice Healy and Lyle Bourne, University of Colorado. \$887K (C. Gonzalez only). (2005–2009).
- Co-PI. Learning from the Past: Improving Estimation of Future Construction Projects. PITA program, Institute for Complex Engineered Systems, Carnegie Mellon University. In collaboration with Burcu Akinci, ECE, Carnegie Mellon University. \$60K (C. Gonzalez only). (2005–2006).
- 25. Co-PI. Automated Communication Analysis for Interactive Situation Awareness Assessment. Office of Naval Research, Small Business Innovation Research. In collaboration with Mica Endsley and Cheryl Bolstad, SA Technologies. \$60K. (2004).
- Principal Investigator. Cognitive Process Modeling and Measurement in Dynamic Decision Making. Army Research Laboratories, Collaborative Technology Alliances, Advanced Decision Architectures Group. In collaboration with Mica Endsley, SA Technologies. \$3.04M. (2001–2009).
- 27. Principal Investigator. *Perception and Attention Effects on Learning Dynamic Decision Making Tasks*. Carnegie Mellon University Faculty Development Fund. \$5K. (2001).
- Co-PI. Cognitive, Biological and Computational Analyses of Automaticity in Complex Cognition. Project: Automaticity development and transfer in real-time dynamic decision making. Office of Naval Research, Multidisciplinary University Research Initiative (MURI). In collaboration with Marcel Just, Carnegie Mellon University, and Walter Schneider, University of Pittsburgh. \$1.3M (C. Gonzalez only). (2001–2006).

TRAINING GRANTS

- Faculty Advisor. At the Interface of Behavioral and Biomedical Sciences. National Institute of Health (NIGMS), training grant. In collaboration with Dr. Julie Fiez, University of Pittsburgh and Dr. Lori Holt, Carnegie Mellon University (2007-2012).
- Faculty Advisor. Training in Combined Computational and Behavioral Approaches to Cognition. National Institute of Mental Health, training grant. In collaboration with Dr. Lynne Reder, Carnegie Mellon University (2002–2008).

WORKSHOP GRANTS

31. Principal Organizer. *Cyber Deception: Modeling, Computation and Adaptive Learning*. Army Research Office (ARO), in collaboration with Prof. Milind Tambe, Harvard University (2022-2024).

JOURNAL PAPERS AND BOOK CHAPTERS

2025

- Du, Y., Prebot, B., Malloy, T., & Gonzalez, C. (2025). A Cyber-War Between Bots: Cognitive Attackers are More Challenging for Defenders than Strategic Attackers. ACM Transactions on Social Computing. <u>https://doi.org/10.1145/3712672</u>
- McDonald, C., & Gonzalez, C. (2025). Controllable Complementarity: Subjective Preferences in Human-AI Collaboration. arXiv preprint arXiv:2503.05455. Link

2024

- Cranford, E. A., Lebiere, C., Gonzalez, C., Aggarwal, P., Somers, S., Mitsopoulos, K., & Tambe, M. (2024). Personalized model-driven interventions for decisions from experience. *Topics in Cognitive Science*, 00, 1– 24. <u>https://doi.org/10.1111/tops.12758</u>
- 4. Kaufman, G., Jarbo, K., & Gonzalez, C. (2024). Bias at Play: Investigating Desensitization to Diversity and Inclusion via Interactions with Bots. *Computers in Human Behavior Reports*. 16, 100493. <u>https://doi.org/10.1016/j.chbr.2024.100493</u>
- Malloy, T. & Gonzalez, C. (2024). Applying Generative Artificial Intelligence onto Cognitive Modeling of Decision Making. *Frontiers in Psychology- Section Cognitive Science*. Vol. 15, 2024. <u>https://doi.org/10.3389/fpsyg.2024.1387948</u>
- Park, S., Gonzalez, C. & Puranam, P. (2024). Decision Centralization and Learning from Experience in Groups: Separating Context from Aggregation Effects. *Management Science*. pp 1-2.1 <u>https://doi.org/10.1287/mnsc.2022.01507</u>.

- Gonzalez, C. (2023). Building Human-Like Artificial Agents: A General Cognitive Algorithm for Emulating Human Decision-Making in Dynamic Environments. *Perspectives on Psychological Science*, https://journals.sagepub.com/doi/epub/10.1177/17456916231196766
- Gonzalez, C., Admoni, H., Brown, S., & Woolley, A.W. (2023). COHUMAIN: Building the Socio-Cognitive Architecture of Collective Human-Machine Intelligence. *TopiCS in Cognitive Science*, <u>https://doi.org/10.1111/tops.12673</u>. Wiley Online Library.
- Gonzalez, C., Aggarwal, P., Cranford, E. A., & Lebiere, C. (2023). Adaptive Cyberdefense with Deception: A Human-AI Cognitive Approach. In T. Bao et al., (eds.). *Cyber Deception, Techniques, Strategies, and Human Aspects*. Vol. 89. https://doi.org/10.1007/978-3-031-16613-6_3, pp. 41-57, Springer.
- Aggarwal, P., Jabbari, S., Thakoor, O., Cranford, E. A., Vayanos, P., Lebiere, C., Tambe, M., & Gonzalez, C. (2023). Human-Subject Experiments on Risk-Based Cyber Camouflage Games. In T. Bao et al., (eds.). *Cyber Deception, Techniques, Strategies, and Human Aspects.* Vol. 89. https://doi.org/10.1007/978-3-031-16613-6_2, pp. 25-40, Springer.
- Aggarwal, P., Cranford, E. A., Tambe, M., Lebiere, C. & Gonzalez, C. (2023). Deceptive Signaling: Understanding Human Behavior Against Signaling Algorithms. In T. Bao et al., (eds.). *Cyber Deception, Techniques, Strategies, and Human Aspects*. Vol. 89. <u>https://doi.org/10.1007/978-3-031-16613-6_5</u>, pp. 83-96, Springer.
- Galesic, M., Barkoczi, D., Berdahl, A., Biro, D., Carbone, G., Giannoccaro, I., Goldstone, R., Gonzalez, C., Kandler, A., Kao, A., Kendal, R., Kline, M., Lee, E., Massari, G. F., Mesoudi, A., Olsson, H., Pescetelli, N., Sloman, S. J., Smaldimo, P. E., & Stein, D. L. (2023). Beyond collective intelligence: Collective adaptation. J. R. Soc. Interface. 20: 20220736. https://doi.org/10.1098/rsif.2022.0736
- Gulati, A., Nguyen, T. N., Gonzalez, C. (2023). Task Complexity and Performance in Individuals and Groups Without Communication. In Gurney, N., & Sukthankar, G. (eds.), *Computational Theory of Mind for Human-Machine Teams*. First International Symposium, ToM for Teams 2021, Virtual Event, November 4-6, 2021, Revised Selected Papers. Springer Cham. Pp. 102-117. 978-3-031-21671-8 Published: 01 January 2023. https://doi.org/10.1007/978-3-031-21671-8
- Gupta, P., Nguyen, T. N., Gonzalez, C., & Woolley, A. W. (2023). Fostering Collective Intelligence in Human-AI Collaboration: Laying the Groundwork for COHUMAIN. *TopiCS in Cognitive Science*. <u>https://doi.org/10.1111/tops.12679</u>. Wiley Online Library.
- Lebiere, C., Cranford, E. A., Aggarwal, P., Cooney, S., Tambe, M., & Gonzalez, C. (2023). Cognitive Modeling for Personalized, Adaptive Signaling for Cyber Deception. In T. Bao et al., (eds.). *Cyber Deception, Techniques, Strategies, and Human Aspects*. Vol. 89. <u>https://doi.org/10.1007/978-3-031-16613-6_4</u>, pp. 59-82, Springer.
- Miah, M. S., Aggarwal, P., Gutierrez, M. Thakoor, O., Du, Y., Veliz, O., Singh, K., Kiekintveld, C., & Gonzalez, C. (2023). Diversifying Deception: Game-Theoretic Models for Two-Sided Deception and Initial Human Studies. In T. Bao et al., (eds.). *Cyber Deception, Advances in Information Security*. Vol. 89. <u>https://doi.org/10.1007/978-3-031-16613-6_1</u>, pp. 1-24, Springer.
- Nguyen, N. T., & Gonzalez, C. (2023). Minimap: An Interactive Dynamic Decision Making Game for Search and Rescue Missions. *Behavior Research Methods*. 2023 Aug 8. <u>https://doi.org/10.3758/s13428-023-02149-7</u>.
- Nguyen, N. T., McDonald, C., & Gonzalez, C. (2023) Credit Assignment: Challenges and Opportunities in Developing Human-Like AI Agents. arXiv:2307.08171. <u>https://doi.org/10.48550/arXiv.2307.08171</u>.
- Nguyen, N. T., Phan, N. D., & Gonzalez, C. (2023). Learning in Cooperative Multiagent Systems Using Cognitive and Machine Models. ACM Transactions on Autonomous and Adaptive Systems. Vol. 18, Issue 4, Article No: 15, pp. 1-22. https://doi.org/10.1145/3617835.
- Prebot, B., Du, Y. & Gonzalez, C. (2023). Learning About Simulated Adversaries from Human Defenders using Interactive Cyber Defense Games. *Journal of Cybersecurity*. 2023, 1-13. <u>https://doi.org/10.1093/cybsec/tyad022</u>.
- Singh, K., Aggarwal, P., Rajivan, P., & Gonzalez C. (2023). Cognitive Elements of Learning and Discriminability in Anti-Phishing Training. *Computers & Security*. 127, 103105. <u>https://doi.org/10.1016/j.cose.2023.103105</u>.

 Zhao, M., Eadeh, F. R., Nguyen, T. N., Gupta, P., Admoni, H., Gonzalez, C., & Woolley, A. (2023). Teaching Agents to Understand Teamwork: Evaluating and Predicting Collective Intelligence as a Latent Variable via Hidden Markov Models. *Computers in Human Behavior*. Volume 139, February 2023, 107524. <u>https://doi.org/10.1016/j.chb.2022.107524</u>.

2022

- Gonzalez, C. (2022). Learning and Dynamic Decision Making. Topics in Cognitive Science. *TopiCS*. Vol. 14, Issue 1, pp. 14-30. https://doi.org/10.1111/tops.12581.
- Gonzalez, C. & Aggarwal, P. (2022). Sequential Decisions from Sampling: Inductive Generation of Stopping Decisions Using Instance-Based Learning Theory. Chapter in Sampling theories continue to inspire novel judgment and decision research, Fiedler, K., Juslin, P. & Denrell, J. (Eds.). Cambridge University Press. https://doi.org/10.31234/osf.io/t4vmb.
- Aggarwal, P., Thakoor, O., Jabbari, S., Cranford, E. A., Lebiere, C., Tambe, M., & Gonzalez, C. (2022). Designing Effective Masking Strategies for Cyberdefense through Human Experimentation and Cognitive Models. *Computers & Security*. doi: https://doi.org/10.1016/j.cose.2022.102671.
- Cuellar, M., Gonzalez, C., Dror, I. (2022). Human and Machine Similarity Judgments in Forensic Firearm Comparisons. Forensic Science International: Synergy, 5, 100283, https://doi.org/10.1016/j.fsisyn.2022.100283.
- Dugarte-Pena, G., Sanchez-Segura, M., Medina-Dominguez, F., Amescua, A. & Gonzalez, C. (2022). An Instance-Based Learning Simulation Model to Predict Knowledge Assets Evolution Involved in Potential Transformation Projects. *Knowledge Management Research and Practice* (In Press).
- Konstantinidis, E., Harman, J.L. & Gonzalez, C. (2022). Patterns of choice adaptation in dynamic risky environments. *Memory* & Cognition, 50, 864-881, https://doi.org/10.3758/s13421-021-01244-4.
- McCormick, E.N., Cheyette, S.J. & Gonzalez, C. (2022). Choice adaptation to changing environments: trends, feedback, and observability of change. *Memory & Cognition*. https://doi.org/10.3758/s13421-022-01313-2.
- Nguyen, N. T., Phan, N. D., & Gonzalez, C. (2022). SpeedyIBL: A Comprehensive, Precise, and Fast Implementation of Instance-Based Learning Theory. *Behavior Research Methods*. doi: https://doi.org/10.3758/s13428-022-01848-x.
- Zhang, H., Moisan, F., Aggarwal, P., & Gonzalez, C. (2022). Truth-telling in a Sender-Receiver Game: Social Value Orientation and Incentives. *Symmetry*, 2022, 14, 1561. <u>https://doi.org/10.3390/sym14081561</u>.

