

Michael C. Dorneich, Ph.D.

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OBJECTIVE

To advance human factors research in the process of creating usable, reliable, and context-aware adaptive systems that assist human performance in complex operational domains.

EDUCATION

Ph.D., Industrial Engineering, University of Illinois at Urbana-Champaign, 1999

Dissertation: *System Design Framework for a Learning Collaboratory*

M.S., Electrical Engineering, University of Illinois at Urbana-Champaign, 1995

Thesis: *Application of the Dyadic Integral Equation Method to the Characterization of Lossy Conductors*

B. S., Electrical Engineering, University of Illinois at Urbana-Champaign, 1990

with an International Minor in Germanic Studies

RESEARCH FOCUS

Dr. Dorneich's research interests focus on creating joint human-machine systems that enable people to be effective in the complex and often stressful environments found in aviation, military, robotic, and space applications. He specializes in adaptive systems which can provide assistance tailored to the user's current cognitive state, situation and environment. Adaptive systems are becoming more necessary as intelligent assistants are spreading into every aspect of work, education, and home life. His recent work explores the dual costs and benefits of adaptive systems, and develops approaches to mitigate shortcomings, leverage human strengths, and augment human performance when human capacity falls short of the demands of complex operational environments. Specific research and application areas include human factors, cognitive engineering, adaptive automation and adaptive interfaces, distributed systems, interactive learning environments, and decision-support systems.

ACADEMIC AND INDUSTRY EXPERIENCE

The Joseph Walkup Professor of Engineering	Industrial and Manufacturing Systems Engineering	2023-present
Director or Research Professor	Industrial and Manufacturing Systems Engineering	2023-present
	Industrial and Manufacturing Systems Engineering Aerospace Engineering (by courtesy) Human-Computer Interaction Graduate Program Faculty Iowa State University	2022-present
Associate Professor	Industrial and Manufacturing Systems Engineering Aerospace Engineering (by courtesy) Human-Computer Interaction Graduate Program Faculty Iowa State University	2012-2022 (Earned tenure 2018)

Faculty Affiliate	Virtual Reality Applications Center, Iowa State University	2012-present
Principal Research Scientist	Honeywell Laboratories	2011-2012
Senior Research Scientist IV	Honeywell Laboratories	2003-2011
Visiting Scientist	Human Factors Research & Technology Division NASA Ames Research Center	2004
Senior Research Scientist III	Honeywell Laboratories	2000-2003
Research Associate	Honeywell Technology Center	1999-2000
Research Assistant	Industrial Engineering Department, University of Illinois at Urbana-Campaign	1995-1999
Research and Teaching Assistant	Electrical Engineering Department, University of Illinois at Urbana-Campaign	1990-1995
IAESTE Intern	Oslo Lysverker, Norway	1987

PUBLICATIONS

Peer-Reviewed Journal Papers

* Graduate student co-author; ** Undergraduate student co-author

55. *Tokadli, G. & **Dorneich, M.C.** (Accepted). "Comparison of Two Aerospace Use Cases to Develop Human-Autonomy Teaming Characteristics," *Frontiers in Aerospace Engineering: Reviews In Intelligent Aerospace Systems*.
54. *Sepich, N., **Talyat, M., **Didic, E., **Dorneich, M.C.**, & Gilbert, S.B. (Accepted). "Video Game Interface Design Patterns to Facilitate Human-Agent Teaming," *International Journal of Human-Computer Interaction*.
53. *Meister, P., *Miller, J., *Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (Accepted). "Evaluation of Augmented Reality Interactive Print for General Aviation Weather Training," *AIAA Journal of Air Transportation*.
52. *Jasper, A., *Sepich, N.C., Gilbert, S.G., Kelly, J.W., & **Dorneich, M.C.** (Accepted). "Predicting Cybersickness Using Individual and Task Characteristics," *Computers in Human Behavior*.
51. *Finseth, T., **Dorneich, M.C.**, Vardeman, S., Keren, N., & Franke, W. (2023). "Real-time Personalized Physiologically Based Stress Detection for Hazardous Operations," *IEEE Access*. 11, 25431 - 25454. <http://dx.doi.org/10.1109/ACCESS.2023.3254134>
50. *Tokadli, G. & **Dorneich, M.C.** (2022). "Autonomy as a Teammate: Evaluation of Teammate-Likeness," *Journal of Cognitive Engineering and Decision Making*. 16(4), 282-300. <http://dx.doi.org/10.1177/15553434221108002>
49. *Meister, P., *Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2022). "Augmented Reality Enhanced Thunderstorm Learning Experiences for General Aviation," *AIAA Journal of Air Transportation*. 30(4), 113-124. <http://dx.doi.org/10.2514/1.D0308>
48. *Sepich, N., *Jasper, A., **Fieffer, S., Gilbert, S.B., Dorneich, M.C., & Kelly, J.W. (2022). "The Impact of Task Workload on Cybersickness," *Frontiers in Virtual Reality*, section Virtual Reality

and Human Behaviour, Special Issue: Cybersickness in Virtual Reality Applications. 3:943409.
<http://dx.doi.org/10.3389/frvir.2022.943409>

47. *Meister, P., *Miller, J., *Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2022). "A Three-Dimensional Augmented Reality Design Strategy for Weather Visualizations in General Aviation Training," *IEEE Transactions on Professional Communication*. 65(2), 321-336.
<http://dx.doi.org/10.1109/TPC.2022.3155920>
46. *Stonewall, J.H., *Ouverson, K., *Helgerson, A., Gilbert, S.B., & **Dorneich, M.C.** (2022). "An Evaluation to Determine if Reading the Mind in the Eyes Scores Can Be Improved Through Training," *PlusONE*. 17(4), e0267579. <http://dx.doi.org/10.1371/journal.pone.0267579>
45. *Finseth, T., **Dorneich, M.C.**, Keren, N., Franke, W. & Vardeman, S.B. (2022). "Manipulating Stress Responses During Training with Virtual Stressors," *Applied Sciences* (Special Issue: Applied Cognitive Sciences). 12, 2289. <http://dx.doi.org/10.3390/app12052289>
44. *Annamalai, R., **Dorneich, M.C.**, & *Tokadli, G. (2021). "Evaluating the Effect of Poor Contrast Ratio in Simulated Sensor-Based Vision Systems on Pilot Performance," *IEEE Transaction on Human-Machine Systems*. 51(6), 632-640. <http://dx.doi.org/10.1109/THMS.2021.3114144>
43. *Tokadli, G., **Dorneich, M.C.**, & Matessa, M. (2021). "Towards Human-Autonomy Teaming in Single Pilot Operations: Domain Analysis and Requirements," *AIAA Journal of Air Transportation*. 29(3), 142-152. <http://dx.doi.org/10.2514/1.D024042>
42. **Dorneich, M. C.**, O'Dwyer, B., Dolowitz, A., Styron, J., & Grogan, J. (2021). "Application Exercise Design for Team-Based Learning in Online Courses," *New Directions for Teaching and Learning*. 2021(164), 41-52. <http://dx.doi.org/10.1002/tl.20435>. [Wiley Publishing Top Downloaded Article first 12 months]
41. Thompson, J.R., Ganapathysubramanian, B., Chen, W., **Dorneich, M.**, Gassman, P., Krejci, C., Liebman, M.Z., Nair, A., Passe, U., Schwab, N., Rosentrater, K., Stone, T., Wang, Y., & Zhou, Y. (2021). "Iowa UrbanFEWS: Integrating Social and Biophysical Models for Exploration of Urban Food, Energy and Water Systems," *Frontiers in Big Data, Data-Driven Climate Sciences*. 4, 662186, <http://dx.doi.org/10.3389/fdata.2021.662186>
40. *Tokadli, G., **Dorneich, M.C.**, & Matessa, M. (2021). "Evaluation of a Playbook Delegation Approach in Human-Autonomy Teaming for Single Pilot Operations," *International Journal of Human-Computer Interactions*, Special Issues on HCI in the Modern Flight Deck. 37(7), 703-716. <http://dx.doi.org/10.1080/10447318.2021.1890485>
39. *Ouverson, K., *Ostrander, A., *Walton, J., *Kohl, A., Gilbert, S.B., **Dorneich, M.C.**, Winer, E. & Sinatra, A. (2021). "Analysis of Communication, Team Situational Awareness, and Feedback in a Three-Person Intelligent Team Tutoring System," *Frontiers in Psychology*. 12, 166. <http://dx.doi.org/10.3389/fpsyg.2021.553015>
38. *Bonner, D., & **Dorneich, M.C.** (2021). "Developing Game-Based Learning Requirements to Increase Female Interest in STEM," *International Journal of Engineering Education*. 37(1), 1-14, http://dx.doi.org/ijee.ie/latestissues/Vol37-1/10_ijee4014.pdf
37. *Volz, K.M. & **Dorneich, M.C.** (2020). "Evaluation of Cognitive Skill Degradation in Flight Planning," *Journal of Cognitive Engineering and Decision Making*. 14(1), 263-287. <http://dx.doi.org/10.1177/1555343420962897>
36. *Jasper, A., *Cone, N., *Curtis, M., *Meusel, C., **Dorneich, M.C.**, & Gilbert, S. (2020). "Visually Induced Motion Sickness Susceptibility and Recovery Based on Four Mitigation Techniques," *Frontiers in Virtual Reality*, Special issue on Cybersickness in Virtual Reality Versus Augmented Reality. 1, 22. <http://dx.doi.org/10.3389/frvir.2020.582108>
35. Passe, U., **Dorneich, M.C.**, Shenk, L., Krejci, C., Thompson, J., Zhou, Y., *Stonewall, J., *Marmur, B., & *Malekpour, D. (2020). "An Urban Modelling Framework for Climate Resilience in Low-

- resource Neighbourhoods," *Building & Cities* (Special Issue: Climate Justice: The Role of the Built Environment Edition). 1(1), 453-474. <http://dx.doi.org/10.5334/bc.17>
34. *Abdelall, E.A., *Eagle, Z., *Finseth, T., *Mumani, A.A., *Wang, Z., **Dorneich, M.C.**, & Stone, R.T. (2020). "Evaluation of the Impact of Equipment Load and Social Conflict on Stress during a Simulated Traffic Stop," *Frontiers in Behavioral Neuroscience*. 14, 63, <http://dx.doi.org/10.3389/fnbeh.2020.00063>
 33. *Stephenson, M.L., *Ostrander, A.G., *Norasi, H., & **Dorneich, M.C.** (2020). "Shoulder Muscular Fatigue Concurrently Reduces Cognitive Attentional Resources," *Human Factors*. 62(4), 589-602. <http://dx.doi.org/10.1177/0018720819852509>
 32. *Ostrander, A., *Bonner, D., *Walton, J., *Slavina, A., *Ouverson, K., *Kohl, A., Gilbert, S.B., **Dorneich, M.C.**, Sinatra, A., & Winer, E. (2020). "Evaluation of an Intelligent Team Tutoring System for a Collaborative Two-Person Problem: The Surveillance Team Tutor," *Computers in Human Behavior*, Special issues on Collaboration in the 21st Century: The Theory, Assessment, and Teaching of Collaborative Problem Solving. 104, 105873. <http://dx.doi.org/10.1016/j.chb.2019.01.006>
 31. *Huang, W., Krejci, C., **Dorneich, M.C.**, Passe, U., Shenk, L., & *Stonewall, J. (2019). "Analyzing Residential Weatherization Decisions using Hybrid Simulation Modeling," *Building Simulation*. 12(3), 517-534. <http://dx.doi.org/10.1007/s12273-019-0518-4>
 30. *Mittal, A., Krejci, C. **Dorneich, M.C.**, & Fickes, D. (2019). "An Agent-Based Approach to Modeling Zero Energy Communities," *Solar Energy*. 191, 193-204. <http://dx.doi.org/doi.org/10.1016/j.solener.2019.08.040>
 29. *Mittal, A., Krejci, C., & **Dorneich, M.** (2019). "An Agent-Based Approach to Designing Residential renewable Energy Systems," *Renewable & Sustainable Energy Reviews*. 112, 1008-1020. <http://dx.doi.org/10.1016/j.rser.2019.06.034>
 28. *Du, Y., **Dorneich, M.C.**, & Steward, B. (2019). "Development of a Learning Capability In Virtual Operator Models," *SAE International Journal of Commercial Vehicles*. 12(2), 115-125. <http://dx.doi.org/10.4271/02-12-02-0009>
 27. *Finseth, T., Keren, N., Franke, W.D., **Dorneich, M.C.**, Anderson, C.C, & Shelly, M. (2018). "Evaluating the Effectiveness of Graduated Stress Exposure in Virtual Spaceflight Hazard Training," *Journal of Cognitive Engineering and Decision Making*. 12(4), 248-268. <http://dx.doi.org/10.1177/1555343418775561>
 26. *Jacobson, B., **Dorneich, M.C.**, & Potter, L. (2018). "Evaluation of the Learning Effectiveness of Team-Based Learning and Lecture Video Acceleration in an Introductory Engineering Course," *International Journal of Engineering Education*. 34(6), 1863-1875. http://ijee.ie/latestissues/Vol34-6/14_ijee3682.pdf
 25. *Yang, E. & **Dorneich, M.C.** (2018). "Affect-Aware Adaptive Tutoring Based on Human-Automation Etiquette Strategies," *Human Factors*. 60(4), 510-526. <http://dx.doi.org/10.1177/0018720818765266>
 24. *Tokadli, G. & **Dorneich, M.C.** (2018). "Development of Design Requirements for a Cognitive Assistant in Space Missions Beyond Low Earth Orbit," *Journal of Cognitive Engineering and Decision Making*. 12(2), 131-152. <http://dx.doi.org/10.1177/1555343417733159>
 23. *Kalvelage, K., **Dorneich, M.C.**, Seeger, C., Welk, G., Gilbert, S., Moon, J., Brown, P., & Jafir, I. (2018). "Assessing the Validity of Facilitated-Volunteered Geographic Information: Comparisons of Expert and Novice Ratings," *GeoJournal: Spatially Integrated Social Sciences and Humanities*. 83(3), 477-488. <http://dx.doi.org/10.1007/s10708-017-9781-z>
 22. Gilbert, S.B., *Slavina, A., **Dorneich, M.C.**, Sinatra, A.M., *Bonner, D., Johnston, J., *Holub, J., *Macallister, A., & Winer, E. (2018). "Creating a Team Tutor using GIFT," *International Journal of Artificial Intelligence in Education*. 28(2), 286-313. <http://dx.doi.org/10.1007/s40593-017-0151-2>

21. *Du, Y., **Dorneich, M.C.**, & Steward, B.L. (2018). "Modeling Human Adaptability in Virtual Operator Modeling," *Automation in Construction*. 90, 223-234.
<http://dx.doi.org/10.1016/j.autcon.2018.02.030>
20. *Yang, E. & **Dorneich, M.C.** (2018). "Evaluating Human–Automation Etiquette Strategies to Mitigate User Frustration and Improve Learning in Affect-Aware Tutoring," *Applied Sciences* (Special Issue Socio-Cognitive and Affective Computing). 8(6), 895.
<http://dx.doi.org/10.3390/app8060895>
19. **Dorneich, M.C.**, *Dudley, R., Letsu-Dake, E., Rogers, W., Whitlow, S.D., Dillard, M., & Nelson, E. (2017). "Interaction of Automation Visibility and Information Quality in Flight Deck Information Automation," *IEEE Transactions on Human-Machine Systems*. 47(6), 915-926.
<http://dx.doi.org/10.1109/THMS.2017.2717939>
18. *Barnawal, P., **Dorneich, M.C.**, Frank, M., & Peters, F. (2017). "Evaluation of Design Feedback Modalities in Design for Manufacturability," *Journal of Mechanical Design*. 139(9), 94503.
<http://dx.doi.org/10.1115/1.4037109>
17. *Yang, E. & **Dorneich, M.C.** (2017). "The Emotional, Cognitive, Physiological, and Performance Effects of Variable Time Delay in Human-Robot Interaction," *International Journal of Social Robotics*. 9(4), 491-508. <http://dx.doi.org/10.1007/s12369-017-0407-x>
16. **Dorneich, M.C.**, Passinger, B., Hamblin, C., Keinrath, C., Vašek, J., Whitlow, S.D., & *Beekhuizen, M. (2017). "Evaluation of the Display of Cognitive State Feedback to Drive Adaptive Task Sharing," *Frontiers in Neuroscience* (Special Issue: New Advances in Computational Neuroergonomics and Adaptive Human-Automation Systems). 11, 144, <http://dx.doi.org/10.3389/fnins.2017.00144>
15. Componation, P.J., **Dorneich, M.C.**, & Nicholls, G.M. (2017). "Team Member Perceptions of Alternative Decision Analysis Approaches," *Engineering Management Journal*. 29(1), 45-54.
<http://dx.doi.org/10.1080/10429247.2016.1277887>
14. **Dorneich, M.C.**, Rogers, W., Whitlow, S.D., & DeMers, R. (2016). "Human Performance Risks and Benefits of Adaptive Systems on the Flight Deck," *International Journal of Aviation Psychology*. 26(1-2), 15-35. <http://dx.doi.org/10.1080/10508414.2016.1226834>
13. *Du, Y., **Dorneich, M.C.**, & Steward, B.L. (2016). "Virtual Operator Modeling Method for Excavator Trenching," *Automation in Construction*. 70, 14-25.
<http://dx.doi.org/10.1016/j.autcon.2016.06.013>
12. Krejci, C., Stone, R., **Dorneich, M.C.**, & Gilbert, S. (2016). "Analysis of Food Hub Commerce and Participation using Agent-Based Modeling: Integrating Financial and Social Drivers," *Human Factors* (Special Issue: Human Factors Prize on Sustainability). 58(1), 58-79.
<http://dx.doi.org/10.1177/0018720815621173>
11. Krejci, C., **Dorneich, M.C.**, & Stone, R. (2015). "Assessing Values-Based Sourcing Strategies in Regional Food Supply Networks: An Agent-Based Approach," *Journal of Policy in Complex Systems*. 2(2), 21-48. <http://dx.doi.org/10.18278/jpcs.2.2.3>
10. **Dorneich, M.C.**, Letsu-Dake, E., Singh, S., Scherer, S., Chamberlain, L., & Bergerman, M. (2015). "Mixed-Initiative Control of a Roadable Air Vehicle," *Journal of Human-Robot Interaction*. 4(3), 38-61. <http://dx.doi.org/10.5898/JHRI.4.3.Dorneich>
9. **Dorneich, M.C.**, Hamblin, C., Lancaster, J., & Olofinboba, O. (2014). "Perceptual Groupings Effects on Cursor Movement Expectations," *Human Factors*. 56(3), 535-552.
<http://dx.doi.org/10.1177/0018720813500692>
8. Patel, J., **Dorneich, M.C.**, Mott, D., Bahrami, A., & Giammanco, C. (2013). "Improving Coalition Planning by Making Plans Alive," *IEEE Transactions on Intelligent Systems*. 28(1), 17-25.
<http://dx.doi.org/10.1109/MIS.2012.88>

7. Feigh, K.M., **Dorneich, M.C.**, & Hayes, C.C. (2012). "Towards a Characterization of Adaptive Systems: a Framework for Researchers and System Designers," *Human Factors*. 54(6), 1008-1024. <http://dx.doi.org/10.1177/0018720812443983>
6. **Dorneich, M.C.**, Mathan, S., Ververs, P.M, Whitlow, S.D., & Hayes, C.C. (2012). "Considering Etiquette in the Design of Adaptive Systems," *Journal of Cognitive Engineering and Decision Making*. 6(2), 243-265. <http://dx.doi.org/10.1177/1555343412441001>
5. **Dorneich, M.C.**, Whitlow, S.D., Mathan, S., Ververs, P.M., Erdogmus, D., Adami, A., Pavel, M., & Lan, T. (2007). "Supporting Real-time Cognitive State Classification on a Mobile Participant," *Journal of Cognitive Engineering and Decision Making*. 1(3), 240-270. <http://dx.doi.org/10.1518/155534307X255618>
4. **Dorneich, M.C.**, Whitlow, S.D., Miller, C.A., & Allen, J.A (2004). "A Superior Tool for Airline Operations," *Ergonomics in Design*. 12(2), 18-23. <http://dx.doi.org/10.1177/106480460401200205>
3. **Dorneich, M.C.** (2002). "A System Design Framework Driven Implementation of a Learning Collaboratory," *IEEE Transactions on Systems, Man, and Cybernetics, Part A*. 32(2), 200-213. <http://dx.doi.org/10.1109/TSMCA.2002.1021108>
2. **Dorneich, M.C.** & Jones, P.M. (2001). "The UIUC Virtual Spectrometer: A Java-Based Collaborative Learning Environment," *Journal of Engineering Education*. 90(4), 721-728. <http://dx.doi.org/10.1002/j.2168-9830.2001.tb00663.x>
1. **Dorneich, M.C.** & Sahinidis, N. (1995). "Global Optimization Algorithms for Chip Layout and Compaction," *Journal of Engineering Optimization*. 25(2), 131-154. <https://doi.org/10.1080/03052159508941259>

Edited Volumes

1. **Dorneich, M.C.** & Clark, M.C., editors (2021). "Best Practices for Online Team-Based Learning: Taking Small Group Learning Online," *New Directions in Teaching and Learning*. 2021(164). Hoboken, NJ: Wiley. <https://onlinelibrary.wiley.com/toc/15360768/2021/2021/165>

Book Chapters

23. *Tan, A., Cotos, E., & **Dorneich, M.C.** (Accepted). "Genre-Based L2 Research Writing: SLA-CALL interfaces for designing Interactive Virtual Reality Environments," *Frontiers in Computer Assisted Language Learning* (M. Peterson & N. Jabbari).
22. **Dorneich, M.C.**, Wu, P., & Gilbert S.B. (Accepted). "Utilizing Mixed Reality to Support Adaptive Worker Training," *Design Recommendations for Intelligent Tutoring Systems, Volume 11: Intelligent Tutoring System Applications for Professional Career Education* (A. Sinatra).
21. *Stonewall, J., **Dorneich, M.C.**, Shenk, L., Krejci, C., & Passe, U. (2019). "Inclusive Decision-Making: Applying Human Factors Methods to Capture the Needs and Voices of Marginalized Populations," Chapter 2, *Advancing Diversity, Inclusion, and Social Justice through Human Systems Engineering* (R.D. Roscoe, E.K. Chiou, A.R. Wooldridge). Boca Raton, FL: CRC Press. pp. 11-29.
20. Gilbert, S.B., **Dorneich, M.C.**, *Walton, J., & Winer, E. (2018). "Five Lenses on Team Tutor Challenges: A Multidisciplinary Approach," Chapter 11, *Building Intelligent Tutoring Systems for Teams: What Matters (Research on Managing Groups and Teams, Volume 19)* (J. Johnston, R. Sottolare, A. Sinatra, C. S. Burke, Eds). Bingley, UK: Emerald Publishing Limited. pp. 247-277.
19. Cai, Z., Graesser, A.C., Hu, X., Cockroft, J.L., Shaffer, D.W., Hampton, A.J., Sinatra, A.M., & **Dorneich, M.C.** (2018). "The Roles of Talking Agents in Online Collaborative Learning Environments," Chapter 16, *Design Recommendations for Intelligent Tutoring Systems: Volume 6 - Team Learning and Taskwork* (R. Sottolare, A. Graesser, X. Hu, & A. Sinatra, Eds). Orlando, FL: U.S. Army Research Laboratory. pp. 169-178.

18. Stevens, R., Gorman, J., Zachary, W., Johnston, J., **Dorneich, M.C.**, & Foltz, P. (2018). "How is this Team Doing, and Why?," Chapter 8, *Design Recommendations for Intelligent Tutoring Systems: Volume 6 -Team Learning and Taskwork* (R. Sottolare, A. Graesser, X. Hu, & A. Sinatra, Eds). Orlando, FL: U.S. Army Research Laboratory. pp. 77-92.
17. **Dorneich, M.C.**, Hamblin, C., Olofinboba, O., Sandor, A., Begault, D.R., Gohmert, D., Sgobba, T., Fodroci, M., Kramer, L., & Hamilton, D. (2017). " Human-system interfaces design," Chapter 9, *Space Safety and Human Performance* (T. Sgobba, B. Kanki, J-F. Clervoy, & G.M. Sandal, Eds.). Kinlington, UK: Elsevier. pp. 355-428.
16. Letsu-Dake, E., Rogers, W., **Dorneich, M.C.**, & DeMers, R. (2012). "Innovative Flight Deck Function Allocation Concepts for NextGen," *Advances in Human Aspects of Aviation* (S.J. Landry, Ed.). Boca Raton, FL: CRC Press. pp. 301-310.
15. Smith, P.J., Beatty, R., Hayes, C.C., Larson, A., Geddes, N.D., & **Dorneich, M.C.** (2012). "Human-Centered Design of Decision Support Systems," *The Human-Computer Interaction Handbook, 3rd Edition* (A. Sears & J. Jacko, Eds.). Boca Raton, FL: CRC Press. pp. 589-622.
14. **Dorneich, M.C.**, Mathan, S., Whitlow, S.D., Ververs, P.M, & Hayes, C.C. (2010). "Etiquette Considerations for Adaptive Systems that Interrupt: Cost and Benefits," *Human-Computer Etiquette: Understanding the Impact of Human Culture and Expectations on the Use and Effectiveness of Computers and Technology* (C.C. Hayes & C. Miller, Eds.). : Taylor & Francis.
13. Bainbridge, L. & **Dorneich, M.C.** (2010). "Processes Underlying Human Performance," *Handbook of Aviation Human Factors* (D.J. Garland, J.A. Wise, & V.D. Hopkin, Eds.). Mahwah, NJ: Lawrence Erlbaum Associates. pp. 7-1 – 7-68.
12. Keinrath, C., **Dorneich, M.C.** & Vašek, J. (2010). "Designing for the future: A Cognitive-Adaptive-Man-Machine-Interface," *Human Factors: A system view of human, technology and organization* (D. de Waard, A. Axelsson, M. Berglund, B. Peters, & C. Weikert, Eds.). Maastricht, Netherlands : Shaker Publishing. pp. 99-108.
11. **Dorneich, M.C.**, Mathan, S., Ververs, P.M, & Whitlow, S.D. (2008). "Cognitive State Estimation in Mobile Environments," *Augmented Cognition: A Practitioner's Guide* (D. Schmorow & K. Stanney, Eds.). Santa Monica, CA: HFES. pp. 75-111.
10. Mathan, S., Whitlow, S., **Dorneich, M.**, and Ververs, P., & Davis, G. (2007). "Neurophysiological Estimation of Interruptibility: Demonstrating Feasibility in a Field Context," *Foundations of Augmented Cognition, 4nd Edition* (D.D. Schmorow, D.M. Nicholson, J.M. Drexler, & L.M. Reeves, Eds.). Arlington, VA: Strategic Analysis. pp. 51-58.
9. **Dorneich, M.**, Whitlow, S., Ververs, P.M., & Mathan, S. (2007). "Iterative Experimental Design to Mature Cognitive State Classification Techniques from the Laboratory to Field Settings," *Foundations of Augmented Cognition, 4nd Edition* (D.D. Schmorow, D.M. Nicholson, J.M. Drexler, & L.M. Reeves, Eds.). Arlington, VA: Strategic Analysis. pp. 23-32.
8. Miller, C.A. & **Dorneich, M.C.** (2006). "From Associate Systems to Augmented Cognition: 25 Years of User Adaptation in High Criticality Systems," *Foundations Augmented Cognition, 2nd Edition* (D.D. Schmorow, K.M. Stanney, & L.M. Reeves, Eds.). Arlington, VA: Strategic Analysis. pp. 344-353.
7. Mathan, S., Ververs, P., **Dorneich, M.**, Whitlow, S., Carciofini, J., Erdogmus, D. Pavel, M., Huang, C., Lan, T., & Adami, A. (2006). "Neurotechnology for Image Analysis: Searching For Needles in Haystacks Efficiently," *Foundations Augmented Cognition, 2nd Edition* (D.D. Schmorow, K.M. Stanney, & L.M. Reeves, Eds.). Arlington, VA: Strategic Analysis. pp. 344-353.
6. Ververs, P. M., Whitlow, S.D., **Dorneich, M.C.**, & Sampson, J. (2005). "AugCogifying the Army's Future Warfighter," *Foundations of Augmented Cognition* (D.D. Schmorow, Ed.). Mahwah, NJ: Lawrence Erlbaum Associates. pp. 1097-1104.