2021

- 32. Aggarwal, P., Gutierrez, M., Kiekintveld, C., Bosansky, B. & Gonzalez, C. (2021). Evaluating Adaptive Deception Strategies for Cyber Defense with Human Adversaries. To appear in Kamhoua, C., Kiekintveld, C., Fang, F., & Zhu, Q., Game Theory and Machine Learning for Cyber Security. IEEE Press, John Wiley & Sons, Inc. <u>https://doi.org/10.1002/9781119723950.ch5</u>
- Cranford, E. A., Gonzalez, C., Aggarwal, P., Tambe, M., Cooney, S., & Lebiere, C. (2021). Towards a Cognitive Theory of Cyber Deception. *Cognitive Science*, 45:e13013, 1–28. Wiley-Blackwell. <u>https://doi.org/10.1111/cogs.13013</u>
- Harman, J. L., Yu, M., Konstantinidis, E., & Gonzalez, C. (2021, March 20). How to Use a Multi-Criteria Comparison Procedure to Improve Modeling Competitions. *Psychological Review*. 128(5), 995–1005. <u>https://doi.org/10.1037/rev0000274</u>
- Nguyen, T.N. & Gonzalez, C. (2021). Theory of Mind from Observation in Cognitive Models and Humans. *Topics in Cognitive Science*. TopiCS. In Press. <u>https://doi.org/10.1111/tops.12553</u>
- Sloman, S. J., Goldstone, R., & Gonzalez, C. (2021). A Social Interpolation Model of Group Problem-Solving. Cognitive science. 45(12), e13066. <u>https://doi.org/10.1111/cogs.13066</u>
- Zhang, H., Moisan, F., & Gonzalez, C. (2021). Rock-Paper-Scissors Play: Beyond the Win-Stay/Lose-Change Strategy. Special Issue: Psychological Perspectives on Simple Games. Games. 12(3), 52. <u>https://doi.org/10.3390/g12030052</u>

2020

- Aggarwal, P., Moisan, F., Gonzalez, C., & Dutt, V. (2020). Learning About the Effects of Alert Uncertainty in Attack and Defend Decisions via Cognitive Modeling. *Human Factors*, Vol. 00, No. 0, pp. 1-17, https://doi.org/10.1177/0018720820945425
- Aggarwal P., Gonzalez C., Dutt V. (2020). HackIt: A Real-Time Simulation Tool for Studying Real-World Cyberattacks in the Laboratory. In: Gupta B., Perez G., Agrawal D., Gupta D. (eds.) *Handbook of Computer Networks and Cyber Security*. Springer, Cham. https://doi.org/10.1007/978-3-030-22277-2 39
- Cranford, E.A., Gonzalez, C., Aggarwal, P., Cooney, S., Tambe, M., & Lebiere, C. (2020). Toward personalized deceptive signaling for cyber defense using cognitive models. *Topics in Cognitive Science*, 12, 992-1011. Wiley-Blackwell. <u>https://doi.org/10.1111/tops.12513</u>
- Mahmoodi, K., West, B. J., & Gonzalez, C., (2020). Selfish Algorithm and Emergence of Collective Intelligence. *Journal of Complex Networks*. Volume 8, Issue 3, June 2020, cnaa019, <u>https://doi.org/10.1093/comnet/cnaa019</u>
- 42. Rajivan, P., Aharonov-Majar, E., **Gonzalez, C**. (2020). Update now or later? Effects of experience, cost, and risk preference on update decisions. *Journal of Cybersecurity.*, 6(1). <u>https://doi.org/10.1093/cybsec/tyaa002</u>
- Veksler, V. D.; Buchler, N., Lafleur, C. G., Yu, M, S., Lebiere, L., & Gonzalez C., (2020). Cognitive Models in Cybersecurity: Learning from Expert Analysts and Predicting Attacker Behavior. *Frontiers in Psychology, Cognition*. 11, 1049. https://doi.org/10.3389/fpsyg.2020.01049

2019

 Aharonov-Majar, E., Rajivan, P., Gonzalez, C., Erev, I. (2019). The impact of variability and prechoice experience on taking safety measures: The case of security updates. *Journal of Behavioral Decision Making*. 2019;1-12, <u>https://doi.org/10.1002/bdm.2131</u>

- 45. De La Maza, C., Davis A. Gonzalez, C., Azevedo I. L. (2019). Understanding cumulative Risk Perception from Judgments and Choices: An Application to Flood Risks. *Risk Analysis*. Volume 39, Issue 2. 488-504. <u>https://doi.org/10.1111/risa.13206</u>
- 46. Qi L. & Gonzalez, C. (2019). Math matters: Mathematical Knowledge Plays an Essential Role in Chinese Undergraduates' Stock-and-Flow Task Performance. *System Dynamics Review*. Volume 35, Issue 3. 208-231. <u>https://doi.org/10.1002/sdr.1640</u>

- Gonzalez, C., Sanchez-Segura, M., Dugarte-Pena, G., Medina-Dominguez, F. (2018). Valance Matters in Judgments of Stock Accumulation in Blood Glucose Control and Other Global Problems. *Journal of Dynamic Decision Making*. 4(1). https://doi.org/10.11588/jddm.2018.1.49607
- Buchler, N., Rajivan, P., Marusich, L. R., Lightner, L., Gonzalez, C. (2018) Sociometrics and Observational Assessment of Teaming and Leadership in a Cyber Security Defense Competition. *Computers and Security*, 73, 114-136. <u>https://doi: 10.1016/j.cose.2017.10.013</u>
- Curtis, S., Rajivan, P., Jones, D., & Gonzalez, C. (2018). Phishing attempts among the Dark Triad: Patterns of attack and vulnerability. *Computers in Human Behavior*, 87, 174-182. https://doi.org/10.1016/j.chb.2018.05.037
- Martin, J., Lejarraga, T. & Gonzalez, C. (2018). The Effects of Motivation and Memory on the Weighting of Reference Prices. Journal of Economic Psychology. 65, 16-25. <u>https://doi.org/10.1016/j.joep.2018.01.005</u>
- Moisan, F., ten Brincke, R., Murphy, R. O., Gonzalez, C., (2018). Not all Prisoner's Dilemma Games are Equal: Incentives, Social Preferences, and Cooperation. *Decision*. 5(4), 306-322. <u>https://doi.org/10.1037/dec0000079</u>
- Rajivan, P. & Gonzalez, C. (2018). Creative Persuasion: A study on Adversarial Behaviors and Strategies in Phishing Attacks. Frontiers in Psychology-Cognitive Science, 9, 125. <u>https://10.3389/fpsyg.2018.00135</u>
- Rajivan, P., & Gonzalez, C. (2018) Human Factors in Cyber Security Defense. Human Factors and Ergonomics for the Gulf Cooperation Council: Processes, Technologies, and Practices. 85-104. Boca Raton, CRC Press. ISBN: 9781498781909
- Schaffer, J., O'Donovan J., Marusich, L., Yu, M., Gonzalez, C., & Hollerer, T. (2018). A Study of Dynamic Information Display and Decision-making in Abstract Trust Games. *International Journal of Human-Computer Studies*. 113, 1-14. <u>https://doi.org/10.1016/j.ijhcs.2018.01.002</u>

2017

- Gonzalez, C. (2017). Decision Making: A Cognitive Science Perspective. Chapter 13, pp. 249-263. In Chipman, S. (Ed), *The Oxford Handbook of Cognitive Science*. ISBN: 978-0-199-84219-3. Oxford University Press. Published online Nov 2014. https://10.1093/oxfordhb/9780199842193.013.6
- Gonzalez, C. Ben-Asher, N. & Morrison, D. (2017). Dynamics of Decision Making in Cyber Defense: Using Multi-Agent Cognitive Modeling to Understand CyberWar. P. Liu et al. (Eds.): *Cyber Situation Awareness*. LNCS 10030, PP. 113-127, 2017. <u>https://doi:10.1007/978-3-319-61152-5_5</u>, Springer International Publishing.
- Gonzalez, C., Fakhari, P. & Busemeyer, J. (2017). Dynamic Decision Making: Learning Processes and New Research Directions. *Human Factors*. 59(5), 713-721. <u>https://doi:10.1177/0018720817710347</u>
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- Harman, J. L., Mehlhorn, K, & Gonzalez, C. A cognitive explanation of the integration of likelihood and outcome in risky choice.
- Malloy, T., Fang, F., & Gonzalez, C. Improving Online Anti-Phishing Training Using Cognitive Large Language Models. Under Review.

Nguyen, T. N., Flagg, J., & Gonzalez, C. Understanding Theory of Mind: Impact of Cognitive, Spatial, and Emotional Factors on Human Decision Making in the Rock-Paper-Scissors Game. Under Review.

Nguyen, T. N., McDonald, C., & Gonzalez, C. Credit Assignment: Challenges and Opportunities in Developing Human-Like Learning Agents. Under Review.

Edited Volumes

- 1. **Gonzalez, C.**, Admoni, H., Brown, S., Woolley, A. W. (Editors) (2023). COHUMAIN: Building the Socio-Cognitive Architecture of Collective Human-Machine Intelligence. Special issue on Topics in Cognitive Science. (in press).
- Bosansky, B., Gonzalez, C., Rass, S., Sinha, A. (Editors) (2021). Decision and Game Theory for Security. Proceedings of the 12th. International Conference, GameSec 2021, Virtual Event, October 25-27, 2021. Part of the Lecture Notes in Computer Science book series (LNCS, volume 13061); also part of the Security and Cryptology book sub series (LNSC, volume 13061).
- Schmid, U., Ragni, M., Gonzalez, C., Funke, J. (Editors) (2011). Special Issue on Complex Cognition. Cognitive Systems Research. Volume 12, issues 3-4, September/December 2011.
- 4. Lebiere, C., Gonzalez, C., Warwick, W. (2010). Cognitive Architectures, Model Comparison, and Artificial General Intelligence. Journal of Artificial General Intelligence. ISSN: 1946-0163. Volume 2, Number 2, January 2010.
- Garrido, L., Cervantes-Perez, F., Gonzalez, C., & Mora, M. (Editors) (2010). Engineering and Management of IDTs for Knowledge Management Systems. Journal of Intelligent Decision Technologies. ISSN 1872-4981 (Print) 1875-8843 (Online). Volume 4, Number 1, January 2010, pp. 1-100.
- de Souza, C., Sanchez, A., Barbosa, S., & Gonzalez, C. (Editors) (2003). Proceedings of the Latin American Conference on Human-Computer Interaction (ACM International Conference Proceedings Series, Vol. 46). New York: ACM Press. https://dl.acm.org/doi/proceedings/10.1145/944519

Book Reviews

- 1. Gonzalez, C. (2017). [Review of Dynamic Systems for Everyone: Understanding How Our World Works]. System Dynamics Review, 1-2.
- Gonzalez, C. (2000). [Review of Human performance and ergonomics]. International Journal of Cognitive Ergonomics, 4(3), 271–272.

PAPERS IN PEER-REVIEWED CONFERENCE PROCEEDINGS

2025

- Malloy, T., Ferreira, M., Fang F., & Gonzalez, C. (accepted). Using Cognitive Models to Improve Training Against Human and GPT-4 Generated Social Engineering Attacks. In Proceedings of HCI International 2025. – 27th International Conference on Human-Computer Interaction. (pp. TBA). June 22-27, 2025, Gothenburg, Sweden.
- Malloy, T., Ferreira, M., Fang, F., & Gonzalez, C. (2025). Leveraging a Cognitive Model to Measure Subjective Similarity of Human and GPT-4 Written Content. *Conference on Natural Language Learning: Workshop of the Conference on Empirical Methods in Natural Language Processing (2025).*
- 3. Malloy, T., Seow, R., & Gonzalez, C. (2025). Modeling Attention during Dimensional Shifts with Counterfactual and Delayed Feedback. *Conference on Reinforcement Learning and Decision Making (2025)*.

- Aggarwal, P., Kuikel, S., Ferreira, M., Singh, K., & Gonzalez, C. (accepted). Agreement and Divergence in Predicting Human Phishing Classification Decisions. In Proceedings of ASPIRE - The *International Annual Meeting of the Human Factors and Ergonomics Society (HFES)* (pp. TBA). September 9-13, 2024, Phoenix, Arizona.
- Aggarwal, P., Nowmi, S. R., Du, Y. & Gonzalez, C. (2024). Evidence of Cognitive Biases in Cyber Attackers from An Empirical Study. In *Proceedings of the* 57th *Hawaii International Conference on System Sciences* (pp. TBA). HICSS 2024, January 3-6, 2024, Waikiki, HI. (pp. 934-943)
- Aggarwal, P., Venkatesan, S., Youzwak, J., Chadha, R., & Gonzalez, C. (2024). Discovering cognitive biases in cyber attackers' network exploitation activities: A case study. In: Abbas Moallem (eds), *Human Factors in Cybersecurity. AHFE (2024) International Conference.* AHFE Open Access, vol 127. pp. 115-128. AHFE International, USA. http://doi.org/10.54941/ahfe1004771. July 24-27, 2024, Universite Cote d'Azur, Nice, France.
- 7. Bugbee, E. & Gonzalez, C. (accepted). A theoretical integration for sequential decisions from experience in optimal stopping tasks and beyond. SJDM Annual Meeting 2024. November 22-25, 2024. New York City, NY.
- Bugbee, E. & Gonzalez, C. (2024). Feedback Promotes Learning and Knowledge of the Distribution of Values Hinders Exploration in an Optimal Stopping Task. In *Proceedings of the 46th Annual Conference of the Cognitive Science Society*. pp. 4618-4624. Rotterdam, The Netherlands, July 24-27, 2024.
- Du, Y., Rajivan, P., & Gonzalez, C. (2024). Large Language Models for Collective Problem Solving: Insights into Group Consensus Decision-Making. In *Proceedings of the 46th Annual Conference of the Cognitive Science Society*. pp. 3011-3018. Rotterdam, The Netherlands, July 24-27, 2024.
- Du, Y., Prebot, B., & Gonzalez, C. (2024). Turing-like Experiment in a Cyber Defense Game. The Association for the Advancement of Artificial Intelligence, AAAI Spring Symposium. AAAI-24 Spring Symposium on Human-Like Learning. March 25-27, 2024, Stanford, CA.

- Katakwar, H., Gonzalez, C., Dutt, V. (2024). Attackers Have Prior Beliefs: Comprehending Cognitive Aspects of Confirmation Bias on Adversarial Decisions. Proceedings of the 4th International Conference on Frontiers in Computing and Systems. COMSYS 2023, Vol. 2. <u>https://doi.org/10.1007/978-981-97-2614-1</u>.
- Malloy, T., Ferreira, M., Fang, F., & Gonzalez, C. (accepted). Leveraging a Cognitive Model to Measure Subjective Similarity of Human and GPT-4 Written Content. CoNLL Conference on Computational Natural Language Learning. November 15-16, 2024, Miami, FL.
- McDonald, C. & Gonzalez, C. (accepted). Controllable Complementarity: Investigating Preferences in Human-AI Teaming. SJDM Annual Meeting 2024. November 22-25, 2024. New York City, NY.
- Nguyen, N., McDonald, C., & Gonzalez, C. (2024). Credit Assignment: Challenges and Opportunities in Developing Human-Like Learning Agents. The Association for the Advancement of Artificial Intelligence, AAAI Spring Symposium. AAAI-24 Spring Symposium on Human-Like Learning. March 25-27, 2024, Stanford, CA.
- 15. Seow, R., Zhao, Y., Wood, D., Tambe, M., & **Gonzalez, C.** (accepted). Leveraging cognitive models of decision-making to effectively allocate limited resources. SJDM Annual Meeting 2024. November 22-25, 2024. New York City, NY.
- Singh, K., Aggarwal, P., Rajivan, P. & Gonzalez, C. (2024). Does penalty help people learn to detect phishing emails?. In Abbas Moallem (eds) Human Factors in Cybersecurity. AHFE (2024) International Conference. AHFE Open Access, vol 127. pp. 74-82. AHFE International, USA. <u>http://doi.org/10.54941/ahfe1004767</u>. July 24-27, 2024, Universite Cote d'Azur, Nice, France.

- Bugbee, E. H., Nguyen, N. T. & Gonzalez, C. (2023). Applications of Instance-Based Learning Theory: Using the SpeedyIBL Library to Construct Computational Models. ACM Digital Library. Proceedings for the XI Latin American Conference on Human Computer Interaction. CLIHC2023, N. 40, pages 1-3, October 30-November 1, 2023, Puebla, Mexico. https://doi.org/10.1145/3630970.3630997
- Bugbee, E. H. & Gonzalez, C. (2023). The Effect of Feedback and Knowledge of the Distribution of Option Values on Learning in Sequential Search. *Society for Judgment and Decision Making Conference, 2023. SJDM 2023*, November 17-20, 2023, San Francisco, CA.
- Cranford, E. A., Ou, H. C., Gonzalez, C., Tambe, M., & Lebiere, C. (2023). Accounting for uncertainty in deceptive signaling for cybersecurity. In *Proceedings of the* 56th *Hawaii International Conference on System Sciences* (pp. 876–885). HICSS 2023, January 7-10, 2023, Maui, HI. <u>https://hdl.handle.net/10125/102738</u>
- Du, Y., Prebot, B., Xi, X. & Gonzalez, C., (2023). A Cyber-War Between Bots: Human-Like Attackers are More Challenging for Defenders than Deterministic Attackers. In *Proceedings of the 56 Hawaii International Conference on System Sciences* (pp. 856-865). HICSS 2023, January 7-10, 2023, Maui, HI. <u>https://hdl.handle.net/10125/102736</u>
- Malloy, T., Du, Y., Fang, F., & Gonzalez, C. (2023). Generative Environment-Representation Instance-Based Learning: A Cognitive Model. AAAI 2023 Fall Symposium Series: Integration of Cognitive Architectures and Generative Models. October 25-27, 2023. Westin Arlington Gateway, Arlington VA.
- Malloy, T., Du, Y., Fang, F., & Gonzalez, C. (2023). Accounting for Transfer of Learning Using Human Behavior Models. *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing 11(1), 115-126.* (HCOMP 2023). November 6-10, Delft, NL. <u>https://doi.org/10.1609/hcomp.v11i1.27553</u>
- 23. Malloy, T. & Gonzalez, C. (2023). Learning to Defend by Attacking (and Vice-Versa): Transfer of Learning in Cybersecurity Games. 2nd Workshop on Active Defense and deception (EuropS&P'23 AD&D Workshop). Delft, Netherlands. July 3-7, 2023. <u>https://adnd23.hotcrp.com/doc/adnd23-final1.pdf?cap=hcav1CWPgLKtDzWtVbRaRBHhRpRpB</u>
- McDonald, C., Nguyen, T.N., Malloy, T., & Gonzalez, C. (2023). Exploring the Path from Instructions to Rewards with Large Language Models in Instance-Based Learning. AAAI 2023 Fall Symposium Series: Integration of Cognitive Architectures and Generative Models. FSS-23, pp. 334-339. October 25-27, 2023. Westin Arlington Gateway, Arlington VA.
- McDonald, C. Nguyen, T. N., Botelho, C., Dishop, C., Woolley, A. & Gonzalez, C. (2023). Working Harder but not Smarter: Experimental Results on the Effects of Collective Intelligence Awareness. ACM Conference on Collective Intelligence (CI2023-ACM). November 6-10, Delft, NL.
- Reinert, A., Prebot, B., Rebensky, S., Morrison, D. Valerie Y., Osman, M. C., Nguyen D., Gonzalez, C. (2023). Using Cognitive Models to Develop Synthetic Instances of Known Personas. DOI: 10.54941/ahfe1003572. In *Proceedings of the 14th International Conference on Applied Human Factors and Ergonomics (AHFE 2023)*. Vol. 83, 1-8. San Francisco, CA, USA.

- Bugbee, E. H. & Gonzalez, C. (2022). Making Predictions Without Data: How an Instance-Based Learning Model Predicts Sequential Decisions in the Balloon Analog Risk Task. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Toronto, Canada, July 27-30, 2022.
- Bugbee, E. H., McDonald, C., & Gonzalez, C. Leveraging cognitive models for the wisdom of crowds in sequential decision tasks. Via mathpsych.org/presentation/751. Virtual *MathPsych/ICCM 2022 Conference*. July 11-15, 2022.
- Cranford, E. A., Jabbari, S., Ou, H.-C., Tambe, M., Gonzalez, C., & Lebiere, C. Combining machine learning and cognitive models for adaptive phishing training. Via mathpsych.org/presentation/829. (pp. 46-52). Virtual *MathPsych/ICCM 2022 Conference*. July 11-15, 2022.
- Du, Y., Prebot, B., Xi, X. & Gonzalez, C. (2022). Towards Autonomous Cyber Defense: Predictions from a Cognitive Model. 66th International Annual Meeting is organized by Human Factors and Ergonomics Society (HFES). Atlanta, GA. USA, Oct 10 - 14, 2022.

- Du, Y., Song, Z., Milani, S., Gonzalez, C., Fang F. (2022). Learning to Play an Adaptive Cyber Deception Game. *The 13th Workshop on Optimization and Learning in Multiagent Systems, OptLearnMAS-22 at AAMAS 2022*. Auckland, NZ, May 9-13, 2022.
- Du, Y., Aggarwal, P., Singh, K., & Gonzalez, C. Modeling of Multi-Defender Collaboration in a Cyber-Security Scenario. Via mathpsych.org/presentation/796. Virtual MathPsych/ICCM 2022 Conference. July 11-15, 2022.
- Eadeh, F., Zhao, M., Gupta, P., Nguyen, T. N., Gonzalez, C., Admoni, H., Woolley, A. W. (2022). Anger: Helpful or Harmful for Team Performance?. 17th Annual INGRoup Conference. Interdisciplinary Network for Group Research. Hamburg, Germany, July 21-24, 2022.
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- Harman, J. L., O'Donovan, J. Abdelzaher, T., & Gonzalez, C. (2022). Dynamics of Human Trust in Recommender Systems. Workshop on Trust and Reliance in AI-Human Teams (TRAIT) at ACM CHI conference on Human Factors in Computing Systems (CHI22). New Orleans, LA. April 30, 2022.
- McCormick, E. N., Broomell, S., & Gonzalez, C. (2022, July). Decision strategy adaptation to time constraints. Abstract published at Virtual MathPsych/ICCM 2022. Via mathpsych.org/presentation/868. Virtual MathPsych/ICCM 2022 Conference. July 11-15, 2022.
- Park S., Gonzalez, C. & Puranam, P. (2022). Decision Centralization and Learning from Experience in Groups. https://doi.org/10.5465/AMBPP.2022.12213abstract. 82nd. Annual Meeting of the Academy of Management. Seattle, WA, USA, August 5-9, 2022.
- Prebot, B., Du, Y., Xi, X. & Gonzalez, C. (2022). Cognitive Models of Dynamic Decisions in Autonomous Intelligent Cyber Defense. 2nd International Conference on Autonomous Intelligent Cyber-Defense Agents. AICA 2022, Bordeaux, France, October 25-26, 2022.Sloman, S., Goldstone, R., & Gonzalez, C. (2022). A cognitive computational model of collective search with social information. The fifth Multi-disciplinary Conference on Reinforcement Learning and decision Making (RLDM 2022). Brown University, Providence, RI, USA, June 8-11, 2022.

- Aggarwal, P., Du, Y., Singh, K., Gonzalez, C. (2021). Decoys in Cybersecurity: An Exploratory Study to Test the Effectiveness of 2-sided Deception. *International Joint Conference on Artificial Intelligence (IJCAI 2021)*. First International Workshop on Adaptive Cyber Defense. August 21-26, 2021. arXiv preprint arXiv:2108.11037.
- Bugbee, E., McDonald, C., McCormick, E., Fiechter, J., Lebiere, C. Blaha, L. Gonzalez, C. (2021). Cognitive Models of Sequential Choice in the Optimal Stopping Task. 54 Annual Meeting of the Society for Mathematical Psychology (MathPsych 2021). July 21-July 12, 2021.
- Cranford, E.A., Lebiere, C., Aggarwal, P., Singh, K., Gonzalez, C. (2021). Modeling Phishing Susceptibility as Decisions from Experience. 19th. International Conference on Cognitive Modeling (ICCM 2021). <u>https://mathpsych.org/presentation/609</u>. July 1- July 12, 2021.
- Eadeh, F. R., Zhao, M., Nguyen, T. N., Gupta, P., Gonzalez, C., Admoni, H., Woolley, A. W. (2021). Anger: Helpful or Harmful for Team Performance?. In ACM Collective Intelligence Conference 2021. June 29-30, 2021. Copenhagen, Denmark.
- 43. Gulati, A., Nguyen, T. N., & Gonzalez, C. (2021). Task Complexity and Performance in Individuals and Groups Without Communication. *AAAI Fall Symposium 2021: Computational Theory of Mind for Human-Machine Teams*. November 4-6.
- McDonald, C., Nguyen, T. N., & Gonzalez, C. (2021). Multi-Agent Specialization and Coordination in a Gridworld Task. AAAI Fall Symposium 2021: Computational Theory of Mind for Human-Machine Teams. November 4-6.
- McDonald, C., Bugbee, E. H., McCormick, E., Fiechter, J., Blaha, L., Lebiere, C. Gonzalez, C. (2021). Diverse Experience Leads to Improved Adaptation: An Experiment with a Cognitive Model of Learning. 19th. International Conference on Cognitive Modeling (ICCM 2021). July 1- July 12, 2021.
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- Nguyen, T. N., Phan D. N., & Gonzalez, C. (2021). A Cognitive Hysteretic-IBL Model for Coordinated Multi-Agent Transportation Problems. In ACM Collective Intelligence Conference 2021. June 29-30, 2021. Copenhagen, Denmark.
- Sing, K., Aggarwal, P., & Gonzalez, C. (2021). A Social Dilemma for Cybersecurity: Sharing information among defenders. In ACM Collective Intelligence Conference 2021. June 29-30, 2021. Copenhagen, Denmark.

- Aggarwal, P., Thakoor, O., Mate, A., Tambe, M., Cranford, E. A., Lebiere, C. & Gonzalez, C. (2020). An Exploratory Study of a Masking Strategy of Cyberdeception Using CyberVAN. 64th International Annual Meeting of the Human Factors and Ergonomics Society (HFES 2020). October 5-9, 2020. Chicago, II. <u>https://doi.org/10.1177/1071181320641100</u>
- Cranford, E. A., Gonzalez, C., Aggarwal, P. Tambe, M. & Lebiere, C. (2020). What Attackers Know and What They Have to Lose: Framing Effects on Cyber-Attacker *Decision Making*. 64th International Annual Meeting of the Human Factors and Ergonomics Society (HFES 2020). October 5-9, 2020. Chicago, II. <u>https://doi.org/10.1177/1071181320641102</u>
- Cranford, E. Gonzalez, C., Aggarwal, P., Cooney, S., Tambe, M., Lebiere, C. (2020). Adaptive Cyber Deception: Cognitively Informed Signaling for Cyber Defense. *Proceedings of the 53rd Hawaii International Conference on System Sciences HICSS* 2020. January 7-10, 2020. pp. 1886-1894. <u>https://doi.org/10.24251/HICSS.2020.232</u> - Conference Best Paper Award.

- Gonzalez, C., Aggarwal, P., Cranford, E., Lebiere, C. (2020). Design of Dynamic and Personalized Deception: A Research Framework and New Insights. *Proceedings of the 53rd Hawaii International Conference on System Sciences HICSS 2020*. January 7-10, 2020. pp. 1825-1834.
- McCormick, E., Blaha, L., & Gonzalez, C (2020). Exploring Dynamic Decision Making Strategies with Recurrence Quantification Analysis. 42nd Annual Meeting of the Cognitive Science Society (CogSci 2020). July 29-August 1, Virtual meeting. pp. 3041-3047.
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- Thakoor, O. Jabbari, S. Aggarwal, P., Gonzalez, C. Tambe, M., Vayanos, P. (2020). Exploiting Bounded Rationality in Risk based Cyber Camouflage Games. In International Conference on Decision and Game Theory for Security (GameSEc-2020). <u>https://doi.org/10.1007/978-3-030-64793-3_6</u> – Conference best paper award.
- Zhang, H., Moisan, F., & Gonzalez, C. (2020). Paper-Rock-Scissors: an exploration of the dynamics of players' strategies. 64th International Annual Meeting of the Human Factors and Ergonomics Society (HFES 2020). October 5-9, 2020. Chicago, II. <u>https://doi.org/10.1177/1071181320641063</u>

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- Cooney, S., Wang, K. Bondi, E., Nguyen, T., Vayanos, P., Winetrobe, H., Cranford, E. A., Gonzalez, C., Lebiere, C., Tambe, M. (2019). Signaling Just Enough: Learning to Find the Goldilocks Zone to Improve Adversary Compliance in Security Games. 28th International Joint Conference on Artificial Intelligence (IJCAI-19) Workshop 10: Artificial Intelligence in Business Security (AIBS). August 10, 2019. August 10-16, 2019, Macao, China.
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- 64. Cooney, S., Vayanos P., Nguyen T. H., Gonzalez, C., Lebiere, C., Cranford E. A., Tambe, M. (2019). Warning Time: Optimizing Strategies Signaling for Security Against Boundedly Rational Adversaries. *Proceedings of the 18th International Conference on Autonomous Agents and Multi Agents Systems. AAMAS, 2019.* May 13-17, 2019, Montreal, CA. (page 1892).
- Cranford, E. A., & Gonzalez, C., Aggarwal, P., Cooney, S., Tambe, M. & Lebiere, C. (2019). Towards Personalized Deceptive Signaling for Cyber Defense Using Cognitive Models. 41th Annual Meeting of the Cognitive Science Society (CogSci 2019). July 24-27, 2019, Montreal, Canada.
- 66. Cranford, E. A., Gonzalez, C., Aggarwal, P., Cooney, S., Tambe, M., Lebiere, C. (2019). Towards personalized deceptive signaling for cyber defense using cognitive models. In *Proceedings of the 17th Annual Meeting of the International Conference on Cognitive Modelling*. Montreal, CA. <u>https://doi.org/10.1111/tops.12513</u>
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- Gutierrez, M., Cerny, J., Bosansky, B., Kiekintveld, C., Ben-Ahser, N., & Gonzalez, C. (2019). Evaluating Models of Human Behavior in an Adversarial Multi-Armed Bandit Problem. 41th Annual Meeting of the Cognitive Science Society (CogSci 2019). July 24-27, 2019, Montreal, Canada.
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- Ben-Asher, N., Aharonov, E., & Gonzalez, C. (2017). Occasional Downpour or Constant Drip? The Impact of Adverse Events Distribution on Learning and Risk Taking". SPUDM26 conference, Technion, August 20-24, 2017. Haifa, Israel.
- Buchler, N., Rajivan, P., Marusich, L., Lightner, L., & Gonzalez, C. (2017). Wearable Social-Sensors and Structure Observational Assessment of Teaming and Leadership in a Cyber Security Defense Competition. Track "Human Factors in Cybersecurity". 8TH International Conference on Applied Human Factors and Ergonomics. July 17-21, 2017. AHFE 2017. Los Angeles, CA, USA.
- Chrabaszcz J., Konstantinidis, M., & Gonzalez, C. (2017). A Bayesian Implementation of the Instance-Based Learning Model of Choice. 50th meeting of the Society of Mathematical Psychology. July 22-25, Coventry, UK.
- Gonzalez, C. & Chrabaszcz J. (2017). Some things that glitter are gold: A Shiny app for an Instance-Based Learning Model. 50th meeting of the Society of Mathematical Psychology. July 22-25, Coventry, UK.