5. Mathan, S. & **Dorneich, M.** (2005). "Augmented Tutoring: Improving military training through model tracing and real-time neurophysiological sensing," *Foundations of Augmented Cognition* (D.D. Schmorrow, Ed.). Mahwah, NJ: Lawrence Erlbaum Associates. pp. 964-973.
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1. **Dorneich, M.C.**, Whitlow, S.D., Mathan, S., Carciofini, J., and Ververs, P.M. (2005). "The Communications Scheduler: A Task Scheduling Mitigation For A Closed Loop Adaptive System," *Foundations of Augmented Cognition* (D.D. Schmorrow, Ed.). Mahwah, NJ: Lawrence Erlbaum Associates. pp. 132-141.

Peer-Reviewed Conference Papers

* Graduate Student co-author; ** undergraduate co-author

156. **Dorneich, M.C.**, Gilbert, S., Francis, R., Talyat, M., Driskell, J., & Didic, E. (Accepted). "Team Skill Metrics that Span Human-Human and Human-Agent Teams: An Initial Assessment," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Washington DC, October 23 - 27.
155. Farah, Y., & **Dorneich, M.** (Accepted). "Evaluating the Consistency of Cooperative Video Games in Inducing Teamwork Behaviors," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Washington DC, October 23 - 27.
154. *Tan, A., Cotos, E., & **Dorneich, M.** (Accepted). "Genre-based L2 Research Writing: A Virtual Reality Prototype for Research Writing Competence," EUROCALL 2023 conference. Reykjavik, Iceland, August 15-18.
153. *Kim, J., *Wang, K., *Miller, J., **Dorneich, M.C.**, Winer, E., & Brown, L. (Accepted). "Augmented Reality Authoring Tool Development Framework for General Aviation Weather Training," Digital Avionics Systems Conference. Barcelona, Spain, October 1-5.
152. Kelly, J.W., Gilbert, S.B. **Dorneich, M.C.**, & Costabile, K.A. (2023). "Gender differences in cybersickness: Clarifying confusion and identifying paths forward," Workshop on Immersive Sickness Prevention (WISP) 2023, IEEE Conference on Virtual Reality. Shanghai, China, March 25-29.
151. Doty, T., Kelly, J.W., **Dorneich, M.C.**, & Gilbert, S.B. (2023). "Interpupillary distance (IPD) not related to immediate cybersickness," IEEE Conference on Virtual Reality. Shanghai, China, March 25-29.
150. *Farah, Y. & **Dorneich, M.C.** (2022). "Development of a Gamified Cooperative Teamwork Environment Using an Event-Based Approach," Extended Abstracts of the 2022 Annual Symposium on Computer-Human Interaction in Play. Bremen, Germany, November 2-5.
<http://doi.org/10.1145/3505270.3558337>
149. *Stonewall, J., **Dorneich, M.**, Winer E., *Miller, J., Kalivarapu, V., *Kohl, A., Gilbert, S., & Sharma, S. (2022). "A Federated Multimodal Simulation Environment for Studying Interactions

- between Different Modes of Travel," Interservice/Industry Training, Simulation and Education Conference (I/ITSEC). Orlando, FL, November 28 – December 2.
148. *Wilson, G.W., *Farah, Y., *Furukawa, V., *Tan, A.M.H.E., **Dorneich, M.C.**, and Gilbert, S.B. (2022). "Comparing Team Performance Constructs Involved in Ground Combat and a Ground Combat Simulator," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Atlanta, GA, October 10 - 14. <http://doi.org/10.1177/1071181322661>
 147. *Farah, Y., Dorneich, M.C., & Gilbert, S.B. (2022). "Evaluating Team Metrics in Cooperative Video Games," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Atlanta, GA, October 10 - 14. <http://doi.org/10.1177/1071181322661240>
 146. *Francis, R., **Segal, J., **Rozell, J., *Farah, Y., Dorneich, M.C., & Gilbert, S.B. (2022). "MazeWorld: A Game-Based Environment developed to Assess Teaming Behaviors," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Atlanta, GA, October 10 - 14. <http://doi.org/10.1177/1071181322661180>
 145. *Tokadli, G. & **Dorneich, M.C.** (2022). "Characteristics of Human-Autonomy Teaming for Future Aerospace Operations," IEEE/AIAA 41th Digital Avionics Systems Conference. Portsmouth, VA, September 18-22. <http://doi.org/10.1109/DASC55683.2022.9925794>
 144. *Sanaei, M., Gilbert, S., & **Dorneich, M.C.** (2022). "Categories of Human-Agent Interaction within Computer Games," HCI International 2022 Conference. Virtual, 6 June - 1 July.
 143. *Meister, P.,*Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2022). "Evaluation of the Effectiveness of Augmented Reality Enhanced Aviation Weather Training," AIAA Aviation Forum. Chicago, IL, June 27-July 1. <http://doi.org/10.2514/6.2022-3780>
 142. *Finseth T., **Dorneich, M.C.**, Keren, N., Franke, W., & Vardeman, S. (2021). "Training for Stressful Operations using Adaptive Systems: Conceptual Approaches and Applications," Interservice/Industry Training, Simulation and Education Conference (I/ITSEC). Orlando, FL, November 29 - December 3.
 141. *Wang, K., *Meister, P., Winer, E., **Dorneich, M.C.**, Brown, L., & Whitehurst, G. (2021). "An Augmented Reality Thunderstorm Simulation to Improve Aviation Weather Pilot Training," Interservice/Industry Training, Simulation and Education Conference (I/ITSEC). Orlando, FL, November 29 - December 3.
 140. *Finseth T., **Dorneich, M.C.**, Keren, N., Franke, W., Vardeman, S., **Segal, J., **Deick, A., **Cavanah, E., **Thompson, K., (2021). "An Approach to Adaptive Training for Stress Inoculation," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Baltimore, MD, October 4-8. (Finalist, Chapanis Best Student Paper Award).
 139. *Jasper, A., *Doty, T., *Sepich, N., **Dorneich, M.C.**, Gilbert, S., & Kelly, J. (2021). "The Relationship between Personality, Recalled Cybersickness Severity, and Recalled Cybersickness Recovery Time," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Baltimore, MD, October 4-8.
 138. *Sepich, N., **Dorneich, M.C.**, & Gilbert, S. (2021). "Human-Agent Team Game Analysis Framework: Case Studies," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Baltimore, MD, October 4-8.
 137. *Meister, P.,* Miller, J.,* Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2021). "Using Three-Dimensional Augmented Reality to Enhance General Aviation Weather Training," Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Baltimore, MD, October 4-8. (Best Student Paper, Training Technical Group).
 136. *Tokadli, G., & **Dorneich, M.C.** (2021). "Evaluating Human Perception of Autonomous System Teammate-likeness and Team Interdependency," IEEE/AIAA 40th Digital Avionics Systems Conference. San Antonio, TX, September 26, 20. (Best of Session Award).

135. *Smith Reinhart, A., & **Dorneich, M.C.** (2021). "Evaluation of a Survey Instrument to Measure Display Compellingness," IEEE/AIAA 40th Digital Avionics Systems Conference. San Antonio, TX, September 26, 20. (Finalist, Best Student Research Award).
134. *Meister, P., *Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2021). "Applying Augmented Reality Capabilities to Enhance General Aviation Weather Training," AIAA Aviation Forum. [Virtual], August 2-6.
133. Gilbert, S. B., *Jasper, A., *Sepich, N. C., *Doty, T., Kelly, J. W., & Dorneich, M. C. (2021). Individual Differences and Task Attention in Cybersickness: A Call for a Standardized Approach to Data Sharing. IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops: *Workshop on Immersive Sickness Prevention (WISP)*, Virtual.
132. *Ouverson, K.M., *Hoover, M., Gilbert, S.B., **Dorneich, M.C.**, & Winer, E. (2020). "Situational Awareness Methods in Virtual Reality Training: A Scoping Review," *Interservice/Industry Training, Simulation and Education Conference (IITSEC)*. Orlando, FL, 30 November - 4 December.
131. *Finseth, T., **Dorneich, M. C.**, Keren, N., Franke, W. D. & Vardeman, S. B. (2020). "Virtual Reality Graduated Stress Exposure for Training Spaceflight Emergency Procedures," *IEEE/AIAA 39th Digital Avionics Systems Conference*. Virtual, October 11-16, 2020.
130. *Stonewall, J., **Dorneich, M.C.**, Passe, U., & Shenk, L. (2020). "Implications for Using Mobile Ecological Momentary Assessment to Collect Climate Data from Vulnerable Urban Populations," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Virtual, October 5-9, 2020.
129. **Cavanah, E., **Ford, A., *Jasper, A., *Stonewall, J., Gilbert, S.B., & **Dorneich, M.C.** (2020). "Creating Metrics for Human-Agent Teams," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Virtual, October 5-9, 2020.
128. *Tokadli, G., **Dorneich, M.C.**, & Matessa, M. (2019). "Development Approach of Playbook Interface for Human-Autonomy Teaming in Single Pilot Operations," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Seattle, WA, October 28 – November 1.
127. *Tokadli, G., **Dorneich, M.C.**, Matessa, M., & **Eda, S. (2019). "The Evaluation of Playbook for Human-Autonomy Teaming in Single Pilot Operations," *IEEE/AIAA 38th Digital Avionics Systems Conference*. San Diego, CA, September 8-12.
126. *Tokadli, G., & **Dorneich, M.C.** (2019). "Interaction Paradigms: from Human-Human Teaming to Human-Autonomy Teaming," *IEEE/AIAA 38th Digital Avionics Systems Conference*. San Diego, CA, September 8-12.
125. **Dorneich, M.**, Gilbert, S. B., Lum, H. C., Nadolny, L., & Abich, J., IV. (2019) Measuring the invisible: Inferring cognitive constructs from observable data. In S. D. Doherty (Chair), Learning with Gamification: Perspectives from Psychology, Education, and Engineering. *Symposium conducted at the meeting of the American Psychological Association*, Chicago, IL.
124. *Ostrander, A., Gilbert, S, & **Dorneich, M.C.** (2019). "Enriched Team Data: The Representation You Need for Team Assessment," *Proceedings of the Approaches and Challenges in Team Tutoring Workshop* at the Artificial Intelligence in Education (AIED). Chicago, IL, June 25-29, 2019. (pp. 5-14): Springer.
123. *Mittal, A., Krejci, C., & **Dorneich, M.C.** (2019). "An Agent-based Approach to Designing Residential Renewable Energy Models," *Energy Research & Social Science*. Tempe, AZ, May 28-31.
122. *Annamalai, R., **Dorneich, M.C.**, & *Tokadli, G. (2019). "Assessing the Effect of Sensor Limitations in Enhanced Flight Vision Systems on Pilot Performance," *Human-Computer Interaction International 2019*. Orlando, FL, July 26-31.