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- 186. Gonzalez, C. & Lerch, F. J. (1999). Modeling time pressure and individual differences in a real-time dynamic decision making task. In S. H. Zanakis & G. Doukidis (Eds.), *Proceedings of the 5th International Conference of the Decision Sciences Institute* (pp. 795–799). Atlanta, GA: The Decision Sciences Institute.
- 187. Gonzalez, C., Sanchez, A., & Raquel, O. P. (1999). Encouraging CHI collaboration in Latin America. Paper presented at the *International Conference on Human Factors in Computing Systems*, Pittsburgh, PA, May 15–20.
- 188. Lerch, F. J., Gonzalez, C., & Lebiere, C. (1999). Learning under high cognitive workload. In M. Hahn & S. C. Stones (Eds.), Proceedings of the 21st Annual Meeting of the Cognitive Science Society (CogSci 1999) (pp. 302–307). Mahwah, NJ: Lawrence Erlbaum Associates.
- 189. Medelez, E., Ayala, G., Gonzalez, C., & Lerch, F. J. (1999). Awareness and cooperation tools for a simulation-based learning environment. In B. Collis & R. Oliver (Eds.), *Proceedings of the 11th World Conference on Educational Multimedia*, *Hypermedia and Telecommunications* (vol. 1, pp. 1128–1133). Charlottesville, VA: Association for the Advancement of Computing in Education.
- 190. Medelez, E., Ayala, G., Gonzalez, C., & Lerch, F. J. (1999). Diseno de un ambiente de trabajo cooperativo en internet [The design of a cooperative environment in internet]. In R. Murphy (Ed.), Proceedings of the 9th International Congress of Electronics, Communications and Computers (pp. 68–72). UDLA-P/IEEE.

- 191. Lerch, F. J., Harter, D., & Gonzalez, C. (1998). Individual differences in real-time dynamic decision making. Paper presented at the *4th Conference on Naturalistic Decision Making*, Warrenton, VA, May 29–31.
- 192. Lerch, F. J., Harter, D., & Gonzalez, C. (1998). Time pressure in real-time dynamic decision making. In E. D. Hoadley & I. Benbasat (Eds.), *Proceedings of the Fourth Americas Conference on Information Systems* (pp. 252–254). Pittsburgh, PA: Association for Information Systems.

193. Gonzalez, C. (1996). Does animation in user interfaces improve decision making? In M. J. Tauber (Ed.), Proceedings of the International Conference on Human Factors in Computing Systems (pp. 27–34). New York, NY: The Association for Computing Machinery.

1995

194. Gonzalez, C. & Kasper, G. (1995). Animation in user interface design for decision support systems: Development of a research framework. In D. W. Olson & K. R. Sliwa (Eds.), Proceedings of the 3rd International Conference of the Decision Sciences Institute: Competing in the global marketplace; A decision science viewpoint (pp. 58–60) Atlanta, GA: The Decision Sciences Institute.

TEACHING

Carnegie Mellon University Social and Decision Sciences/Machine Learning Cross-listed: Social and Decision Sciences And Machine Learning Departments	88-836/10-736 Human-AI Complementarity for Decision Making Ph.D. level course	Spring, 2025
Carnegie Mellon University Social and Decision Sciences Dietrich College of Humanities and Social Sciences	88-312 Dynamic Decision Models and Games Undergraduate level course GenEd Program: Computational Thinking Foundations course	Spring, 2024, 2022
Universidad Carlos III Computer Science Department Madrid, Spain.	Dynamic Decision Models and Games Graduate level course	Spring, 2023
Carnegie Mellon University Social and Decision Sciences Dietrich College of Humanities and Social Sciences	88-380 Dynamic Decisions Undergraduate level course	Spring, 2016, 2017 2018, 2019, 2020, 2021
Warwick Business School University of Warwick Coventry, United Kingdom	4 th Summer School on Decisions from Experience PhD level course	Summer, 2016
TELECOM Ecole de Management TEM Business School Paris, France	European Summer Program Human Factors Masters level course	Summer, 2016
Carnegie Mellon University H. John Heinz III College	90-777 A2: Intermediate Statistics Masters level course.	Fall, 2015
Carnegie Mellon University Human-Computer Interaction Institute School of Computer Science	08-775: Cognitive Perspectives in Human-Computer Interaction PhD level course	Spring, 2010
Wyzsza Szkola Biznesu- National Louis University Nowy Sacz, Poland	Dynamic Decision-Making Research 2-week faculty seminar	Summer, 2009
Carnegie Mellon University Human-Computer Interaction Institute School of Computer Science	06-413/813: Human Factors Graduate/ Undergraduate level course	Fall, 2008
Carnegie Mellon University -Qatar, Interdisciplinary course Doha, Qatar	88-431: Dynamic Decision Making 5-week undergraduate level course	Summer, 2007
Carnegie Mellon University	67-271: Fundamentals of	Fall, 2002, 2003,

Information Systems Program College of Humanities & Social Sciences	Systems Development Undergraduate level course	2004, 2005
Carnegie Mellon University Human-Computer Interaction Institute School of Computer Science	05-610: Introduction to Human- Computer Interaction. Co-taught with Bonnie John Graduate/Undergraduate level course	Spring, 2001 2002
Carnegie Mellon University Information Systems Program College of Humanities & Social Sciences	88-275: Information Systems Applications. Co-taught with Larry Heimann and Randy Weinberg Undergraduate level course	Fall, 2000, 2001
Universidad de Las Americas Systems Engineering College of Engineering Puebla, Mexico	IS-323: Software Engineering I Undergraduate level course	Spring, 1996, 1997
Universidad de Las Americas Systems Engineering College of Engineering Puebla, Mexico	IS-325/621: Software Engineering II Graduate/Undergraduate level course	Spring, 1996, 1997
Universidad de Las Americas Systems Engineering College of Engineering Puebla, Mexico	IS-442: Introduction to Human- Computer Interaction Undergraduate level course	Spring, 1996, 1997
Universidad de Las Americas Systems Engineering College of Engineering Puebla, Mexico	IS-650: Decision Support Systems Undergraduate level course	Fall, 1996
Universidad de Las Americas Systems Engineering College of Engineering Puebla, Mexico	IS-291: Seminar in Computer Topics II Undergraduate level course	Fall, 1996

ADVISING

Post-doctoral Fellows

- 1. Dr. Maria J. Ferreira, April 2023- Present. Ph.D. Information Systems and Computer Engineering (2023). Instituto Superior Technico, University of Lisbon, Portugal.
- 2. Dr. Tyler Malloy, December 2022- Present. Ph.D. Cognitive Science (2022). Rensselaer Polytechnic Institute, Troy, NY.
- Dr. Roderick Seow, September 2023- February 2025. Ph.D. Cognitive Science (2023). Carnegie Mellon University, Pittsburgh PA.
- Dr. Baptiste Prebot, October 2021- December 2022. Ph.D. Cognitive Engineering (2020). University of Bordeaux, France. Dr. Prebot took a position as Senior Human Science Architect at the Agence Innovation de Defense (Defense Innovation Agency), Paris, France.
- Dr. Nhat Phan-Duy, September 2021- August 2022. Ph.D. Applied Mathematics (2016). University of Lorraine, France. Dr. Phan took a Post-doctoral position in the Department of mathematical sciences at the University of Massachusetts, Lowell.
- Dr. Thuy-Ngoc Nguyen, October 2019-December 2022. Ph.D. Computer Science (2019), Free University of Bozen-Bolzano (UNIBZ), Bolzano, Italy. Dr. Nguyen took a Teaching Faculty position in the Department of Computer Science at the University of Massachusetts, Lowell.
- Dr. Farnaz Tehranchi, October 2020-August 2021. Ph.D. Computer science (2020), Penn State University, State College, PA. Dr. Tehranchi took an Assistant Professor position in the School of Engineering and Design, Technology and Professional Programs at Penn State University.
- Dr. Palvi Aggarwal, September 2018-August 2021. Ph.D. Computer Science (2018), Indian Institute of Technology, Mandi, India. Dr. Aggarwal took an Assistant Professor position in Computer Science at University of Texas, El Paso.
- Dr. Kuldeep Singh, April 2019- August 2021. Ph.D. in Computer Science (2018), Thapar University Patiala, India. Dr. Singh took an Assistant Teaching Professor position in Computer Science at University of Texas, El Paso.

- Dr. Hanshu Zhang, September 2019- August 2020. Ph.D. Human Factors and Industrial/Organizational Psychology (2019), Wright State University. Dr. Zhang took an Assistant Professor position in the school of Psychology at the Central China Normal University in Wuhan, China.
- 11. Dr. Korosh Mahmoody, September 2018-June 2020. Ph.D. Physics (2018), University of North Texas. Dr. Mahmoody took a researcher position with the Army Research Office.
- 12. Dr. Pegah Fakhari, January 2018-December 2018. Ph.D. Psychological and Brain Sciences (2017), Indiana University. Dr. Fakhari moved to California as a freelance researcher.
- Dr. Efrat Aharonov, September 2016 August 2018. Ph. D. Psychology, Ben-Gurion University of Negev, Israel. Dr. Aharonov took a Researcher Position at CET-Center for educational Technology.
- Dr. Prashanth Rajivan, December 2015 August 2018. Ph. D. Applied Cognitive Science, Arizona State University. Dr. Rajivan took an Assistant Professor position at University of Washington.
- 15. Dr. Jeffrey Chrabaszcz, August 2017-August2018. Ph.D. Neuroscience and Cognitive Science (2016), University of Maryland. Dr. Chrabaszcz took a Research Scientist position in the Software Engineering Institute at Carnegie Mellon University.
- Dr. Michael Yu, May 2014-August 2016. Ph.D. Social and Decision Sciences (2014), Carnegie Mellon University. Dr. Yu took a Research Associate position at the Engineering and Public Policy department, Carnegie Mellon University.
- Dr. Frederic Moisan, February 2014-December 2015, Ph.D. Computer Science and Economics (2014), University of Toulouse (IRIT and TSE), Toulouse, France. Dr. Moisan took a Researcher position at the Faculty of Economics, University of Cambridge, UK.
- Dr. Emmanouil Konstantinidis, October 2014-October 2015. Ph.D. in Cognitive Science (2014), University College London, London, UK. Dr. Konstantinidis took a Post-doctoral fellow position at the school of Psychology at University of New South Wales, Australia.
- Dr. Nathaniel Ashby, April 2014 August 2015. Ph.D. Psychology (2014), Universitat Erfut and Max Planck Institute, Erfurt, Germany. Dr. Ashby took at post-doctoral fellow position at the school of Industrial Engineering and Management, Technion, Israel.
- Dr. Jason Harman, September 2012 August 2015, Ph.D. Experimental Psychology (2012), Ohio University. Dr. Harman took an Assistant Professor position in the Psychology Department at Louisiana State University, USA.
- Dr. Katja S. Mehlhorn, August 2012 May 2014. Ph.D. Cognitive Psychology (2012), University of Groningen, Netherlands. Dr. Mehlhorn took a teaching position at the University of Groningen, Netherlands.
- 22. Dr. Shikhar Kumar, October 2012 September 2013. Ph.D. Psychology and Cognitive Science (2012), The University of Arizona. Dr. Kumar took a Research Faculty position at University of Arizona.
- 23. Dr. Noam Ben-Asher, October 2011-August 2014. Ph.D. Industrial Engineering and Management (2011), Ben-Gurion University, Beer Sheva, Israel. Dr. Ben-Asher took a position as a research at the Army Research Laboratories, USA.
- 24. Dr. Muniba Saleem, August 2011 June 2012. Ph.D. Social Psychology (2011), Iowa State University. Dr. Saleem took an Assistant Professor position in the Department of Behavioral Sciences at University of Michigan.
- Dr. Sara Levens, August 2011 June 2012. Ph.D. Psychology: Cognitive and Affective Neuroscience (2011), New York University. Dr. Levens took an Assistant Professor position in the Psychology Department at University of North Carolina at Charlotte, NC.
- 26. Dr. Varun Dutt, August 2011 May 2012. Ph.D. Engineering and Public Policy (2011), Carnegie Mellon University. Dr. Dutt took an Assistant Professor Position in the School of Computing and Electrical Engineering and in the School of Humanities and Social Sciences at the Indian Institute of Technology, Mandi.
- Dr. Jolie M. Martin, September 2009 July, 2011. Ph.D. Science, Technology, and Management (2009), Harvard University. Dr. Martin took an Assistant Professor position in Strategic Communication at the University of Minnesota's School of Journalism and Mass Communication.
- Dr. Tomas Lejarraga, October 2009 August 2011. Ph.D. Economics and Management (2009), Pompeu Fabra University, Spain. Dr. Lejarraga took an Assistant Professor position in Management, School of Business, at the University of Balearic Islands, Spain.
- Dr. Lelyn Saner, January 2008 August 2009. Ph.D. Social Psychology (2008), University of Pittsburgh. Dr. Saner took a Research Faculty position at the University of Maryland's Center for Advanced Study of Language.
- Dr. Angela Brunstein, September 2007 May 2009. Ph.D. in Psychology (2007), University of Hamburg, Germany. Dr. Brunstein took a teaching faculty position at the Qatar campus of Carnegie Mellon University.
- Dr. Poornima Madhavan, September 2005 August 2007. Ph.D. Human Factors and Psychology (2005), University of Illinois at Urbana-Champaign. Dr. Madhavan took an Assistant Professor position in the Department of Psychology and Human Factors Program at Old Dominion University.
- 32. Dr. Wai-Tat Fu, September 2006 May 2007. Ph.D. Psychology (2006) George Mason University. Dr. Fu took an Assistant Professor position in the Human Factors Department at the University of Illinois at Urbana-Champaign.
- 33. Dr. Matthew Cronin, January June 2005. Ph.D. Organizational Behavior (2004), Carnegie Mellon University. Dr. Cronin took an Assistant Professor position in the School of Management at George Mason University.
- Dr. Michael Martin, September 2004 August 2007. Ph.D. Cognitive and Experimental Psychology (2003), University of Kansas. Dr. Martin took a Project Scientist position at the Institute for Software Research at Carnegie Mellon University.
- 35. Dr. Jose Quesada, September 2004 May 2005. Ph.D. Psychology (2004), University of Granada, Spain. Dr. Quesada took a researcher position at the Adaptive Behavior and Cognition group at the Max Planck Institute in Berlin, Germany.
- 36. Dr. Rickey Thomas, September 2003 July 2006. Ph.D. Psychology (2004), Kansas State University. Dr. Thomas took an Assistant Professor position in the Department of Psychology at Oklahoma University.

Doctoral students

Chair or Co-Chair of Ph.D. Dissertation Committee

- 1. McDonald, Chase, Department of Social and Decision Sciences, Dietrich College, Carnegie Mellon University. 2020-present.
- 2. Bugbee, Erin, Department of Social and Decision Sciences, Dietrich College, Carnegie Mellon University. 2020-present.
- 3. Du, Yinuo, Societal Computing, Institute for Software Research, School of Computer Science, 2021- present.
- 4. McCormick, Erin, *Decisions under time pressure*. Department of Social and Decision Sciences, Dietrich College, Carnegie Mellon University. 2022.
- Dugarte-Pena, German, Systems Thinking and Simulation to help IT/Software Professionals to Visualize Knowledge Assets Evolution According to Digital Solutions Implementation. Computer Science and Engineering Department, Universidad Carlos III, Madrid. 2019.
- 6. Aggarwal, Palvi, *Deception in Cyber Security*. Applied Cognitive Science Laboratory, Indian Institute of Technology, Mandi, India. 2018.
- 7. Dutt, Varun, *Why do we want to defer actions on climate change? A psychological perspective*. Engineering and Public Policy, Carnegie Mellon University. 2011.
- 8. Graham, John. *Dynamic network analysis-based communication, network evolution and shared situation awareness*. Computer Science. Carnegie Mellon University. 2005.

Member of Ph.D. Dissertation Committee

- 9. Kumar, Medha, *Reducing Misconceptions of Earth's Climate*. School of Computing and Electrical Engineering, Indian Institute of Technology, Mandi, India. 2015-2021.
- 10. De La Maza, Cristobal, *Essays on behavioral discrete choice modelling: implications for public policy. Engineering and Public Policy*, Carnegie Mellon University, Pittsburgh, 2014-2018.
- 11. Mehlhorn, Sabine Katja, *Cognitive Models of Decision Making*, Psychology Department, University of Groningen, Netherlands. 2012.
- 12. Bergstrom, Jani, *Dynamic Decision Making in Crisis Management*, Department of Biomedical Informatics, Social Sciences. University of Eastern Finland, Finland, 2012. A Fulbright Scholar at the Dynamic Decision Making Laboratory (2011-2012)
- Payne, Velma, *Effect of a Metacognitive Intervention on Cognitive Heuristic Use during Diagnostic Reasoning*, Department of Biomedical Informatics, School of Medicine, University of Pittsburgh. 2010.
- 14. Hill, Nicole, *Challenges for achieving skilled dual-task performance: Learning to release control*, LRDC: Learning Research and Development Center, University of Pittsburgh. 2009.

Master students

- 1. Neo, Wei Siong, Social and Decision Sciences, Carnegie Mellon University. Master of Science in Social and Decision Sciences, 2007.
- Wimisberg, Jakob, Social and Decisions Sciences, Carnegie Mellon University. Master of Science in Social and Decision Sciences, 2004.
- 3. Mendelez, Elizabeth. *Cooperative work environment in internet for management game*. Universidad de las Americas, Mexico, 1998.
- 4. Terrazas, Noemi. Image and sound effects in solving problems with animated interfaces. Universidad de las Americas, Mexico, 1997.
- 5. Garcia, Azbel. Virtual environments as exposure treatment for agoraphobia. Universidad de las Americas, Mexico, 1997.
- 6. Torrijos, Teresa. 2D or 3D? An empirical investigation for decision making in architecture. Universidad de las Americas, Mexico, 1996. My role: Chair of master's thesis.
- 7. Velazco, Adriana. *Instruction support system for children with mental deficiencies: The Montessori technique.* Universidad de las Americas, Mexico, 1996.

Graduate Research Assistants

- 1. Wood, Duncan, Department of Social and Decision Sciences, 2023-present.
- 2. McDonald, Chase, Department of Social and Decision Sciences, 2020-present.
- 3. Bugbee, Erin, Department of Social and Decision Sciences, 2020-present.
- 4. Du, Yinuo, Information Networking Institute, 2020- present.
- 5. Xi, Tony. Information Networking Institute, 2021-2023.
- 6. Butler, Alison, Department of Social and Decision Sciences, 2019-2020.
- 7. Sloman, Sabina, Department of Social and Decision Sciences, 2017-2018.
- 8. Hagmann, David, Department of Social and Decision Sciences. 2014-2018.
- 9. Yu, Michael, Department of Social and Decision Sciences. 2008-2014.
- 10. Ahn Young-Suk, Software Engineering Institute. 2010-2012.
- 11. Persoskie, Alex, Department of Social and Decision Sciences. 2007-2008.
- 12. Horn, Christopher. Human Computer Interaction Institute. 2004-2005.

Undergraduate Research Assistants

- 1. Arya Mane, Spring 2024-Fall 2024, Statistics and Data Science & Machine Learning
- 2. Mason Kim, Fall 2022, Statistics and Data Science

- 3. Miso Demko, Fall 2021. Social and Decision Sciences
- 4. Disha Das, Fall 2020, Computer Science and Decision Science
- 5. Andrew Ye, Spring 2020, Statistics and Machine Learning
- 6. Max Gamerman, Fall 2019-Spring 2020, Social and Decision Sciences
- 7. Peijie He, Fall 2019-Spring 2020, Social and Decision Sciences
- 8. Max Yeh, Fall 2019, Social and Decision Sciences
- 9. Qiao Shen, Fall 2018, Psychology
- 10. Samuel Cheyette, Fall 2015- Fall 2016, Psychology
- 11. Karen Lee, Spring 2012, Social and Decision Sciences
- 12. Michelle Lin, Fall 2011-Spring 2012, Social and Decision Sciences
- 13. Tina Hwang, Fall, 2011, Social and Decision Sciences
- 14. Olivia DeFazio, Spring, 2010, Social and Decision Sciences
- 15. Sylvia Lee, Spring 2008, Public Policy Management
- 16. Haritha Dasari, Fall 2007, Information Systems
- 17. Colleen Vrbin, Fall 2006-Fall 2007, Social and Decision Sciences
- 18. Aanand Radia, Fall 2006, Social and Decision Sciences

Visitors, DDMLab

- 1. Ed Matlack, October 2021-May 2022. Remote. San Jose State University.
- 2. Phan Duy Nhat, April 2021-August 2021. Ph.D. in Applied Mathematics, University of Lorraine, France.
- 3. Gulati, Aditya, June 2020-May 2021. Master student at the International Institute of Information Technology, Banglore, India.
- 4. Singh, Kuldeep. September 2018- March 2019. Ph.D. in Computer Science, Thapar University Patiala, India.
- 5. Ho, Emily. September- December, 2017. Ph.D. Student, Psychometrics and Quantitative Psychology, Fordham University, New York City.
- 6. Dugarte-Pena, German Lenin. September-December, 2017. Ph.D. Student, Systems Engineering. University of Carlos III, Madrid, Spain.
- 7. Chavez, Melisa. February-May, 2017. Ph.D. Student, Psychology. National Autonomous University of Mexico (UNAM), Mexico City.
- Sriwattanakomen, Nalyn. June, 2015- May, 2016. B.Sc. Psychology and minor in Gender and Women's studies. Washington & Jefferson College, Washington, PA.
- 9. Sun, Hui. July-September, 2015. B.Sc., BA in Digital Entertainment Design. Tsinghua University, Beijing, China.
- Gharbi, Hassen. October 2014-August 2015. Full-Bright scholar. Assistant Professor at the National School of Computer Sciences, University of La Manouba, Tunis, Tunisia.
- 11. Ten Brincke, Robert. August-October 2014. PhD student in Decision Theory and Behavioral Game Theory. Swiss Federal Institute of Technology (ETH), Zurich, Switzerland.
- 12. Wu, Fanting (Angela). July-October 2014. Undergraduate student. Department of computer Science and Technology. Sun Yat-Sen University. Guangzhou, China.
- 13. Qi, Liang. December 2013-November, 2014. Ph.D. student. Department of Health Service, Second Military Medical University. Shanghai, China.
- 14. Yi, Pingtao. December 2013-November 2014. Associate Professor. School of Business Administration, Northeastern University, Shenyang, China.
- Gupta, Sukrit. December 2013-May 2014. Undergraduate student. Computer Science and Engineering. PEC University of Technology, Chandigarh, India.
- Becker, Vincent. October 2013-February 2014. Undergraduate student. Computer Science, Cognitive Systems Laboratory (CSL, Karlsruhe Institute of Technology, Karlsruhe, Germany.

INVITED TALKS, WEBINARS AND PODCASTS

2025

1. February 25. *Toward Human-AI Complementarity in Dynamic Decision Making*. Invited Panelist. AAAI Bridge Program: Collaborative AI and Modeling of Humans. Pennsylvania Convention Center, Philadelphia, PA, USA. February 25-26, 2025.

- 2. October 17. Leveraging Human Decision-Making Models for Autonomous Cyber Defense. Plenary Speaker. 2024 Conference on Game Theory and AI for Security (GameSec 2024). New York, USA, October 16-18, 2024.
- October 8. Cognitive AI for Societal Decision Making. Panelist at the AI-Augmented Human Capabilities Panel. SAIL 2024: Summit for AI Institute Leadership. Pittsburgh, PA, USA. October 7-10, 2024.
- 4. October 5. *Dynamic Decision Making: Past, Present, and Future*. Keynote Address. 2024 Indian Judgment and Decision Making Conference. Indian Institute of Technology (IIT), Mandi, India. October 5-6, 2024.
- 5. August 5. Cognitive Artificial Intelligence: Building Human-Like Artificial Agents. Plenary Speaker. 2024 International System Dynamics Conference. Bergen, Norway. August 5-10, 2024.
- 6. July 16. *Introduction to AI-SDM*. For Zachary Shaw, Military Legislative Assistant to the office of Senator Casey. Carnegie Mellon University.

- May 23. National Academy of Sciences: Sciences Engineering and Medicine. The Hauser Policy Impact Fund Webinar Series: Navigating the Era of Artificial Intelligence Part 1: Achieving Human-AI Harmony. *Human-AI Teaming: State of the Art and Research Needs*. <u>https://www.nationalacademies.org/event/884_05-2024_the-hauser-policy-impact-fund-webinar-series-navigating-the-era-of-artificial-intelligence-part-1-achieving-human-ai-harmony</u>
- 8. May 20. AI in Real Life: Real Talk with Real Experts. Episode 3: *Human and AI Decision Making* https://podcasts.apple.com/cd/podcast/episode-3-human-and-ai-decision-making/id1736863200?i=1000656142078
- 9. March 22. Cognitive Artificial Intelligence: Building Human-Like Artificial Agents. Keynote speaker. RISE area conference Artificial Intelligence: STEM Applications. San Juan, PR, USA.
- 10. March 8. NSF Workshop on Automating Cyber Response. University of California, Santa Cruz, CA., USA.

- 11. September 29. Building Human-Like Artificial Agents: Advances from a Cognitive Computational Decision Science Perspective. NSF National Institute of AI for Societal Decision Making (AI-SDM), Seminar series. Pittsburgh, PA, USA.
- 12. September 14. *Building Human-Like Artificial Agents: Advances from a Cognitive Computational Decision Science Perspective*. Santa Fe Institute Seminar Series. Santa Fe, New Mexico, USA.
- 13. September 13. *Emergence of Collective Learning from Individual Learning*. Collective Adaptation in a Turbulent World. Santa Fe Institute workshop September 11-14. Santa Fe, New Mexico, USA.
- 14. August 17. Using Cognitive Models to Personalize Adaptive Cyber Deception. ARO Workshop on Cyber Deception. August 17-18, 2023. New York University, New York, USA.
- 15. July 29. *How should industry affect cognitive science*?. 2023 Annual Meeting of the Cognitive Science Society. July 26-29, 2023, Sydney, Australia.
- 16. July 7. Instance-Based Learning Theory of Decisions from Experience in Dynamic Environments. Computational Cognitive Science Colloquium 2023. Center for Cognitive Science, TU Darmstadt, Germany.
- 17. June 14. Cognitive Attack Agents are More Challenging for Defenders than Optimal Agents. Security & Human Behavior Workshop. June 13-15. Heinz College, Carnegie Mellon University. Pittsburgh, PA.
- June 2, Building Human-Like Artificial Agents: A general cognitive algorithm to emulate human dynamic decision making. Keynote speaker. International Symposium on Aviation Psychology (ISAP 2023). May 31-June 3, 2023.
- 19. May 31, *Instance-Based Learning Theory of Decisions from Experience in Dynamic Environments*. Virtual Workshop on Multiple Model Approaches in Decision Making. Co-Organized by Oregon State University.
- 20. May 5, Writing Professional Research Papers: A Fulbright Brown Bag Workshop. University of Malaga, Malaga, Spain.
- 21. April 12, *Learning and Dynamic Decision Making*. Fulbright Spain, brown bag lectures. Online seminar, University of Malaga, Malaga, Spain.
- 22. March 20, *Dynamic Decision Making Laboratory and Instance-Based Learning Theory*. Psychology Department, University of Malaga, Malaga, Spain.
- 23. March 7, An Overview of Human-AI Teaming Research at the DDMLab. Ellis-DDMLab Workshop 2023. University of Alicante, Alicante, Spain, March 7-9, 2023.