121. *Stonewall, J., Passe, U., **Dorneich, M.C.**, Shenk, L., Krejci, C., Thompson, J., Ganapathysubramanian, B., Sarkar, S., & Zhou, Y. (2018). "An Approach to Incorporating Human Behaviors, Building Occupancy Characteristics, and Near-Building Climates in Decision Making to Increase Resilience of Urban Neighborhoods," *Workshop: Social Justice and Equity in the Engineering of Smart and Connected Cities*, SCC-RCN MOHERE: Mobility, Health, and Resilience: Building Capacities and Expanding Impact. Seattle, WA, December 10-11.
120. *Ouverson, K., *Ostrander, A., *Macallister, A., *Kohl, A., *Walton, J., Gilbert, S., **Dorneich, M.C.**, Winer, E., & Sinatra, A.M. (2018). "Team Training for Enemy Identification Using an Intelligent Tutoring System," *Interservice/Industry Training, Simulation and Education Conference (IITSEC)*. Orlando, FL, November 26-30, 2018.
119. *Finseth, T., *Barnett, N., Shirtcliff, B., **Dorneich, M.C.**, Keren, N. (2018). "Stress Inducing Demands in Virtual Environments," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 2066-2070). Sage CA: Los Angeles, CA: SAGE Publications.
118. *Stonewall, J., *Huang, W., **Dorneich, M.C.**, Krejci, C., Shenk, L., & Passe, U. (2018). "Energy Use and Weatherization Practices: Applications for Agent-Based Modeling to Support Vulnerable Populations," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 676-680). Sage CA: Los Angeles, CA: SAGE Publications.
117. *Ouverson, K., Stonewall, J., Gilbert, S., & **Dorneich, M.** (2018). "Developing Strategic Training on Reading the Mind in the Eyes," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 1562-1566). Sage CA: Los Angeles, CA: SAGE Publications.
116. *Tokadli, G., *Ouverson, K., Meusel, C., **Garcia A., Gilbert, S., & **Dorneich, M.C.** (2018). "An Analysis of Video Games Using the Dimensions of Human-Agent Interaction," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 716-720). Sage CA: Los Angeles, CA: SAGE Publications.
115. *Walton, J., *Ostrander, A., *Ouverson, K., Gilbert, S., **Dorneich, M.**, Winer, E., Sinatra, A. (2018). "Feedback Design Considerations for Intelligent Team Tutoring Systems," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 1977-1981). Sage CA: Los Angeles, CA: SAGE Publications.
114. Wooldridge, A.R., Nguyen, T., Valdez, R., Montague, E., Milner, M.N., **Dorneich, M.C.**, & Roscoe, R. (2018). "Human Factors and Ergonomics in Diversity, Inclusion and Social Justice Research," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Philadelphia, PA, October 1–5, 2018. (62(1), 447-449). Sage CA: Los Angeles, CA: SAGE Publications.
113. *Tokadli, G., **Dorneich, M.C.**, & Gonzalez-Torres, T. (2018). "Human-Agent Team for Space Operations beyond Low-Earth Orbit," *IEEE/AIAA 37th Digital Avionics Systems Conference*. London, UK, September 23-27. (Best of Session Paper Award)
112. Sinatra, A. M., Gilbert, S., **Dorneich, M.**, Winer, E., *Ostrander, A., *Ouverson, K., Johnston, J., & Sottolare, R. (2018). "Considerations for Dealing with Real-Time Communications in an Intelligent Team Tutoring System Experiment," *Proceedings of Workshop on Assessment and Intervention during Team Tutoring at AIED 2018*. London, UK, June 27-30. (pp. 28-35).
111. *Mittal, A., Krejci, C., & **Dorneich, M.C.** (2018). "An Agent-based Modeling Architecture for Residential Rooftop PV Adoption," 2018 IISE Annual Conference. Orlando, FL, May 19-22.
110. *Stonewall, J., **Dorneich, M.C.**, Rongerude, J. & Dorius, C. (2018). "A Review of Bias in Peer Assessment," *Collaborative Network for Engineering and Computing Diversity (CoNECD) Conference*. Crystal City, VA, April 29 – May 1, 2018.

109. *Bonner, D., Gilbert, S., Winer, E., **Dorneich, M.C.**, *Macallister, A., *Kohl, A. *Ouverson, K., *Slavina, A., & Sinatra, A. (2017). "Military Team Training Utilizing GIFT," *Interservice/Industry Training, Simulation and Education Conference (IITSEC)*. Orlando, FL, November 27 - December 1.
108. *Huang, W., Krejci, C.C., **Dorneich, M.C.**, & Passe, U. (2017). "Weatherization Adoption in A Multilayer Social Network: An Agent-based Approach," *Computational Social Science (CSS 2017)*. Santa Fe, NM, October 19 – 22. Finalist Best Paper.
107. *Bonner, D., *Ouverson, K., Gilbert, S., Sinatra, A.M., **Dorneich, M.C.**, Winer, E., *Macallister, A., & *Kohl, A. (2017). "Operationalizing the C's of Teamwork," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Austin, TX, October 9–13.
106. Ososky, S., **Dorneich, M.C.**, Gilbert, S.B., Goldberg, B.S., Johnson, C.I., & Sinatra, A.M. (2017). "The Future of Adaptive Tutoring: Wrangling Complexity Across Domains, Applications, and Platforms," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Austin, TX, October 9–13.
105. *Tokadli, G. & **Dorneich, M.C.** (2017). "Development of a Functionality Matrix for a Cognitive Assistant on Long Distance Space Missions," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Austin, TX, October 9–13.
104. *Stonewall, J., **Fjelstad, K., **Dorneich, M.C.**, Shenk, L., Krejci, C., Cetin, K., & Passe, U. (2017). "Best Practices for Engaging Underserved Populations," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Austin, TX, October 9–13.
103. *Tokadli, G. & **Dorneich, M.C.** (2017). "Envisioned Concept of Operations for Beyond Low-Earth Orbit: The Collaborative Decision Making Between Human and Cognitive Assistant," *American Institute of Aeronautics and Astronautics (AIAA) SPACE Conferences and Exposition*. Orlando, FL, September 12-14, 2017.
102. *Du, Y., **Dorneich, M.C.**, & Steward, B. (2017). "Virtual Operator Models for Off-highway Machine Virtual Prototyping," *American Society of Agricultural and Biological Engineers 2017 (ASABE) Annual International Meeting*. Spokane, WA, Jul 16-19.
101. Hoefler, M., **Dorneich, M.**, & Frank, M., (2017). "Using geometric data mining to automate design for supply chain ," *Proceedings of Industrial and Systems Engineering Research Conference*. Pittsburgh, PA, May 20-23.
100. Gilbert, S., Sinatra, A. M., Macallister, A., Kohl, A., Winer, E., **Dorneich, M.**, Slavina, A., Bonner, D., & Ouverson, K. (2017). "Analyzing Team Training Data: Aspirations for a GIFT Data Analytics Engine," *Proceedings of 5th Annual GIFT Users Symposium (GIFTSym5)*. Orlando, FL, May 10-11.
99. *Macallister, A., *Kohl, A., Gilbert, S., Winer, E., **Dorneich, M.**, *Bonner, D., & *Slavina, A. (2017). "Analysis of Team Tutoring Training Data," *Modeling and Simulation in the Age of Data (MODSIM) 2017*. Virginia Beach, VA, April 25-27.
98. Krejci, C.C., **Dorneich, M.C.**, Passe, U., & *Peters, N. (2016). "A Hybrid Simulation Model for Urban Weatherization Programs," *Proceedings of the 2016 Winter Simulation Conference*. Arlington, VA, December 11-14.
97. *Finseth, T., Keren, N., Franke, W., **Dorneich, M.C.**, & Anderson, C.C. (2016). "Stress Inoculation Training for Spaceflight Hazards," *American Institute of Aeronautics and Astronautics (AIAA) SPACE Conferences and Exposition (AIAA 2016-5614)*. Long Beach, CA, September 13-16.
96. *Bonner, D., *Slavina, A., *Macallister, A., *Holub, J., Gilbert, S., Sinatra, A.M., **Dorneich, M.**, & Winer, E. (2016). "The Hidden Challenges of Team Tutor Development," *Fourth Annual GIFT Users Symposium*. Princeton, NJ, May 26.
95. Meyer, J., Miller, C., Hancock, P., de Visser, E.J., & **Dorneich, M.C.** (2016). "Is interacting with machines like interacting with people? Politeness in machine-human and human-human interaction,"

Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Washington DC, September 19–23.

94. *Du, Y., **Dorneich, M.C.**, Steward, B., & MacKenzie, C. (2016). "Risk Analysis for Combine Operations in Harvesting," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23,
93. *Bonner, D., & **Dorneich, M.C.** (2016). "Development of a Game-Based Learning Requirements to Increase Female Middle School Students Interest in Computer Science," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
92. *Kalvelage, K., & **Dorneich, M.C.** (2016). "Using Human Factors to Establish Occupant Task Lists for Office Building Simulations," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
91. *Stonewall, J., & **Dorneich, M.C.** (2016). "Gender and Professionalism of Web Design Elements," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
90. *Bonner, D., Gilbert, S., **Dorneich, M.C.**, Sinatra, A., *Slavina, A., *Macallister, A., & Winer, E. (2016). "Building Intelligent Tutoring Systems for Teams," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
89. **Volz, K., *Yang, E., *Dudley, R., **Lynch, E., **Dropps, M. & **Dorneich, M.C.** (2016). "An Evaluation of Cognitive Skill Degradation in Information Automation," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
88. *Yang, E., & **Dorneich, M.C.** (2016). "Evaluation of Etiquette Strategies to Adapt Feedback in Affect-Aware Tutoring," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Washington DC, September 19–23.
87. *Du, Y., Steward, B., & **Dorneich, M.** (2016). "Virtual Operator Modeling Approach for Combine Harvesting," *American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting*. Orlando, FL, Jul 17-20.
86. Passe, U., Anderson, N., deBrabanter, K., **Dorneich, M.C.**, & Poplin, A. (2016). "Methodologies for Studying Human-Microclimate Interactions for Resilient, Smart City Decision-Making," *Passive and Low Energy Architecture (PLEA) 2016 conference*. Los Angeles, CA, July 11-13.
85. *Kalvelage, K., **Dorneich, M.C.**, & Passe, U. (2016). "Task-based approach to define occupant behavior in agent-based modeling," *Windsor Conference 2016: Making Comfort Relevant*. Windsor, England, April 7-10.
84. Krejci, C., Stone, R., **Dorneich, M.C.**, & Gilbert, S. (2015). "Evaluating Producer Selection Policies in Intermediated Regional Food Distribution Systems: An Agent-Based Approach," *2015 Computational Social Science Society of the Americas (CSSSA) conference*. Santa Fe, NM, October 29 - November 1.
83. *Kalvelage, K., Passe, U., Krejci, C. & **Dorneich, M.C.**, (2015). "Incorporation of future building operating conditions into the modeling of building–microclimate interaction: a feasibility study," *The First International Symposium on Sustainable Human-Building Ecosystems*. Pittsburgh, PA, October 5-7.
82. *Kalvelage, K., **Dorneich, M.C.**, & Passe, U. (2015). "Simulating the Future Microclimate to Identify Vulnerable Building Interior Conditions," *14th International Conference of the International Building Performance Simulation Association*. Hyderabad, India, December 7-9.
81. *Walton, J., Gilbert, S., Winer, E., **Dorneich, M.**, & *Bonner, D. (2015). "Evaluating Distributed Teams with the Team Multiple Errands Test," *Interservice/Industry Training, Simulation and Education Conference (IITSEC)*. Orlando, FL, November 30 - December 4.