2022

- 24. November 17, *Cyberdefense with a Human-AI Cognitive Approach*. Keynote speaker. Ninth Mexican International Conference on Human-Computer Interaction. MexIHC 2022, Online conference.
- 25. November 12, Adaptive Cyberdefense with Deception: A Human-AI Cognitive Approach. Naval Information Warfare Center Pacific (NIWC PAC), San Diego, CA.
- 26. November 1, *Adaptation to Continuous Change in Binary Choice Problems*. Decision Experience and Behavior (DEB) Online Seminar.
- 27. October 16, *From Individual Experience-Based Choice to Collective Human-Machine Decisions*. The IIT Mandi iHub and HCI Foundation, 4th Hybrid Winter School on Cognitive Modeling.
- 28. September 14, *Adaptive Cyber Defense with Deception: A Human-AI Cognitive Approach*. Innovative Technology Series, Northeast Wisconsin Technical College.
- 29. July 14, *From Individual Experience-based Choice to Collected Human-Machine Decisions*. Augmented Intelligence Workshop, NSF-sponsored webinar series organized by Robert Goldstone and Mirta Galesic, Gautam Biswas and Marina Dubova. https://sites.google.com/view/augintworkshop/home
- 30. June 27, *From Individual Experience-Based Choice to Collective Human-Machine Decisions*. Reinforcement Learning and Decision Making Seminar Series, Tubingen, Germany.
- 31. June 20, Plenary talk: *What Makes a Good Theory? Interdisciplinary Perspectives*. Lorentz Center workshop, Leiden, Netherlands.
- 32. May 26, *Human-AI Cybersecurity Defense Teams*. Human-Machine Teaming Center of Excellence Program Management Review.
- 33. May 24, Towards Human-AI Cyber Defense Teams with Cognitive Models. Seminar series, TU, Berlin, Germany.
- 34. May 4, *How Group Learning Unfolds from Individuals: Interdependence, Aggregation, and Strategy.* Neuroeconomics Colloquium. Institute for the Study of Decision Making, New York University.

2021

35. Nov. 9, Adaptive Cyberdefense with Deception: A Human-AI Cognitive Approach. Distinguished Lecture Series, Max Planck Institute.

- 36. Oct. 5. Cognitive Modeling for Adaptive Cyber Defense. 2021 CyLab Partners Conference. Carnegie Mellon University.
- 37. Sept. 1. *How collective learning unfolds from individual cognition: Interdependence, Aggregation, and Strategy*. Collective Intelligence Workshop. Santa Fe Institute.
- 38. May 7. *Cognitive Models Inform Epidemiological Models*. NSF Panel on Bridging disciplinary divides for behaviorally modulated mathematical models in human epidemiology.
- 39. May 4. *How Group Learning Unfolds from Individuals: Interdependence, Aggregation, and Strategy*. Neuroeconomics Colloquium. Institute for the Study of Decision Making. New York University.

- 40. December 15. *How Group Behavior Unfolds from Individuals: Interdependence, Aggregation, and Strategy*. Neuro-COGNiMATH- Psychology Department Benemerita Universidad Autonoma de Puebla.
- 41. December 1. From Individual to Organizational Learning: Exploration and Exploitation Tradeoffs. Experimental Organization Science (EOS) online seminar.
- 42. November 19. Toward Personalized Deceptive Signaling for Cyber Defense Using Cognitive Models. Symposium on Human Factors. Psychonomic Society Annual Meeting.
- 43. May 26. Design of Personalized Deception: A Research Framework and New Insights for Cyber Defense. Cognition and Perception seminar. University of Washington.

2019

- 44. September 15. *Design of Dynamic and Personalized Deception: A Research Framework and New Insights for Cyber Defense*. Computational Cybersecurity in Compromised Environments (C3E). September 15-17. Stanford, Menlo Park, CA.
- 45. September 9-13. *Emergence of Collective Behavior and Networks from Individual Choices*. Collective Intelligence: Theories and Applications. Bari, Italy.
- 46. July 19. *Moments@Work: Advancing Sensitivity to Diversity Through Experiential Learning*. Women of Mathematical Psychology. Mathematical Psychology Conference, July 19-22, Montreal, Canada.
- 47. July 8. Dynamic Decisions in Humans. Reinforcement Learning and Decision Making (RLDM) Conference. July 7-9. Montreal, Canada.
- 48. April 29. Use of Deception in Cyber Defense. NSA Research meeting, Carnegie Mellon University.
- 49. March 12. Decisions from Experience in Dynamic Environments: Learning Processes and Cognitive Challenges. Psychology Department. NYU_Abu Dhabi.

2018

- November 29. Human Failure in Stock and Flow Problems: An Updated Review. Plenary talk. I Congreso Iberoamericano de Soluciones Sistemicas y Transformacion Organizacional (I CISSTO, 2018). November 28-30. San Lorenzo de El Escorial. Madrid, Spain.
- 51. October 2. Past President's Forum: Human Factors/Ergonomics and Multidisciplinary Collaboration: Challenges and Lessons Learned. Human Factors and Ergonomics Society, HFES, 2018. October 1-5, Philadelphia, PA.
- 52. September 18. *Human Decisions on Targeted and Non-Targeted Adversarial Samples*. Computational Security in Compromised Environments (C3E). Atlanta, GA.
- 53. September 13. *Scaling up models of Decisions from Experience*. Decisiones a Partir de la Experiencia. Workshop. Universidad Nacional Autonoma de Mexico. Facultad de Psicologia. Mexico City, Mexico.
- August 7. Stock & Flow Failure: Correlation Heuristic and Valence Effects. Plenary talk. 36th International Conference of the System Dynamics Society, Reykjavík, Iceland, August 6-10, 2018
- 55. June 29-30. *Scaling up models of individual learning to organizational learning*. **Key Note lecture**. Theoretical Organization Models (TOM) conference. INSEAD Fountainbleau, France.
- 56. June 4. Emerging Technologies. Robust Social Science Workshop. St. Petersburgh, FL.
- 57. May 24. CyberDeception. Security & Human Behavior Workshop. Carnegie Mellon University, Pittsburgh, PA.
- 58. May 7. Human Failure in Stock and Flow Problems: An Updated Review. System Dynamics Workshop. RAND Corporation. Arlington, VA.
- May 7. Human Decisions on Targeted and Non-Targeted Adversarial Samples. 2nd. ARO/IARPA Workshop on Adversarial Learning. University of Maryland, College Park, MD.
- 60. April 16. Scaling up models of decisions form experience: From individuals to networks. Workshop on Integrating Different Perspectives on Social Learning. Santa Fe Institute. Santa Fe, NM.
- 61. February 22. Algorithms and Decision-Making. Discussant. The Terminator or the Jetsons? The Economics and Policy Implications of Artificial Intelligence. The Technology Policy Institute. Washington, DC.

- 62. December 7. Cognitive Computing and Cyber Security. Webinar, Infosecurity Magazine. Online.
- 63. October 30. *The Psychology of Deception in the Cyber World*. First International Workshop on "Cyber Deception and Defenses", Dallas, Texas.
- 64. September 22. *Adaptation to Change*. Science At Home. Department of Physics and Astronomy. Aarhus University, Aarhus, Denmark.
- 65. September 20. *Adaptation to Change*. Danish Institute for Advanced Study (D-IAS), University of Southern Denmark. Odense, Denmark.

- 66. June 8. *Human Factors in Firearm Analysis*. Center for Statistics and Applications in Forensic Science (CSAFE, 2017 All Hands Meeting), Ames, IA, USA.
- 67. March 10. Human Failure in Stock and Flow Problems: An Updated Review. Sloan School of Business, Massachusetts Institute of Technology. Boston, MA, USA.
- 68. January 26. Adaptation to Change. Affective Brain Lab. University College London, London, UK.
- 69. January 10. *Psycho-Social aspects of cyber security: why is human (still) the weakest link?*. SaTC PI meeting, NSF, Washington DC, USA.

- 70. November 17. *Dynamic Decision Making in Complex Environments*. National League of Cities, City summit. Pittsburgh, PA, USA.
- 71. November 9. *Human Factors in Identification Decisions: Cross-Cutting Interdisciplinary Research*. Forensics at NIST. Gaithersburg, MD, USA.
- 72. October 11. Information and Decisions: Description and Experience Come Together in Individual and Social Interactions. Santa Fe Institute. Santa Fe, NM, USA.
- 73. August 24. *How to get funding: a personal view*. 2016 Incoming Faculty Orientation. Carnegie Mellon University. Pittsburgh, PA, USA.
- 74. August 8. *Reflections on unresolved psychological problems for a cognitive architecture*. ACT-R 2016 Post-Graduate Summer School. Lancaster, PA, USA.
- 75. July 29. Games, Game-Theory, and the Science of Cybersecurity. Panel on Cognitive and Behavioral Modeling for Military Functions. First international conference in Virtual Reality and Simulation. Part of the 7th International Conference on Applied Human Factors and Ergonomics. Orlando, FA, USA.
- July 29. Cognitive Models in Cybersecurity. Panel on The Risk/Utility Tradeoff in Cybersecutiy. Second International Conference on Human Factors in Cybersecurity. Part of the 7th International Conference on Applied Human Factors and Ergonomics. Orlando, FA, USA.
- 77. June 27. *Information and Decisions: Description and Experience Come Together*. Plenary roundtable on Dynamics and Ambiguity. Foundations of Utility and Risk (FUR) conference. Hosted by the interdisciplinary behavioural science group at the University of Warwick. Coventry, UK.
- 78. February 4. *Behavioral Game Theory and Cyber Security*. USC/ARO Workshop on Cyber-Physical Security: Challenges and Approaches. University of Southern California. Los Angeles, CA.
- 79. January 13. *Dynamic Decision Making: Learning Processes and Cognitive Challenges*. Cognitive Science Brownbag, Learning Research and Development Center (LRDC), University of Pittsburgh.

2015

- June 15. The Role of Behavioral Science in Mission Assurance for Cybersecurity. Workshop on Attack Detection, Forensics and Attribution for Assessment of Mission Impact. June 15-17, 2015, Istanbul, Turkey. The Information Systems Technology (IST) NATO panel.
- February 26. Creating Cognitively-Aware Decision Support Technology. Key Note lecture. Conielecomp 2015. The 25th International Conference on Electronics Communications, and Computers. Universidad de las Americas, Cholula, Puebla, Mexico. February 25-27, 2015.
- 82. February 14. Human Decision Making in CyberSpace. AAAS 2015 Annual meeting. San Jose CA. February 12-16, 2015.

2014

- 83. June 23. *Human Decision Making in a Cyber World: Some Research Challenges*. 13th Annual Workshop on the Economics of Information Security. Pennsylvania State University. June 23-24, 2014.
- April 23. Human Decision Making in Cyberspace. NSF SaTC CyberSpace 2015 Workshop (CyberSpace 2025). Panel on Social, Behavioral, and Economic S&T. Washington, DC. April 22-23, 2014.
- 85. March 14. *CyberWar Game: A paradigm for understanding new behavioral challenges for Cyber War*. Workshop on Cyber Warfare: Building the Scientific Foundation. George Mason University, Fairfax, VA.
- 86. February 21. *Unification and Simplification Dilemma of Cognitive Architectures*. Workshop on Problem Solving and Dynamic Decision Making (EPSDDM). University of Essen. Essen, Germany.
- 87. February 20. *Dynamic Decision Making: Learning Processes and Cognitive Challenges*. Workshop on Problem Solving and Dynamic Decision Making (EPSDDM). University of Essen. Essen, Germany.
- 88. January 25, *Dynamic Decision Making: Learning Processes and Cognitive Challenges*. Learning, bounded rationality and decisions. Three related workshops and a winter school. Israel, January 23-29, 2014.

- 89. September 20, *Dynamic decision making: Learning processes and cognitive challenges. Forecasting, monitoring, controlling: Dealing with a dynamic world.* University College London. London, UK.
- July 24, Cognitive challenges for making decisions in dynamic systems. Panel on Assessing Systems Thinking Across Skill Levels. 31st. International Conference of the System Dynamics Society. Boston, MA.
- 91. July 15, Decisions from experience in advanced technological systems. Technical University of Berlin. Berlin, Germany.
- 92. July 12, *Dynamics of cooperation with varied information*. 15th International Conference on Social Dilemmas. ETH Zürich, Switzerland.

- 93. April 9, *Emergence of cooperation with increased information: Explaining the process with an instance-based learning model.* Center for Adaptive Rationality. Max Planck Institute. Berlin, Germany.
- 94. April 5, Decisions from Experience. School of Psychology. University of Basel, Basel, Switzerland.
- 95. February 20, *Making Decisions from Experience: Explaining sampling and repeated choice with Instance-Based Learning Cognitive Models.* Psychology Department. University of North Carolina, Charlotte.