80. *Curtis, M.K., **Dawson, K., **Jackson, K., **Litwin, L., *Meusel, C., **Dorneich, M.C.**, Gilbert, S., Kelly, J., Stone, R., & Winer, E. (2015). "Mitigating Visually Induced Motion Sickness: A virtual hand-eye coordination task," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
79. *Meusel, C., *Kelly, N., Gilbert, S., **Dorneich, M.**, Gilmore, B., & Newendorp, B. (2015). "Operator-Centered Task Analysis: A hybrid methodology for human-machine interaction observation in the field," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
78. *Barnawal, P., **Dorneich, M.C.**, Peters, F., & Frank, M. (2015). "Design and Evaluation of Designer Feedback System in Design for Manufacturability," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
77. **Dorneich, M.C.**, *Bickelhaupt, S., Dorius, C., Artz, G., Bender, H., Bestler, L., Bestler, L., Caissie, B., Gahn, S., Jacobs, K., Lamm, M.H., Orgler, L., Rongerude, J., Smiley-Oyen, A., & Stone, R.T. (2015). "Measuring the Effectiveness of Team-Based Learning Outcomes in a Human Factors Course," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
76. *Dudley, R., **Dorneich, M.C.**, Rogers, W., Letsu-Dake, E., Whitlow, S.D., Nelson, E., & Dillard, M. (2015). "Evaluation of Information Quality and Automation Visibility in Information Automation on the Flight Deck," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
75. Yang, E. & **Dorneich, M.C.** (2015). "The Effect of Time Delay on Emotion, Arousal, and Satisfaction in Human-Robot Interaction," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. Los Angeles, CA, 26-30 October.
74. Letsu-Dake, E., Rogers, W., Whitlow, S., Nelson, E., Dillard, M., **Dorneich, M.C.**, & *Dudley, R. (2015). "Flight Deck Information Automation: A Human-In-The Loop In-Trail Procedure Simulation Study," *IEEE/AIAA 34th Digital Avionics Systems Conference*. Prague, Czech Republic, September 13-17.
73. *Bonner, D., *Walton, J., **Dorneich, M. C.**, Gilbert, S. B., Winer, E., & Sottolare, R. A. (2015). "The Development of a Testbed to Assess an Intelligent Tutoring System for Teams," *17th International Conference on Artificial Intelligence in Education (AIED 2015)*. Madrid, Spain, June 22-26.
72. Gilbert, S., Winer, E., Holub, J., Richardson, T., **Dorneich, M.**, & Hoffman, M. (2015). "Characteristics of a Multi User Tutoring Architecture," *3rd Annual Generalized Intelligent Framework for Tutoring (GIFT) Users Symposium (GIFTSym3)*. Orlando, FL: Army Research Laboratory, June 17-18.
71. Du, Y., **Dorneich, M.C.**, Steward, B.L., Anderson, E.R., Kane, L.F., & Gilmore, B. (2015). "Virtual Operator Modeling Approach for Construction Machinery," *2015 Conference on Autonomous and Robotic Construction of Infrastructure*. Ames, IA, June 2-3.
70. Compton, P.J., **Dorneich, M.C.**, & *Hansen, J.L. (2015). "Comparing Systems Engineering and Project Success in Commercial-focused versus Government-focused Projects," *2015 Conference on Systems Engineering Research*. Hoboken, NJ, March 17-19.
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30. Erdogmus, D., Adami, A., Pavel, M., Lan, T., Mathan, S., Whitlow, S., **Dorneich, M.** (2005). "Cognitive State Estimation Based on EEG for Augmented Cognition," *2nd IEEE EMBS International Conference on Neural Engineering*. Arlington VA, March 16-19.
29. Olofinboba O., **Dorneich, M.**, and Williams, K. (2005). "Intelligent Astronaut Associate for Next Generation Space Systems," *Proceedings of the IEEE Aerospace Conference*. Big Sky, MT, March 5-12.
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24. Miller, C.A., Funk, H.B., **Dorneich, M.C.**, & Whitlow, S. (2002). "A Playbook Interface for Mixed Initiative Control of Multiple Unmanned Vehicle Teams," *IEEE 21st Digital Avionics Systems Conference*. Irvine CA, October 27-31.
23. Ververs, P.M., **Dorneich, M.C.**, Good, M.D., & *Downs, J.L. (2002). "Integrating critical information on flight deck displays," *The Proceedings of the 46th Annual Meeting of the Human Factors and Ergonomics Society*. Baltimore, MD, September 30-October 4.

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21. **Dorneich, M.C.**, Olofinboba, O., Pratt, S., Wilson, I., & Herbster, C. (2002). "An Experimental Evaluation of Weather Avoidance using Route Optimization as a Decision Aid," *The Proceedings of the 2002 IEEE International Conference on Systems, Man, and Cybernetics*. Hammamet, Tunisia, October 6-10. [Invited]
20. Whitlow, S.D., **Dorneich, M.C.**, Funk, H.B., Miller, C.A. (2002). "Providing Appropriate Situation Awareness within a Mixed-Initiative Control System," *The Proceedings of the 2002 IEEE International Conference on Systems, Man, and Cybernetics*. Hammamet, Tunisia, October 6-10. [Invited]
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18. Glavaski, S., Elgersma, M., **Dorneich, M.C.**, & Lommel, P. (2002). "Failure Accommodating Aircraft Control," *Proceedings of American Control Conference*. Anchorage, AK, May 8-10.
17. **Dorneich, M.C.**, Ververs, P.M., & Good, M.D. (2001). "Design and Evaluation of an Integrated Avionics Alerting System," *IEEE 20th Digital Avionics Systems Conference*. Daytona Beach, FL, October 14-18.
16. **Dorneich, M.C.**, Whitlow, S.D., Miller, C.A., & Allen, J.A. (2001). "Policy as an Interaction Method for Decision Support Systems," *Proc. of the 45th Annual Meeting of the Human Factors and Ergonomics Society*. Minneapolis/St. Paul, MN, October 8-12.
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11. **Dorneich, M.C.** & Jones, P.M. (2000). "The Design and Implementation of a Learning Collaboratory," *2000 IEEE International Conference on Systems, Man, and Cybernetics*. Nashville, TN, October 8-11.
10. Jones, P.M., *Schwemin, S., ***Dorneich, M.C.**, & Dunmire, C. (2000). "CLINT: A Prototype Logistics Collaboratory," *2000 IEEE International Conference on Systems, Man, and Cybernetics*. Nashville, TN, October 8-11 .
9. ***Dorneich, M.C.** & Jones, P.M. (1998). "The Apprenticeship Learning Object Toolkit: A Generalized Architecture for a Family of Computer Tutoring Systems," *1998 IEEE International Conference on Systems, Man, and Cybernetics*. San Diego CA, October 11-14.

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7. *Dorneich, M.C. & Jones, P.M. (1997). "The Virtual Spectrometer: A Java-based Implementation of a Learning Environment," *1997 IEEE International Conference on Systems, Man, and Cybernetics*. Orlando, FL, October 12-15.
6. *Jacobs, J.L., *Dorneich, M.C., Jones, P.M., O'Keefe, B., & Contractor, N. (1997). "SPOT: Using Collaborative Technologies for Developing Collaborative Technologies," *1997 IEEE International Conference on Systems, Man, and Cybernetics*. Orlando, FL, October 12-15.
5. Merkelo, H., *Liaw, H.J., & *Dorneich, M. (1996). "Strategies for On-Chip Signal Integrity Design in a High-Density, High-Speed Environment," *1996 On-Chip System Design Conference, Design SuperCon*. Santa Clara, CA, February.
4. Merkelo, H., *Liaw, H. J., *Dorneich, M., and *Hochberg, T., (1995) . "Fully Dynamic electromagnetic characterization of micrometallic environments in high performance microelectronic applications," *Proceedings of the 12th International Invitational Symposium on the Unification of Analytical, Computational and Experimental Methodologies*. Worcester MA, July 7.
3. Merkelo, H., *Hochberg, T., *Veatch, M., *Quinn, D., *Dorneich, M., & Grabbe, D. (1993). "Methods for electronic performance characterization of micromechanical components in high performance microelectronic applications," *Proceedings of the 1993 International Symposium on the Unification of Analytical, Computational and Experimental Solution Methodologies*. Denver, MA, August., pp.171-200.
2. Merkelo, H., *McCredie, B., *Veatch, M., *Quinn, D., & *Dorneich, M.C. (1991). "Advances and issues of parallelism in modeling and simulation of high speed digital networks of high complexity," *Proceedings of the 10th International Invitational Symposium on the Analysis and Experimentation*, WPI. Worcester, MA, July 18-19.
1. Merkelo, H., *McCredie, B., *Veatch, M., *Quinn, D., *Dorneich, M., & Doi, Y. (1990). "Methods for Comparative Analysis of Waveform Degradation in Electrical and Optical High Performance Interconnections," Keynote Address at *SPIE-Optocon, Symposium on Microelectronic Interconnections*. Boston, MA, November 5-9. Vol. 1390, 91-163.

Peer-Reviewed Abstracts (Presentations & Posters)

27. Dorneich, M.C., *Finseth, T., Keren, N., Franke, W.D. & Vardeman, S.B. (2022). "Development and Evaluation of Adaptive Stress Training for Hazardous Conditions," NASA Human Research Program Investigators' Workshop. Virtual, February 7-10.
26. Brown, L., & Dorneich, M. (2021). "Augmented Reality Human Interfaces for Next Generation Aviation Professionals," *International Symposium on Aviation Psychology*. Corvallis, OR, May 18-21.
25. Brown, L., & Dorneich, M. (2021). "Shaping the Future of Global Aviation Training with Spatial Computing and NextGen AR Technologies for the Next Generation Aviation Professionals," *The World Aviation Training Summit*. Orlando, FL, May 14-16.
24. Dorneich, M.C., *Finseth, T., Keren, N., Franke, W.D. & Vardeman, S.B. (2021). "Evaluation of Adaptive Stress Training for Hazardous Conditions," *NASA Human Research Program Investigators' Workshop*. Virtual, February 3.
23. *Meister, P. & Dorneich, M. (2020). "Communicating with Augmented Reality in General Aviation Weather Training," *Association for Business Communication Annual Conference*. San Diego, CA, October 27-31, 2020.

22. **Dorneich, M.C.**, *Finseth, T., Keren, N., Franke, W.D. & Vardeman, S.B. (2020). "Adaptive Stress Training for Hazardous Conditions," NASA Human Research Program Investigators' Workshop. Galveston, TX, January 27-30.
21. Ostrander, A., Gilbert, S., & **Dorneich, M.C.** (2019). "Evaluating Team Communication via Audio Segmentation and Interaction Identification," *Technology, Mind and Society Conference*. Washington, DC, October 3-5.
20. Linda Shenk, L., *Stonewall, J., **Dorneich, M.**, & Malekpour Koupaei, D. (2019). "Comparative analysis for empirical data collection methods from engaged community action projects and traditional mail surveys for urban energy model integration," *Community Development Society Conference*. Columbia, MO, July 14-17.
19. *Mittal, A., Krejci, C., **Dorneich, M.C.** (2019). "A Systems-based Approach to Design Residential Renewable Energy Models," *Institute of Industrial and Systems Engineers (IISE)*. Orlando, FL, May 18-21.
18. **Dorneich, M.C.**, *Finseth, T., Keren, N., Franke, W.D. & Vardeman, S.B. (2019). "Adaptive Stress Training for Hazardous Conditions," *NASA Human Research Program Investigators' Workshop*. Galveston, TX, January 22-25.
17. *Mittal, A., Krejci, C.C., **Dorneich, M.C.**, & *Fickes, D. (2018). "An Agent-based Approach to Model Residential Renewable Energy Systems," *Computational Social Sciences Conference (CSS 2018)*. Santa Fe, NM, October 26-28.
16. **Kulp, G., **Green, V., **Hanus, A.J. & **Dorneich, M.** (2018). "Indoor Climate Control Data Visualization Tool for Marginalized Individuals," *Oregon State Summer Undergraduate Research Symposium*. Corvallis, Oregon, September 13.
15. *Ouverson, K., *Iglesias Pena, M., *Walton, J., Gilbert, S., & **Dorneich, M.** (2018). "Applying Human-Agent Team Concepts to the Design of Intelligent Team Tutoring Systems," *Intelligent Tutoring Systems 2018*. Montreal, Canada, June 11-15.
14. *Ouverson, K., *Iglesias Pena, M., Gilbert, S., *Walton, J., & **Dorneich, M.** (2018). "What Intelligent Team Tutoring Systems Can Learn from Human-Agent Teams," *Technology, Mind, & Society Conference*. Washington DC, April 5-7.
13. *Stonewall, J., **Dorneich, M.C.**, Passe, U., & Shenk, L. (2017). "Methods for Engaging Underserved Populations," *Midwest Big Data Hub All-hands Meeting*. Omaha, NE, October 3.
12. *Huang, W., Krejci, C.C., **Dorneich, M.C.**, & Passe, U. (2017). "Development of a Hybrid Model for Weatherization Adoption in a Multilayer Social Network," *Midwest Big Data Hub All-hands Meeting*. Omaha, NE, October 3.
11. **Dorneich, M.**, & Winer, E. (2017). "Running a Team Tutoring Study: Technical Development and Data Analysis," *Army Research Lab Intelligent Tutoring System Expert Workshop: Team Learning and Team Taskwork*. Ames, IA, June 12-14.
10. Shenk, L., Krejci, C., **Dorneich, M.C.**, Passe, U., & *Stonewall, J. (2017). "When the Humanities Partner with Engineering for Community Capacity-Building: Co-Designing a Community's Story of Weatherization Using Agent-Based Modeling," *Community Development Society Conference*. Big Sky, MT, June 11-14.
9. Cetin, K., Passe, U., Sarkar, S., **Dorneich, M.**, Krejci, C., & Shenk, L. (2017). "Innovations in Occupant-Dependent Modeling Methods for Diverse Residential Buildings and Climate Conditions," *RCN-SEES-SHBE: Predictive Modeling Network for Sustainable Human-Building Ecosystems – Workshop 7*. Ft. Lauderdale, FL, June 5-6.
8. Moon, J., Jafir, I., Brown, P., *Kalvelage, K., **Dorneich, M.**, Seeger, C., Welk, G., & Gilbert, S. (2016). "Individual Contributions Combined with Public Data in Community Assessments," *Biomedical Engineering Society (BMES) Annual Meeting*. Minneapolis, MN, October 5-8.