- 96. December 12, *Making Decisions from Experience in Cyber-Security*. CyLab Usable Privacy and Security Lab, seminar series. Carnegie Mellon University, Pittsburgh.
- 97. October 4. *How do we make risky decisions from experience?: An Instance-Based Learning Model explains the process.* International Workshop on Experimental Economics and Finance. Karlsruhe, Germany.
- 98. September 6. Making Decisions from Experience: Explaining Sampling and Repeated Risky Decisions with Instance-Based learning Cognitive Models. Behavioral Decision Research Seminar. Carnegie Mellon University, Pittsburgh.
- April 15. Human Performance Modeling. International Conference on Cognitive Modeling. ICCM 2012. April 13-15, 2012. Berlin, Germany.
- 100. March 28. *Decisions from Experience in Advanced Technological Systems*. Key Note lecture for the annual meeting of the Mexican Society of Computer Science. Salamanca, Mexico.
- 101. February 1. Instance-Based Learning: Integrating Decisions from Experience in Sampling and Repeated Choice Paradigms. Cognitive Science Colloquium. Psychological and Brain Sciences. Indiana University, Bloomington.

2011

- 102. December 10. Instance-Based Learning: Integrating Decisions from Experience in Sampling and Repeated Choice Paradigms. International Conference on Decision Making. University of Allahabad, India.
- 103. November 20. *The Description Experience Gap in Decisions under Uncertainty*. Commemorative Colloquium for Horacio Arlo-Costa. Center for Formal Epistemology. Department of Philosophy. Carnegie Mellon University.
- 104. October 14. A Game-Theoretic Approach to Study Cyber Situation Awareness. Second ARO Workshop on Moving Target Defense. October 13-14, 2011. University of Maryland. Fairfax, VA.
- 105. August 24. *How do I get Research Grants?* Early Career Networking Event. 23rd. Subjective Probability, Utility, and Decision Making Conference (SPUDM 2011). August 21-25, 2011. Kingston University, London, UK.
- 106. July 18. *The Dilemma of Unification and Simplification in Cognitive Architectures*. ACT-R Post-Graduate Summer School 2011. July 17-19, 2011. White Mountain Hotel & Resort. North Conway, NH.
- 107. June 10. Decisions from Experience in Advanced Technological Systems. Human Factors Program. Industrial and Systems Engineering seminar. University of Buffalo.
- 108. March 30. A Loser Can Be a Winner: Comparison of Two Instance-Based Learning Models in a Market Entry Competition. Games and Decisions Seminar. Philosophy Department. Carnegie Mellon University.
- 109. March 25. Instance-Based Learning Theory: A General Computational Approach to Modeling Human Decisions from Experience. Key Note speech for the annual meeting of the Mexican Society of Computer Science. Toluca, Mexico.
- 110. March 21. Instance-Based Learning Tool: Making Instance-Based Learning Theory Usable, Transparent, and Understandable. Invited tutorial presented at the 20th Behavior Representation in Modeling and Simulation (BRIMS) conference. March 21-24, 2011. Sundance Resort, Utah, USA.
- 111. February 10. Instance-Based Learning Models of Cyber Situation Awareness. Cyber Situation Awareness Workshop. Cognitive Engineering Research Laboratory. Arizona State University.

2010

- 112. October 8. *Instance-Based Models of Decision Making*. International Symposium of Scientific Computing for the Cognitive Sciences. October 6-8, 2010. Heidelberg University, Germany.
- 113. October 5. Instance-Based Learning Tool: Integrating Models of Decisions from Experience. Invited tutorial for graduate students. Heidelberg University, Germany.
- 114. September 24. Socio-Cognitive Factors that Influence Cooperative Behavior: An Examination with fMRI. Interdisciplinary Symposium on Decision Neuroscience. September 23025, 2010. Fox School of Business, Temple University, Philadelphia, PA.
- 115. June 4. *Dynamic Decision Making Games: Lessons and Challenges from Learning Theories*. Games in Engineering and Computer Science Workshop (GECS 2010). June 3-4, 2010. Arlington, VA.
- 116. April 24. The Role of Culture in Dynamic Decision Making: Conflict Resolution in PeaceMaker. The Gavriel Salvendy International Symposium on Frontiers in Engineering. Focus on "Cultural Factors in Decision Making and Action." April 23-24. Purdue University, Indiana.
- 117. March 16. Developing New Metrics for Shared Situation Awareness. HFES "Meet the Authors" Webinar. Tuesday, March 16, 2010. 1:00-2:00PM EDT.

2009

118. April 1. Predicting Performance in Open-ended Dynamic Tasks: A Model Comparison Challenge. Comparing the Comparisons Symposium on Model Comparison. Conference on Behavior Representation in Modeling and Simulation (BRIMS, 2009). Salt Lake City, Utah.

- 119. March 4. *Training Decisions from Experience with Decision Making Games*. Workshop on Adaptive Technologies for Army Training and Education. Army Research Institute, Charleston, SC.
- 120. February 24. *Dynamic Decision Making and Training for Emergency Triage*. Triage, Science and Technology Symposium. Children Hospital Los Angeles, Los Angeles, CA.

- 121. September 11. Dynamic Decision Making and Training. Pediatric Disaster Preparedness National Summit. Los Angeles, CA.
- 122. August 16. *Decision Making in Dynamic and Complex Environments*. Symposium Chair, showcasing the Dynamic Decision Making Laboratory at Carnegie Mellon University. APA annual convention. Division 21. Boston, MA.
- 123. August 12. An Instance-Based Learning Model of Repeated Binary Choice. Symposium: Beyond Biases: the Influence of Experience on Managerial Decision Making. Winner of making connections award, sponsored by the OB Division. Academy of Management Annual Meeting. Anaheim, CA.
- 124. August 12. Determinants of Public Conference in Government Ability to Prevent Terrorism. Symposium: Disaster Response Planning and Management: Studies of Integrated Planning and Action. Academy of Management Annual Meeting. Anaheim, CA.
- 125. July 24. *Why don't well educated adults understand accumulation?* Third Annual Behavioural Operations Conference. University of Alberta, School of Business. Edmonton, Canada.
- 126. July 16. Dynamic Decision Making in Complex Environments. Second International Conference on Applied Human Factors and Ergonomics. Las Vegas, NV.
- 127. April 17. *Human Learning in Dynamic Environments*. Industrial and Mechanical Engineering Department seminar. University of Massachusetts, Amherst, MA.
- 128. April 11. Human Learning in Dynamic Environments. Medical Education Rounds. University of Pittsburgh, Pittsburgh, PA.
- 129. April 3. *PeaceMaker-based Research for Decision Making and Diplomacy*. The future of Interactive Technology for Peace. Carnegie Mellon University, Pittsburgh, PA.
- 130. February 21. A comprehensive Psychological Model for Robust Decision Making in Luggage Screening. Information Sciences and Technology. Penn State University, State College, PA.

2007

- 131. December 7. *Robust Decision Making in Dynamic Environments*. Center for Neural Basis of Cognition Seminar. Carnegie Mellon University, Pittsburgh, PA.
- 132. November 5. *Making Robust Decisions in Dynamic Environments*. Business Transformation and IT Strategy Program. Tepper School of Business. Carnegie Mellon University, Pittsburgh, PA.
- 133. October 26. *Dynamic Decision Making Research*. Second International Engineering Week. October 24-26, 2007. Tecnologico de Monterrey. Cuernavaca, Morelos, MEXICO.
- 134. October 21. Dynamic Decision Making. Short Course on the Introduction to Psychology of Medical Decision Making. 29th Annual meeting of Medical Decision Making. October 20-24, 2007 Pittsburgh, PA
- 135. October 17. *Microworlds in Dynamic Decision Making Research*. Workshop on Microworlds Research on Dynamic Decision Making. Defense Research and Development Canada. Toronto ON, Canada.

2006

- 136. December 12. *Heterogeneity of Practice in Airport Security Screening*. Systems Dynamics Seminar. Argonne National Laboratory. Chicago, IL.
- 137. October 25. ACT-R Models of Training. Issues in Cognitive Science. Cognitive Science Department seminar series. Rensselaer Polytechnic Institute (RPI). Troy, NY.
- 138. August 15. *Learning and feedback in dynamic decision making*. Symposium on Learning and Feedback. Academy of Management Annual Meeting. Atlanta, GA.
- 139. June 23. *Dynamic Decision Making*. Round Table on Dynamic Decision Making. 12th International Conference on the Foundations and Applications of Utility, Risk and Decision Theory. Rome, Italy.

2005

- 140. June 5. Automaticity development and decision making in complex, dynamic tasks. ONR Cognitive Architectures meeting, Carnegie Mellon University, Pittsburgh, PA,
- 141. March 14. Learning in real-time dynamic decision making. Sloan School of Management, MIT, Boston, MA,

2004

- 142. August 20. *Learning to make decisions in dynamic environments: Instance-based cognitive models*. New and Alternative Directions for Learning Workshop, Carnegie Mellon University, Pittsburgh, PA,
- 143. May 17. *Practical Applications of Cognitive Modeling*. Symposium, Conference of Behavior Representation in Modeling and Simulation, Arlington, VA,

2003

144. August. Computational models of situation awareness. 7th Annual ACT-R Workshop, Carnegie Mellon University, Pittsburgh, PA.

- 145. May 12. Understanding and Evaluating High Level Cognitive Processes. Symposium, 12th Conference on Behavior Representation in Modeling and Simulation (BRIMS), Scottsdale, AZ.
- 146. May 3. *Learning in dynamic decision making*. Information Aggregation in Decision Making Workshop, Department of Psychology, University of Maryland, College Park, MD.

- 147. August 3. *Modeling coordination in team dynamic resource allocation*. 6th Annual ACT-R Workshop, Carnegie Mellon University, Pittsburgh, PA.
- 148. June 23. *A cognitive model of attention control for multitask problem solving*. Computational and Mathematical Organization Theory Conference, Carnegie Mellon University, Pittsburgh, PA.

2001

- 149. October 23. Instance-based decision making in dynamic environments: Modeling the learning process. Recognition-Primed Decision Making Workshop, Boulder, CO.
- 150. July 6. *Instance-based decision making in dynamic environments: Modeling the learning process*. Computational and Mathematical Organization Theory Conference, Pittsburgh, PA.

1999

- 151. August 27. Cognitive modeling in real-time dynamic decision making. Seminar for Computer Scientists, University of the Americas-Puebla (UDLA), Cholula, Puebla, Mexico.
- 152. August 6, *ACT-R learning in a real-time dynamic decision-making task.* 6th Annual ACT-R Workshop, George Mason University, Fairfax, VA.

1997

- 153. September 12. An empirical study of the use of sound at the interface in problem solving. Primer Encuentro de Computación, Querétaro, Mexico.
- 154. September 11. Interaccion humano-computadora: Introduccion (Human-Computer Interaction: An Introduction) Primer Encuentro Nacional de Computacion, Querétaro, Mexico.

1990

155. September 26. *SISCONFIN: Sistema contable y financiero* (SISCONFIN: Accounting and Financial System). 2nd Computer Seminar for Administration in Universities of Latin America, National Autonomous University of Mexico, Mexico City, Mexico.

BOARDS, COMMITTEES, HONORS AND AWARDS

Committees and Advisory Boards

- 2024-2026 Collective Learning Network. Complexity Science Hub and the Santa Fe Institute. https://sites.google.com/view/collectivelearning-network/people
- 2024-2026 Policy Council Member at Large. System Dynamics Society. <u>https://systemdynamics.org/governance/officers-and-policy-council-members/</u>

2022-2027 Committee member. National Academies Division Committee for the Behavioral and Social Sciences and Education (DBASSE). <u>https://www.nationalacademies.org/dbasse/about#sl-three-columns-c38e0313-01c3-4515-a54a-9f277af65ced</u>

- 2019-2025 *Board member*. Governing Board of the Cognitive Science Society. January 2019-December 2025. <u>https://cognitivesciencesociety.org/about/</u>
- 2023-2024 Global Risk Report Red Team. United Nations- Executive Office of the Secretary General. Our Common Agenda: Report of the Secretary General. <u>https://www.un.org/en/common-agenda</u>
- 2021-2024 Member-at-large. Division 3- Society for Experimental Psychology and Cognitive Science- of the American Psychological Association. https://www.apadivisions.org/division-3/leadership
- 2021 *Committee member*. National Academy of Sciences, Engineering and Medicine; Division of Behavioral and Social Sciences and Education; Board of Human-Systems Integration; Committee of Human-System Integration Research Topics for the 711th Human Performance Wing of the Air Force Research Laboratory. https://www.nap.edu/catalog/26355/human-ai-teaming-state-of-the-art-and-research-needs
- 2019-2022 Advisory board. MultiTip research team funded by the German Federal Ministry of Education and Research to investigate sustainable management of the Nile Perch fishery. <u>https://www.uni-heidelberg.de/fakultaeten/wiso/awi/professuren/umwelt/multitip/about.html</u>
- 2014-2015 Committee member. Human Factors Committee (HFC) of the Organization of Scientific Area Committees (OSAC) in Forensic Science. National Institute of Standards and Technology (NIST). United States Department of Commerce.

Carnegie Mellon University Service

2020-2021 Committee Chair. Reappointment, Promotion and Tenure Committee, Dietrich College.

2015-2019 Faculty Committee on Diversity and Inclusion. In charge of advising Provost for faculty, Kathryn Roeder on improving recruitment and retention of diverse, world-class faculty.

2017-2018 *Chair of Diversity and Inclusion subcommittee*. General Education Curriculum, Dietrich College of Humanities and Social Science.

2016-2018 Committee member. Reappointment, Promotion and Tenure University Committee.