7. *Kalvelage, K., **Dorneich, M.C.**, Passe, U., & Krejci, C.C. (2016). "Interdisciplinary education and research into occupant-building-microclimate interaction," *RCN-SEES-SHBE: Interdisciplinary Education and Research – Workshop 6*. Knoxville, TN, September 30 - October 1.
6. Krejci, C., Passe, U., **Dorneich, M.**, & *Peters, N. (2016). "Multi-Agent Simulation for Sustainable Urban Decision Making," *Spring Simulation Multi-Conference*. Pasadena, CA, April 3 - 6.
5. **Iglesias, M., **Montealegre, D.A., Yang, E., **Zonner, J., & **Dorneich, M.** (2015). "Measuring the Effectiveness of Etiquette Strategies to Mitigate Negative Emotions," *Conference of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)*. Washington DC, October 29-31.
4. Orgler, L., Artz, G., Jacobs, K., *Bickelhaupt, S., Bender, H., Bestler, L., Caissie, B., Dorius, C., **Dorneich, M.**, Gahn, S., Lamm, M., Rongerude, J., & Smiley-Oyen, A. (2015). "TeamBased Learning Outcomes in Agricultural Education: Developing a Survey Instrument to Evaluate Student Individual and Group Learning," *North American Colleges and Teachers of Agriculture Conference*. Athens, GA, June 16-20.
3. Smiley-Oyen, A., *Bickelhaupt, S., Artz, G., Bender, H., Bestler, L., Caissie, B., Dorius, C., **Dorneich, M.**, Gahn, S., Jacobs, K., Lamm, M., Orgler, L., & Rongerude, J. (2015). "TeamBased Learning Outcomes: Developing a Survey Instrument to Evaluate Student Individual and Group Learning with a focus on Critical Thinking," *North American Society for the Psychology of Sport and Physical Activity Conference*. Portland, OR, June 4-7.
2. Dorius, C., *Bickelhaupt, S., Artz, G., Bender, H., Bestler, L., Caissie, B., **Dorneich, M.**, Gahn, S., Jacobs, K., Lamm, M., Orgler, L., Rongerude, J., & Smiley-Oyen, A. (2015). "Team-Based Learning Outcomes: Developing a Survey Instrument to Evaluate Student Learning," *2015 Statewide Teaching and Learning Conference*. Waterloo, IA, April 8-10.
1. *Bickelhaupt, S., Artz, G., Bender, H., Bestler, L., Caissie, B., Dorius, C., **Dorneich, M.**, Gahn, S., Jacobs, K., Lamm, M., Orgler, L., Rongerude, J., & Smiley-Oyen, A. (2015). "Team-Based Learning Outcomes: Developing a Survey Instrument to Evaluate Student Motivation and Beliefs about Learning," *14th Annual Conference on Team-Based Learning Collaborative*. St. Petersburg, FL, March 5-7.

Editor-Reviewed Special Issues, Other Academic and Outreach Publications

6. Dorneich, M. C., & Clark, M.C. (2021). "Editors Notes." In Best Practices for Online Team-Based Learning: Taking Small Group Learning Online, *New Directions in Teaching and Learning*. 2021(164), 1-5. Wiley & Sons. <https://doi.org/10.1002/tl.20432>
5. Scudder, A.T., Welk, G.J., Spoth, R., Beecher, C.C., **Dorneich, M.C.**, Meyer, J.D., Phillips, L.A., & Weems, C.F. (2021) "Transdisciplinary Translational Science for Youth Health and Wellness: Introduction to a Special Issue," *Child & Youth Care Forum*, 50(1), 1-12, <https://doi.org/10.1007/s10566-020-09596-9>
4. Clark, M., Merrick, L., Styron, J., Dolowitz, A., Dorius, C., Madeka, K., Bender, H., Johnson, J., Chapman, J., Gillette, M., **Dorneich, M.**, O'Dwyer, B., Grogan, J., Brown, T., Leonard, B., Rongerude, J., & Winter, L. (2018). "Off to On: Best Practices for Online Team-Based Learning," *Team Based Learning Collaborative*, Available online: http://www.teambasedlearning.org/wp-content/uploads/2018/08/Off-to-On_OnlineTBL_WhitePaper_ClarkEtal2018_V3.pdf.
3. Letsu-Dake, E., & **Dorneich, M.C.** (2012). "Human Factors Evaluation of a Roadable Air Vehicle," *The Exponent*. 4(4), 75-85.
2. Whitlow, S.D., Gannon, A., & **Dorneich, M.C.** (2012). "Utilizing Human-in-the-Loop Evaluation Tools, Techniques, and Processes to Improve Design," *The Exponent*. 4(2), 29-35.

1. ***Dorneich, M.C.** & Hannon, B. (1992). "The Authentic Restoration of an 1878 Tower Clock," *NAWCC Bulletin*. 34(Dec), 694-702.

FUNDED PROPOSALS

74 Funded Proposals (43 external agencies, 8 industry, 12 internal Honeywell R&D, 11 internal Iowa State University)

Iowa State University

74. Gilbert, S. & **Dorneich, M.C.** (2023). "Voting Machine Usability Analysis", ES&S Election Systems & Software (\$35,962 for 5 months).
73. **Dorneich, M.C.**, & Gilbert, S.G. (2023). "STTR Collaborative Research Teaming Testbed", Air Force STTR Phase I (Subcontract to 361 Interactive, Inc.) (\$53,711 for 7 months).
72. Winer, E., Li, B., MacKenzie, C., & **Dorneich, M.C.** (2022). "Development of a Model-Based Digital Twin Design with Virtual Reality Training and Simulation", Boeing Company (\$520,384 for 12 months).
71. Passe, U., **Dorneich, M.C.**, Terpstra-Schwab, N., Krejci, C.C., & Caron, J.W. (2022). "SCC-IRG Track 2: An integrated community-focused approach to develop a data-driven, microclimate-based indoor heat emergency alert system", National Science Foundation (\$1,200,000 for 36 months).
70. Welk, G., Philipe, L.A., Dixon, P., & **Dorneich, M.** (2022). "Process and Outcome Evaluation of the Walk with Ease program for Fall Prevention", Centers for Disease Control and Prevention (\$1,048,648 for 36 months).
69. **Dorneich, M.C.**, & Gilbert, S. (2022). "Validate Human-Autonomy Teaming Metrics by Applying Them to Gameplay", Air Force Research Laboratory (\$100,000 for 12 months).
68. MacKenzie, C., **Dorneich, M.C.**, Helwig, M.S., Devine, B., Qing, L., and Ryan, S.M. (2021). "Undergraduate Education in Navy Engineering Analytics", Office of Naval Research (\$521,593 for 36 months).
67. **Dorneich, M.C.**, & Gilbert, S. (2021). "DS300 Usability Testing Project", ES&S Election Systems & Software (5.5 months).
66. **Dorneich, M.** (2020). "Summative Evaluation of an Online Peer Evaluation Bias Mitigation Training in Team-Based Learning Classrooms ", Dean's Excellence in Teaching and Learning Grants, Iowa State University (\$15,000 for 12 months).
65. **Dorneich, M.C.**, & Gilbert, S. (2020). "Analysis of Video Game Interfaces for Agent Control", Air Force Research Laboratory (\$100,000 for 12 months).
64. VanLoocke, A., **Dorneich, M.C.**, & Heaton, E. (2020). "Bringing the human into precision agriculture: what farmers need from decision support systems to meet economic and water quality goals", Nutrient Research Center, Iowa State University (\$162,804 for 24 months).
63. Nadolny, L. & **Dorneich, M.C.** (2020). "Accelerating the future of work through the rapid prototyping and evaluation of serious games for STEM education", Presidential Initiative for Interdisciplinary Research In Data Driven Science, Iowa State University (\$600,000 for 36 months).
62. **Dorneich, M.C.** (2020). "Adaptive Stress Training for Hazardous Conditions: Follow-on", NASA Human Research Program Omnibus (\$45,953 for 8 months).
61. Thompson, J.R., Ganapathysubramanian, B., Liebman, M.Z., Terpstra-Schwab, N., Zho, Y., **Dorneich, M.C.**, Gussman, P.W., Krejci, C.C., Losch, M.E., Passe, U., & Ruxton, M.M., (2020). "INFEWS / T1: Social and biophysical models to integrate local food systems, climate dynamics,

built forms, and environmental impacts in the urban FEWS nexus", National Science Foundation (NSF) INFEWS (\$2,500,000 for 48 months).

60. **Dorneich, M.** (2019). "Curriculum to Mitigate Peer Evaluation Bias in Team-Based Learning Classrooms", IMSE Exploratory Research Projects (\$16,500 for 5 months).
59. **Dorneich, M.C.**, Winer, E., & Brown, L. (2019). "Augmented Weather Interfaces", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation (\$474,999 for 24 months).
58. Ceylan, H., **Dorneich, M.C.**, & Yang, Z. (2019). "Reevaluation of Effectiveness of Emergency Vehicle Colors in Safety and Identification", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation (\$30,000 for 6 months).
57. **Dorneich, M.C.**, Keren, N., Franke, W., & Vardeman, S. (2018). "Adaptive Stress Training for Hazardous Conditions", NASA Human Research Program Omnibus (\$100,000 for 12 months).
56. **Dorneich, M.C.** (2018). "Knowledge Representation Development for an Intelligent Cognitive Assistant", Iowa State University, IMSE Exploratory Research Projects (ERP) (\$7,533 for 3 months).
55. **Dorneich, M.C.** (2018). "Development of Playbook Interaction Framework for Reduced Crew Operations", Rockwell Collins (\$45,000 for 12 months).
54. Welk, G., Weems, C., Spoth, R., Cutrona, C., **Dorneich, M.**, & Togers, C. (2017). "Enabling Sustainable Community Health through a Transdisciplinary Translational Research Network: Building Bridges between Science and Practice", Iowa State Presidential Interdisciplinary Research Initiative (\$750,000 for 34 months).
53. Sharma, A., Winer, E., Gilbert, S. **Dorneich, M.**, Claussen, J., & Zhao, M. (2017). "InterchangeSE: a Federated MultiModal Simulation Environment for Studying Interactions between Different Modes of Travel", *DOT Federal Highway Transportation Administration* (\$1,065,339 for 36 months).
52. Rongerude, J., & **Dorneich, M.C.** (2017). "CELT Scholarship of Teaching and Learning SoTL Scholars Program", *Center for the Excellence in Teaching and Learning*, Iowa State University (\$1,850 for 12 months).
51. Rongerude, J., Dorius, C., **Dorneich, M.**, Gahn, S., Orgler, L., Madeka, K., Bender, H., & Ogilvie, C. (2017). "A better peer assessment: Designing a peer assessment protocol to maximize fairness", *Miller Faculty Fellowship*, Iowa State University (\$15,000 for 12 months).
50. Gilbert, G., Sharma, A., Hong, M., Sarkar, S., Vaidya, U., **Dorneich, M.C.** (2016). "Transportation Stress Modeling to Design Innovative Controls and Information Dissemination in Partially Connected and Autonomous World", *Iowa State University Exploratory Research Projects (ERP)* (\$29,143 for 6 months).
49. Landry, S., **Dorneich, M.C.**, & Pritchett, A. (2016). "Pilot Performance Considerations for Sensor Technologies", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) *Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation* (\$528,428 for 36 months).
48. Anderson, N., De Brabanter, K., **Dorneich, M.**, Krejci, C., Poplin, A., Shenk, L. Passe, U., Cetin, K., Ganapathysubramanian, B., Liebman, M., Sarkar, S., Seo, Y., Takle, E., Thompson, J., Wang, Y., Ylimaz, S., * Zhou, Y. (2016). "Big Data for Sustainable Cities Decision Making", *Presidential Initiative for Interdisciplinary Research in Data Driven Science*, Iowa State University (\$375,000 for 36 months).
47. Carstens, D. (FIT), Ceylan, H., **Dorneich, M.C.**, Wei, P., & Young, S. (OSU) (2016). "Project Number 22 - Airport Safety Database & Analysis", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) *Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation* (\$46,000 for 5 months).

46. Dorius, C., Bickelhaupt, S., **Dorneich, M.**, Gahn, S., Gillette, M., Lamm, M., Nation, J., Orgler, L., Rongerude, J., Smiley-Oyen, A., Rands, M., Bestler, L., Bender, H. (2016). "Team-Based Learning Outcomes: Developing an Instructor Survey to Measure the Key Principles of Team-Based Learning Instruction", *Miller Faculty Fellowship*, Iowa State University (\$15,000 for 12 months)."
45. Krejci, C., **Dorneich, M.**, & Stone, R. (2015). "Workflow optimization for Iowa regional food hubs", *Leopold Center for Sustainable Agriculture* (\$50,000 for 24 months).
44. Passe, U., Anderson, N., De Brabanter, K., **Dorneich, M.**, Goodwin, J., Krejci, C., Poplin, A., Shenk, L., Anderson, C., & Graham, L. (2015). "Big Data for Sustainable City Decision-Making", *Presidential Initiative for Interdisciplinary Research in Data Driven Science*, Iowa State University (\$60,000 for 12 months).
43. Frank, M.C., Peters, F.E., **Dorneich, M.C.**, Jackman, J.K., & Terpenney, J.P. (2014). "Adaptive Vehicle Make (AVM) Integrated Tool", *Digital Manufacturing and Design Innovation Institute (DMDII) Adaptive Vehicle Make (AVM) Program DOD DMDII-14-1* (\$508,212 for 12 months).
42. Componation, P., **Dorneich, M.** (2014). "The Role of Non-Technical Variables in NASA Research and Development Project Success", *Iowa NASA EPSCoR Research Infrastructure Development (RID) Program* (\$33,750 for 12 months).
41. Lichter, P., Kollman, D., Knuesel, R., **Dorneich, M.C.**, Plocher, Miller, Brotzman, & Corzalla (2014). "Inhaler Training Device for Asthma and COPD Patient Education", *NIH SBIR solicitation PA-13-234* (\$9,999 for 12 months).
40. Gilbert, S., & **Dorneich, M.** (2014). "Deep Operator: Understanding Harvest Preparation", *Deere & Company* (\$50,000 for 3 months).
39. Moon, J., **Dorneich, M.C.**, Welk, G., Gilbert, S., & Seeger, C. (2014). "Integration of Self, Context and Objective Information Reported in Real Time for Research and Healthcare", *National Cancer Institute PHS 2014-1, Topic number 333* (\$63,000 for 8 months).
38. Orgler, L., Lamm, M., Artz, G., Smiley-Oyen, A., **Dorneich, M.**, Bender, H., Gahn, S., *Bickelhaupt, S., Jacobs, K., & Dorius, C. (2014). "Team-Based Learning Outcomes: Developing a Survey Instrument to Evaluate Student Motivation and Beliefs about Learning", *Miller Faculty Fellowship, Iowa State University* (\$14,760 for 12 months).
37. Gilbert, S., West, R., **Dorneich, M.**, Stegemüller, E., Keren, N., & Jordan, Z. (2013). "Mobile EEG Laboratory (MEL): 32-Channel DryCap Electroencephalographic (EEG) System", *Institute for Physical Research and Technology, Iowa State University* (\$20,000).
36. Gilbert, S., Winer, E., & **Dorneich, M.** (2013). "Team Tutoring with GIFT", *U.S. Army Research Laboratory* (\$586,386 for 36 months).
35. Gilbert, S., & **Dorneich, M.** (2013). "Deep Operator Understanding: Operator Preparation", *John Deere* (\$39,871 for 7 months).
34. **Dorneich, M.C.**, & Steward, B. (2013). "Virtual Operator Model", *John Deere* (\$123,819 for 36 months).
33. Ryan, S., Terpenney, J., Componation, P., & **Dorneich, M.C.** (2013). "The Industrial Engineering Graduate Community (IE GradCom)", ISU Graduate College, Center for Excellence in Learning and Teaching (CELT), and the Center for Integration of Research, Teaching and Learning (CIRTL) (\$1,000 for 12 months).
32. Componation, P.J., Hu, G., & **Dorneich, M.C.** (2013). "Improving Decision Making Capabilities of Distributed Engineering Design Teams", NASA Marshall Space Flight Center (\$30,000 for 12 months).
31. **Dorneich, M.** (2013). "Characterization of Flight Deck Information Automation Issues", FAA Aviation Research Grants (\$136,518 for 18 months).

Honeywell

30. **Dorneich, M.C.** (PM), Feyereisen, T. (PI), & Olofinboba, O. (2013). "Navigation and Strategic Planning (NASP) Pilot Interfaces", Honeywell Research and Development Grant (\$460,000 for 12 months).
29. Gannon, A.J., Lyle, E.A., & **Dorneich, M.C.** (2013). "Transition From Automated to Manual Flight: Avoiding The Surprise", Amendment #7 to the NASA Research Announcement: "Research Opportunities In Aeronautics –ROA-2011": NNH11ZEA001N (\$655,218 for 36 months).
29. Gannon, A.J., Lyle, E.A (Research Integrations)., & Dorneich, M.C. (2012). "Transition From Automated to Manual Flight: Avoiding The Surprise", NASA ROA-2011: Amendment #7 NNH11ZEA001N (\$655,218 for 36 months).
28. Rogers, W., **Dorneich, M.C.**, Gannon, A., & Grothe, S. (2012). "Smart Pilot Flight Deck of the Future (Seedling)", Honeywell Research and Development Grant (\$125,000 for 4 months).
27. Rogers, W., **Dorneich, M.** (2012). "Flight Deck Information Automation: Analysis and Recommendations", FAA DTFWA-10-A-8003, Task 10 (\$599,789 for 21 months).
26. Whitlow, S.D., **Dorneich, M.C.**, Wilkinson, C., & Hamblin, C. (2012). "Assessing Verification and Validation Processes for Automation with Respect to Vulnerabilities to Loss of Airplane ", NASA FCSR Contract NNL06AA0?? (\$400,000 for 16 months).
25. **Dorneich, M.C. (PM)**, Feyereisen, T. (PI) (2012). "Navigation and Strategic Planning (NASP) Pilot Interfaces ", Honeywell Research and Development Grant (\$415,000 for 12 months).
234. **Dorneich, M.C. (PI)** (2011). "Human Cognitive Modeling", Honeywell Research and Development Grant (\$10,000 for 4 months).
23. Rogers, W., **Dorneich, M. (PI)** (2010). "Analysis of Non-Deterministic Automation Effects", FAA project 05-02, Task Number 09-AJP61FGI-0114 (\$335,000 for 9 months).
22. **Dorneich, M.C. (PI)**, Letsu-Dake, E., & DeMers, R. (2010). "SafeTX: Situational Awareness, Collision Avoidance & Intuitive Control for Roadable Air Vehicles," Subcontract to Carnegie Mellon University for DARPA BAA 10-52, Task B Proposal (\$399,182 for 17 months).
21. **Dorneich, M.C. (PM)**, Feyereisen, T. (PI) (2011). "Navigation and Strategic Planning (NASP) Pilot Interfaces, Honeywell Research and Development Grant (\$427,000 for 12 months).
20. **Dorneich, M.C. (PM)**, Feyereisen, T. (PI) (2010). "Navigation and Strategic Planning (NASP) Pilot Interfaces, Honeywell Research and Development Grant (\$700,000 for 12 months).
19. Rogers, W. (PM), **Dorneich, M.C. (PI)**, Letsu-Dake, E., Leiphon, K.M. (2009). "NextDeck: Innovative Flight Deck Function Allocation Concept for NextGen, NASA RFP NNH09ZEA001N-IIFD-2.1, Robust Automation-Human Systems (\$499,840 for 18 months).
18. **Dorneich, M.C. (PI)** (2009). "Combat Causal Reasoner, Subcontract to SAIC for DARPA DSO program, (\$162,400 for 9 months).
17. **Dorneich, M.C. (PI)**, Mott, D., Bahrami, A. & Juan, Y. (2009). "Representation and Shared Understanding, International Technology Alliance BPP09, Project 12, Task 3 (\$280,000 for 24 months).
16. Rogers, W., Keinrath, C., **Dorneich, M.C.**, Khatwa, R. (2008). "Cognitive Adaptive Man-Machine Interface, Europe ARTEMIS Joint Undertaking, Human-centric design of Embedded Systems (SP-8), Reference designs and architectures (\$1,318,800 for 36 months).
15. Rogers, W., **Dorneich, M. (PI)** (2008). "Cognitive Adaptive Man-Machine Interface: US Support, Honeywell Research and Development Grant (\$634,288 for 36 months).
14. Rogers, W., **Dorneich, M. (PI)** (2008). "Cognitive Adaptive Man-Machine Interface Intellectual Property Capture, Honeywell Research and Development Grant (\$100,000 for 36 months).

13. Zachmeier-Ruh, M., **Dorneich, M.**, Oxenham, A., & Hayes, C.C. (2007). "Systematic STEM School Redesign, on behalf of the Twin Cities German Immersion School to the Minnesota Department of Education (\$38,318 for 18 months).
12. Ververs, P. (PM), Whitlow, S. (PI), **Dorneich, M.C.** (Co-PI), Mathan, S. (Honeywell) & Davis, G. (ABM) (2007). "Augmented Cognition Transition", Army NATICK BAA 05-07, Topic Area 38 (\$408,998 for 10 months).
11. Ververs, P. (PM), Whitlow, S. (PI), **Dorneich, M.C. (Co-PI)**, Mathan, A. (Honeywell), Pavel, M. (Oregon Health and Sciences University), & Berka, C. (Advanced Brain Monitoring) (2006). "Joint Human-Automation Augmented Cognition System: Augmented Cognition Phase IV, DARPA (Dr. Amy Kruse, PM) and US Army Natick Soldier Systems (Henry Girolamo, PM) joint funding (\$1,600,000 for 12 months).
10. Ververs, P. (PM), Whitlow, S. (PI), **Dorneich, M.C. (Co-PI)**, (Honeywell), Pavel, M. (Oregon Health and Sciences University), Berka, C. (Advanced Brain Monitoring), Raj, A. (Institute for Human-Machine Cognition), & Oranal, B. (Drexel University) (2005). "Joint Human-Automation Augmented Cognition System: Augmented Cognition Phase III, DARPA (Cdr Dylan Schmorrow, PM) and US Army Natick Soldier Systems (Henry Girolamo, PM) joint funding (\$1,600,000 for 12 months).
9. Whitlow, S. (PI) **Dorneich, Michael (Co-PI)**, Ververs, P. (PM) (Honeywell), DeRouseau, D. (Human Bionics), & Raj, A. (University of West Florida) (2003). "Joint Human-Automation Augmented Cognition System," DARPA Augmented Cognition Program Phase II, DARPA Augmented Cognition Program Phase II, Lcdr Dylan Schmorrow (PM) (\$4,200,000 for 18 months).
8. Whitlow, S. (PI), **Dorneich, M.C. (Co-PI)**, & Ververs, P. (PM). (2003). "Augmented Cognition Initiatives Project, Honeywell Research and Development Grant (\$50,000 for 3 months).
7. Whitlow, S. (PI), **Dorneich, M.C. (Co-PI)** (2003). "Augmented Cognition Phase 1.5 Seedling Program: Honeywell Labs' Cognitive Optimizer Concept, DARPA , Lcdr Dylan Schmorrow (PM) (\$150,000 for 6 months).
6. Tierno, J. (PI), Jelinek, J., Musliner, D., **Dorneich, M.C. (HCS Lead)**, Goldman, R., Samad, T. (Honeywell Labs), Hespanha, J. (USC), Pappas, G. (UPenn), Crites, A. (SPARTA), Ferguson, L. (Fermac), Miller, C. (SIFT) (2002). "CRYSTAL: Control System for Teams of Autonomous Agents, DARPA BAA 01-29 MICA (Mixed Initiative Control of Automata) (\$1,300,000 for 48 months).
5. Ververs, P.M. (PI), **Dorneich, M.C. (Investigator)** (2002). "Alerting and Notification of Conditions Outside of the Aircraft, NASA Ames (\$450,000 for 36 months).
4. Olofinboba, O. (PI), **Dorneich, M.C. (Investigator)** (2001). "An Experimental Evaluation of the AWIN Decision Aide, NASA Langley (\$350,000 for 16 months).
3. **Dorneich, M.C. (PI)**, Whitlow, S.D. (Co-PI) (2002). "Augmented Cognition, Honeywell Research and Development Grant (\$10,000 for 6 months).
2. **Dorneich, M.C. (PI)** (2001). "Next Generation Flight Simulator Design, Honeywell Research and Development Grant (\$10,000 for 4 months).
1. **Dorneich, M.C. (PI)**, Reising, D.V., Carpenter, T., & Nelson, K. (2001). "Ubiquitous Computing Pathfinding, Honeywell Research and Development Grant (\$10,000 for 8 months).

PATENTS

28 Patents (19 US and 9 international patents awarded)

28. Whitlow, S., Dorneich, M.C., Rogers, W., Hamblin, C. & Keinrath, C. (2017). "Datalink message prioritization system and method". *European Patent No. EP2434727*.