Honors and Awards

- 2023 *Fulbright Senior Scholar award.* Cognitive Science and Artificial Intelligence. University of Malaga, Spain. January-May, 2023.
- 2022 **Best Paper Award.** Strategic Management Society- Behavioral Strategy IG (London, UK, 2022) "Decision Centralization and Learning from Experience in Groups: Separating Context from Aggregation Effects".
- 2021 *Lifetime Fellow of the Cognitive Science Society.* Formal recognition at the 2021 Cognitive Science Society annual meeting, Vienna, Austria.
- 2020
 Best Paper Award. International Conference on Decision and Game Theory for Security (GameSec; October 26-30, 2020) "Exploiting Bounded Rationality in Risk-based Cyber Camouflage Games".
- 2020 **Best Paper Award.** 53rd Hawaii International Conference on System Sciences (HICSS; January 8-10, 2020) Digital Government Track - "Adaptive cyber deception: Cognitively informed signaling for cyber defense" (from Cyber Deception for Defense Minitrack).
- 2015 *Best Paper Award*. Tenth International Conference on Semantic Technology for Intelligence, Defense, and Security (STIDS 2015). "Ontology-Based Adaptive Systems for Cyber Defense" Fairfax, VA. Nov. 18-20, 2015.
- 2014 *Best Paper Award*. IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA 2014). "Decision-Making in Abstract Trust Games: A User Interface Perspective." San Antonio, TX. March 3-5, 2014.
- 2013 *Fellow of the Human Factors and Ergonomics Society*. Society. Formal recognition on October 1, 2013, at the HFES annual meeting. San Diego CA, USA.
- 2010 **Runner up prize.** Games first choice prediction competition. Competition focused on the prediction of behavior in repeated Market Entry Games. Instance-Based Learning model ranked second among 25 submissions: http://mail.sjdm.org/pipermail/jdm-society/2010-October/004647.html
- 2008 *Making Connections Award*. Academy of Management, OB Division. Meeting of the Academy of Management, Los Angeles, CA, USA.
- 2006 *Best Paper Award*. Behavior Representation in Modeling and Simulation (BRIMS) conference. Baltimore, MD. May 15-18, 2006.

PROFESSIONAL SOCIETIES AND EDITORIAL ACTIVITIES

Editorial Boards, Review Panels and Review Service

2022-present-Consulting Editor - Psychological Review.

2021-present-Senior Editor - TopiCS.

2014-present-Consulting Editor - Decision.

- 2013-present-Associate Editor System Dynamics Review.
- 2016-2020- Associate Editor Cognitive Science: A Multidisciplinary Journal.

2008-2018- Associate Editor - Journal of Cognitive Engineering and Decision Making.

2022-present- Member of Editorial Board- Perspectives on Psychological Science.

2020-present- Member of Editorial Board- Cognitive Science: A Multidisciplinary Journal.

2015-present- Member of Editorial Board- Journal of Dynamic Decision Making.

2018-2023- Member of Editorial Board- Journal of Experimental Psychology: General.

- 2013-2023- Member of Editorial Board- Journal of Behavioral Decision Making.
- 2013-2023- Member of Editorial Board- American Journal of Psychology.

2007-2022- Member of Editorial Board- Human Factors Journal.

Professional Societies and Conference Service

General

2018- present - American Association for the Advancement of Science (AAAS)

Human Factors

2008- present - member of the Human Performance Modeling Technical Group (HFES)

- 1994- present member of the Human Factors and Ergonomic Society (HFES)
- 2004- present member of the Cognitive Engineering and Decision-Making Technical Group (HFES) Conference Service for Human Factors

2009-2015 - Chair, General Sessions. Annual Meeting of the Human Factors and Ergonomics

2009 - Co-Founder, Human Factors and Ergonomics Society Local Chapter. (HFES-2009). Pittsburgh, PA, 2009.

2009 - Co-Chair, General Sessions. 53th Annual Meeting of the Human Factors and Ergonomics Society (HFES-2009), San Antonio, TX, October 19-23, 2009

Cognitive Science

2009- present - member of the Association for Psychological Science

1998- present – member of the Cognitive Science Society Conference Service for Cognitive Science

2014-present - Technical Program Committee, Annual meeting of the Cognitive Science Society.

Decision Science

2010- present - member of the European Association for Decision Making

2001- present - member of the Society for Judgment and Decision-Making

2008-2012 - member of the Society of Risk Analysis Conference Service for Decision Science

- 2021 Scientific Committee. Subjective Probability Utility & Decision Making (SPUDM 2021). 22-24 August 2021. University of Warwick.
 - 2011- 2012- Technical Program Committee, IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA-2012).
 - 2010 Program Committee, Behavioral Decision Research in Management (BDRM 2010) conference. Pittsburgh, PA, June 10-13, 2010.
 - 1999- Session Chair, Integrating Data Management and Human Decisions, 5th International Conference of the Decision Sciences Institute (DSI 1999), Athens, Greece, July 4–7, 1999

System Dynamics

2001- present – member of the System Dynamics Society <u>Conference Service for System Dynamics</u>

2017- present- Technical Program Committee, System Dynamics Conference.

Management Science

2006-2019 - member of the Academy of Management

Computer Science/Information Sciences/Human-Computer Interaction

2021-present-member of the Association for the Advancement of Artificial Intelligence- AAAI.

1993-2013 - member of the Association for Computer Machinery-ACM.

- 1993-2013 member of the Computer-Human Interaction Special Interest Group- SigCHI.
- Conference Service for Computer Science and Engineering
- 2021 General Chair. Conference on Decision and Game Theory for Security. GameSec 2021, October 25-27, 2021, Prague, Czech Republic.
- 2012- Technical Program Committee, 11th International Conference on Cognitive Modeling (ICCM 2012), Berlin, Germany, April 13-15, 2012.
- 2005-2012- Technical Program and Organizing Committee, Conference on Behavior Representation in Modeling and Simulation (BRIMS).
- 2005 Technical Program and Organizing Committee, 2nd Latin American Conference in Human-Computer Interaction, (CLIHC-2005), Cuernavaca, Mexico, October 2005
- 2003 Co-Chair, 1st Latin American Conference in Human-Computer Interaction, (CLIHC-2003), Rio de Janeiro, Brazil, August 17–20, 2003
- 2003-2007 Vice President, CHI-Mexico (Local chapter of the Special Interest Group in Human-Computer Interaction in Mexico [ACM-SIGCHI]).
- 1999 Founder and Chair, CHI-Mexico (Local chapter of the Special Interest Group in Human-Computer Interaction in Mexico [ACM-SIGCHI]), 1999–2002
- 1999 Technical Program and Organizing Committee, Human-Computer Interaction Interest Group, Segundo Encuentro de Computación, Pachuca, Mexico, September 1999
- 1998 -International Issues Committee (IIC), SIGCHI, Conference on Human Factors in Computing Systems (CHI-1998).

Ad hoc reviewer for other Journals (partial list)

Behavioral and Brain Sciences; Psychological Review; Cognition; Journal of Experimental Psychology: Learning, Memory and Cognition; Journal of Experimental Psychology: Applied; Journal of Economic Psychology; Psychonomic Bulletin and Review; Management Science; Organizational Behavior and Human Decision Processes; Journal of Conflict Resolution; European Journal of Operations Research.

Ad hoc reviewer for other Conferences (partial list)

Academy of Management; Conference on Human Factors in Computing Systems (CHI conference); Conference on System Dynamics; Cognitive Science Conference; Americas Conference on Information Systems; Behavior Representation in Modeling and Simulation (BRIMS conference); International Conference on Cognitive Modeling (ICCM).

Panelist and reviewer for Granting Agencies (partial list)

National Science Foundation (NSF); National Institute of Health (NIH); Air Force Office of Scientific Research (AFOSR); Army Research Office (ARO); Israeli Science Foundation (ISF); European Science Foundation (ESF).

Organization of Conferences, Workshops, and Symposia

- 2024 First Human-AI Teaming Workshop. September 25-27, 2024. AI Institute for Societal Decision Making (AISDM). Carnegie Mellon University, Pittsburgh, PA, USA. https://cms-staging.andrew.cmu.edu/ai-sdm/research/human-ai-workshop/
- 2023 ARO Workshop: The Future of Cyber Deception. October 4-6, 2023. Carnegie Mellon University, Pittsburgh, PA, USA. https://www.cmu.edu/dietrich/sds/ddmlab/aroworkshop2023.html
- 2023 Exploring ELLIS-Alicante/DDMLab Research Collaborations. Co-Organized with Nuria Oliver. March 7-9, 2023, Alicante, Spain. <u>https://www.cmu.edu/dietrich/sds/ddmlab/ellisddmlab.html</u>
- 2022 Anticipatory Human-Machine Interaction. Dagstuhl Seminar 22202. Co-organized with Jelmer Borst, Andreas Bulling and Nele Ruswinkel. May 15-20, 2022, Dagstuhl, Germany.
 (<u>https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=22202</u>). A report published as part of the periodical Dagstuhl Reports, and available online:: https://doi.org/10.4230/DagRep.12.5.131
- 2015 Information and Decisions: Decisions from Description and Experience Come Together in Individual and Social Interactions. Carnegie Mellon University. Invited speakers: Peter Wakker and Ryan O. Murphy. Pittsburgh, PA, April 21, 2015. https://www.cmu.edu/dietrich/sds/ddmlab/workshop2015/index.html
- 2013 Trends in Decision Making Research: How Can They Change Cognitive Engineering and Decision Making in Human Factors? International Annual meeting of the Human Factors and Ergonomics Society (HFES). Co-chaired with Joachim Meyer. Invited Speakers: Gary Klein, Frank Yates, and Alvin Roth (Nobel Laureate). San Diego, CA, Tuesday, October 1, 2013. pp. 163-166.
- 2013 Predicting Choice from Exploration. 9th Invitational Choice Symposium. Huis ter Duin, Noordwijk, The Netherlands. With Katja Mehlhorn. Invited Speakers: V. Braithwaite, K. Fiedler, D. Hausmann, M.D. Lee, K. Morgan, B. Newell, P. Todd. June 12-16, 2013.
- 2013 Predicting Choice from Exploration. 25th Association for Psychological Science (APS). With Katja Mehlhorn. Invited Speakers: J. Wolfe, P. Pirolli, R. Hertwig. Washington, D.C. May 23-26, 2013.
- 2010 Experience, Heuristics, and Choice: Prospects for Bounded Rationality. Carnegie Mellon University. With Horacio Costa. Invited Speakers: R. Hertwig, J. Leland, P. Pedersen, E. Weber, J. Busemeyer, T. Pleskac, J.D. Trout. Pittsburgh, PA, December 1, 2010. https://www.cmu.edu/dietrich/sds/ddmlab/workshop/index.html
- 2009 Predicting Performance in Open-ended Dynamic Tasks. Modeling Competition. With Christian Lebiere and Walter Warwick. Results presented at BRIMS-2009, April 1, 2009, Sundance, Utah. <u>https://www.cmu.edu/dietrich/sds/ddmlab/modeldsf/problem.html</u>
- 2005 2nd Latin American Conference in Human-Computer Interaction, (CLIHC-2005), Cuernavaca, Mexico, October 2005. Organizing Committee. <u>https://clihc2005.laihc.org/commitee.html</u>
- 2003 1st Latin American Conference in Human-Computer Interaction, (CLIHC-2003), Rio de Janeiro, Brazil, August 17–20, 2003. Conference Co-Chair. <u>http://clihc2003.inf.puc-rio.br/</u>
- 2002 Special Interest Group, HCI in Latin America: Consolidating a Community, Conference on Human Factors in Computing Systems, (CHI-2002), Minneapolis, MN, April 20–25, 2002. With Alfredo Sanchez.
- 2001- Development Consortium, Conference on Human Factors in Computing Systems (CHI-2001), Seattle, WA, March 31–April 2, 2001
- 1999- Special Interest Group: Encouraging CHI Collaboration in Latin America, Conference on Human Factors in Computing Systems (CHI-1999), Pittsburgh, PA, May 20, 1999
- 1998 Current Trends and Applications of Artificial Intelligence in Education, 4th World Congress on Expert Systems, Mexico City, Mexico, March 16–20, 1998

CONSULTING

- Army Research Laboratory Human Research and Engineering Directorate (ARL-HRED). Consulting services for the Development of a Cognitive Model of a Robotics Operator Manager in a Networked Environment. May 2010-May 2011.
- Argonne National Laboratory. Elicitation of Experimental Data of Public Confidence in Government to Prevent Terrorism. February-May 2008.
- National Institute for Occupational Safety and Health (NIOSH). Mine Emergency Decision Making. June-August 2008.
- Lecturer, Executive Program for VW GEDAS (Volkswagen's consulting company in information technology), S.A. courses hosted by Benemerita Universidad Autonoma de Puebla, Puebla, Mexico, 1998–1999
- Lecturer, Executive Program for PEMEX (Mexican oil company), Villahermosa, Tabasco, Mexico, 1996
- Manager and Project Leader, Accounting and Financial System for IEPSA Group, Mexico City, Mexico, 1989-1990

Project Leader, Administrative Procedures and Information Analysis for Consorcio La Margarita de Puebla, S.A. INFONAVIT, Puebla, Mexico, 1988

Lecturer, Technical Institute of Computers, Puebla, Mexico, 1984-1985

CONTINUING PROFESSIONAL EDUCATION

- The 2010 Fourth Annual Advanced Neuroimaging Summer Program by Mark Cohen and Susan Bookheimer. Institute for Neuroscience and Human Behavior, UCLA campus, with funding from the National Institutes of Health. July 12-23, 2010.
 Rusingson Dumanics by John Stormon Law W. Formatter Nelson Remaining and Pater Samas. Exactly Program MIT Storm.
- *Business Dynamics* by John Sterman, Jay W. Forrester, Nelson Repenning, and Peter Senge. Executive Program. MIT Sloan School of Management, Cambridge, Massachusetts. June 12-16, 2006.

- *First Summer Institute on Bounded Rationality* by Gerd Gigerenzer. Max Planck Institute for Human Development. Center for Adaptive Behavior and Cognition. Berlin, Germany. August 8-17, 2001.
- Cognitive Processes by Hebert A. Simon. Graduate course in the Department of Psychology. Carnegie Mellon University. Fall, 1999.
- Production Systems Models of Thought by John R. Anderson. Graduate course in the Department of Psychology. Carnegie Mellon University. Spring, 1998.
- Intuitive Statistics for HCI Professionals: Developing Understanding and Avoiding Errors by Johnson Jeffries. 8 hours tutorial. CHI'95 conference, Denver, Colorado, 1995.

Presenting Data and Information by Edward Tufte. 8 hours tutorial. Dallas, Texas, 1995.

Methods of Perceptual and Cognitive Research Applied to Interface Design and Testing by Douglas J. Gillan and Nancy J. Cooke. 8 hours tutorial. CHI'94 conference. Boston, Massachusetts, 1994.

Presenting Information Visually: Visual Design Principles and Interactive Design Studio by Suzanne Watzman, Dan Boyarski, and Virginia Howlett. 8 hours tutorial. CHI'94 conference, Boston, Massachusetts, 1994.