27. Mathan, S., **Dorneich, M.C.**, Whitlow, S. & Ververs, P.M. (2017). "Augmented Tutoring". *U.S. Patent No. 9721480*. Washington, DC: U.S. Patent and Trademark Office.
26. Whitlow, S., **Dorneich, M.C.**, Rogers, W., Hamblin, C. & Keinrath, C. (2017). "Datalink Message Prioritization System and Method". *U.S. Patent No. 9558669*. Washington, DC: U.S. Patent and Trademark Office.
25. Whitlow, S., Keinrath, C. & **Dorneich, M.C.** (2017). "User Interface Device for Adaptive Systems". *U.S. Patent No. 9547929*. Washington, DC: U.S. Patent and Trademark Office.
24. **Dorneich, M.C.**, Whitlow, S.D. & Rogers, W. (2016). "Mixed-Initiative Transfer of Datalink-Based Information". U.S. Patent Application No. 13/005241. *U.S. Patent No. 9349295*. Washington, DC: U.S. Patent and Trademark Office.
23. Whitlow, S., **Dorneich, M.C.** (2015). "Multiple Two-State Classifier Output Fusion System and Method". *U.S. Patent No. 9037523*. Washington, DC: U.S. Patent and Trademark Office.
22. **Dorneich, M.C.**, Hamblin, C., Rogers, W., & Whitlow, S.D. (2015). "Situation Aftermath Manager System and Method". *U.S. Patent No. 9002543*. Washington, DC: U.S. Patent and Trademark Office.
21. **Dorneich, M.C.**, Whitlow, S., Rogers, W., Feigh, K. & DeMers, R. (2015). "Adaptive User Interface for Semi-Automatic Operation". *U.S. Patent No. 8977407*. Washington, DC: U.S. Patent and Trademark Office.
20. **Dorneich, M.C.**, Rogers, W., Whitlow, S., Hamblin, C. & Keinrath, C. (2015). "Workload Management System and Method". *U.S. Patent No. 8928498*. Washington, DC: U.S. Patent and Trademark Office.
19. **Dorneich, M.C.**, McCauley, S.G., Rye, J.M. & Ververs, P.M. (2014). "Multifunctional Avionic Display". *European Patent No. EP1875267*.
18. Rogers, W., **Dorneich, M.C.**, Hamblin, C., & Whitlow, S.D. (2014). "Display System and Method for Generating a Display". *U.S. Patent No. 8698653*. Washington, DC: U.S. Patent and Trademark Office.
17. Hamblin, C., Whitlow, S., **Dorneich, M.C.**, Rogers, W. (2013). "Aircraft Situational Awareness Improvement System and Method". *European Patent No. EP2434470*.
16. Kaufman, D. & **Dorneich, M.C.** (2013). "Cognitive Aircraft Hazard Advisory System (CAHAS)". *U.S. Patent No. 8548727*. Washington, DC: U.S. Patent and Trademark Office.
15. Mathan, S., **Dorneich, M.C.**, Ververs, P.M. & Whitlow, S. (2013). "Rapid Serial Visual Presentation Triage Prioritization Based On User State Assessment". *U.S. Patent No. 8374687*. Washington, DC: U.S. Patent and Trademark Office.
14. Hamblin, C., Whitlow, S., **Dorneich, M.C.**, Rogers, W. (2013). "Aircraft Situational Awareness Improvement System and Method". *European Patent No. EP2434470*.
13. **Dorneich, M.C.**, Whitlow, S., Rogers, W., Feigh, K. & DeMers, R. (2013). "Adaptive User Interface for Semi-Automatic Operation of a Remote-Controlled, Unmanned Vehicle". *European Patent No. EP2256571*.
12. Kaufman, D. & **Dorneich, M.C.** (2012). "Cognitive Aircraft Hazard Advisory Systems and Methods". *European Patent No. EP2113897*.
11. Mathan, S., Ververs, P.M., Whitlow, S.D. & **Dorneich, M.C.** (2011). "Target Specific Image Scaling for Effective Rapid Serial Visual Presentation". *U.S. Patent No. 7991195*. Washington, DC: U.S. Patent and Trademark Office.
10. **Dorneich, M.C.**, Whitlow, S. & Feigh, K. (2011). "Methods and Apparatus for Adaptively Streaming Video Data Based on a Triggering Event". *European Patent No. EP2196967*.
9. Mathan, S., **Dorneich, M.C.** & Whitlow, S. (2011). "Statistics Control for Self-Adaptive Visual Filter Stability". *China Patent No. CN1932796*.

8. **Dorneich, M.C.**, Whitlow, S., Ververs, P.M., Carciofini, J.C. & Creaser, J. (2010). "Communications System Based On Real-Time Neurophysiological Characterization". *U.S. Patent No. 7830249*. Washington, DC: U.S. Patent and Trademark Office.
7. Mathan, S., Ververs, P.M., **Dorneich, M.C.**, Carciofini, J.C. & Whitlow, S.D. (2010). "Neurophysiologically Driven High Speed Image Triage System And Method". *U.S. Patent No. 7835581*. Washington, DC: U.S. Patent and Trademark Office.
6. Mathan, S., **Dorneich, M.C.** & Whitlow, S. (2009). "Statistical Control of Adaptive Ocular Filter Stability". *U.S. Patent No. 7631028*. Washington, DC: U.S. Patent and Trademark Office.
5. **Dorneich, M.C.**, McCauley, S.G., Rye, J.M. & Ververs, P.M. (2009). "Multifunctional Avionic Display". *U.S. Patent No. 7515069*. Washington, DC: U.S. Patent and Trademark Office.
4. Mathan, S., **Dorneich, M.C.** & Whitlow, S. (2009). "EEG Adaptive Filter Algorithm Stability Control". UK Patent No. GB2433322.
3. Whitlow, S., Mathan, S., **Dorneich, M.C.** & Patricia Ververs (2008). "Hierarchical Monitoring for Subordinate Assessment". *U.S. Patent No. 7454313*. Washington, DC: U.S. Patent and Trademark Office.
2. Rye, J.R., **Dorneich, M.C.** & Gannon, A. (2008). "Multiple Miniature Avionic Displays". *U.S. Patent No. 7414543*. Washington, DC: U.S. Patent and Trademark Office.
1. Ververs, P.M., **Dorneich, M.C.**, & Good, M.D. (2004). "Alerting and Notification System". *U.S. Patent No. 6700482*. Washington, DC: U.S. Patent and Trademark Office.

FORMALLY INVITED LECTURES AND PRESENTATIONS

39. "Evaluating Human-Autonomy Teaming Concepts in Future Aerospace Operations", Federal Aviation Administration, Aerospace Human Factors Research Division Research and Knowledge Series (Virtual; December 15, 2022).
38. "Utilizing Mixed Reality to Support Adaptive Worker Training", Expert Workshop on Intelligent Tutoring System Applications for Professional Career Education (Virtual; October 05, 2022).
37. "Evaluation of the Effectiveness of Augmented Reality Enhanced Aviation Weather Training", AIAA Aviation Forum (Chicago, IL; June 29, 2022).
36. "Utilizing Virtual Reality Adaptive Training for Stress Inoculation," Federal Aviation Administration, Aerospace Human Factors Research Division Research and Knowledge Series (Virtual; April 13, 2022).
35. "A Virtual Reality Adaptive Training System for Stress Inoculation", Oklahoma State University (Virtual; October 27, 2021).
34. "Adaptive Stress Training for Hazardous Conditions", NASA Human Factors and Behavioral Performance Element (Virtual; August 11, 2021).
33. "Augmented Reality Enhanced Learning Experiences for General Aviation Weather Training", AIAA Aviation Forum (Virtual; August 03, 2021).
32. "Adaptive Systems in Intelligent Tutoring and Training Applications", University of Toronto (Toronto, CA; September 06, 2019).
31. "Can computers adapt to your emotions? Adaptive systems in intelligent training", Clemson University (Clemson, SC; November 08, 2019).
30. "Adapting intelligent training systems to mitigate frustration and manipulate stress", University of Iowa (Iowa City, IA; October 10, 2019).

29. "Harnessing Virtual Reality Technology for Training for Emergency Response in Highly Hazardous Occupations", High Containment Laboratory Network Preparedness (BSL4ZNet) F2F Technology Session (Canada; March 20, 2018).
28. "Running a Team Tutoring Study: Technical Development and Data Analysis," 2017 Army Research Lab Intelligent Tutoring System Expert Workshop: Team Learning and Team Taskwork (Ames, IA; June 14, 2017).
27. "Introduction to Human Factors in Aviation," Kwame Nkrumah University of Science and Technology (Kumasi, Ghana; March 15, 2017).
26. "Populating the Dynamic Assessment Module for Teams: Studying Intelligent Tutoring Systems for Teams," Army Research Lab Workshop on Building Intelligent Systems for Teams: What Matters (Orlando, FL; March 03, 2016).
25. "Unpacking the Pedagogical Model for Teams: Studying Intelligent Tutoring Systems for Teams," Army Research Lab Workshop on Building Intelligent Systems for Teams: What Matters (Orlando, FL; March 03, 2016).
24. "The Design and Evaluation of Adaptive Systems," 3M (St. Paul, MN; August 07, 2015).
23. "Neurotechnology-Driven Adaptive Systems," Obermann Center Working Group, University of Iowa (Iowa City, IA; March 28, 2013).
22. "Adaptive Systems: How can Automation be "Smart?" Ames IT Collaborative (Iowa State University Research Park, Ames, IA; September 12, 2013).
21. "Cognitive Adaptive Man Machine Interface," Federal Aviation Administration (FAA) Human Factors Research and Engineering Group (Phoenix, AZ; February 24, 2010).
20. "Neurotechnology Capabilities," Federal Aviation Administration (FAA) Human Factors Research and Engineering Group (Phoenix, AZ; February 24, 2010).
19. "Neurotechnology for Space Applications," National Aviation and Space Administration (NASA) Glenn Research Center (Cleveland, OH; October 01, 2009).
18. "Adaptive Systems: Current and Future Applications," British Petroleum (BP) CTO Workshop (Golden Valley, MN; December 01, 2008).
17. "Adaptive Systems: Current and Future Applications," National Aviation and Space Administration (NASA)/Industry Flight Deck Research Working group (Denver, CO; October 23, 2008).
16. "Human-Centered System Technologies for Human Effectiveness," Human Effectiveness Directorate, Air Force Research Lab (Mesa, AZ; September 10, 2007).
15. "Honeywell Technologies for UAV Command and Control," General Dynamics (Dayton, OH; June 06, 2007).
14. "Honeywell Technologies for Human Effectiveness," Human Effectiveness Directorate, Air Force Research Lab, Wright Patterson AFB (Dayton, OH; June 06, 2007).
13. "Honeywell Technologies for UAV Command and Control," Air Force Research Lab (Dayton, OH; February 20, 2007).
12. "Augmented Cognition: Enabling Closely-Coupled Adaptive Systems," Department of Mechanical and Industrial Engineering, University of Iowa (Iowa City, IA; March 30, 2006).
11. "Real-time Cognitive State Assessment of the Dismounted Warfighter," Science Applications International Corporation (SAIC) (Denver, CO; November 11, 2005).
10. "Adjustable Autonomy for Mixed Initiative Interaction," Science Applications International Corporation (SAIC) (Denver, CO; November 11, 2005).
9. "Utilizing Neuro-physiological Feedback in an Adaptive System to Manage Communications for Individual Soldiers," Human Factors Branch Symposia, National Aviation and Space Administration (NASA) (Moffet Field, CA; May 11, 2004).

8. "Aircraft Alerting and Notification System for Conditions Outside the Aircraft (ANCOA)," National Aviation and Space Administration (NASA) Ames Laboratory (Moffet Field, CA; May 04, 2004).
6. "DOGMA: A Diversion Management Decision Support System in Airline Operations: Policy as an Interaction Method for Decision Support Systems," Human Factors Branch Symposia, National Aviation and Space Administration (NASA) (Moffet Field, CA; April 21, 2004).
6. "Aircraft Alerting and Notification System for Conditions Outside the Aircraft (ANCOA)," Human Factors Branch Symposia, National Aviation and Space Administration (NASA) (Moffet Field, CA; April 13, 2004).
5. "Advanced Vision Systems," Boeing C130 AMP CAAP Advanced Concept Group (Long Beach, CA; January 22, 2003).
4. "Alerting and Notification for Conditions Outside the Aircraft," The Boeing Company (Everitt, WA; May 22, 2002).
3. "Human-Centered Design," Engineering of Complex System Program: Discussion of Topics Workshop, National Aviation and Space Administration (NASA) (Moffett Field, CA; October 01, 2001).
2. "Integrated Flight Operations Diversion Manager Briefing," America West Airlines (Phoenix, AZ; July 09, 2001).
1. "Collaborative Software Design for a Learning Collaboratory," University of St. Thomas (St. Paul, MN; October 07, 1999).

TEACHING EXPERIENCE

Iowa State University

IE 361 Statistical Quality Assurance

IE 490 VIP Research in Human-Autonomy Teaming

IE 501/ 601 MS/PhD Research Basics and Communications

IE 502/ 602 MS/PhD Research Conduct

IE 572 Design and Evaluation of Human-Computer Interaction

IE 576 Human Factors in Product Design

IE 671 Research Practicum in Ergonomics

IE 672X Human Factors in Automation Design

University of Illinois at Urbana-Champaign

EE 342 Introduction to Circuit Analysis, (1992-1993), Teaching Assistant, Electrical Engineering Department

STUDENT MENTORING

* Indicates Co-Major Professor; **MS HCI students complete creative component instead of thesis

Graduate Students as Major Advisor: Graduated

Name	Degree	Graduation Date
Stonewall, Jacklin	PhD, IMSE	Fall 2022
Meister, Philippe (*Kostelnik, Charles)	PhD, HCI/English	Spring 2022

Kalvelage, Kelly	PhD, HCI	Fall 2021
Tokadli, Güliz	PhD, IMSE/HCI	Fall 2021
Tor Finseth (*Keren, Nir)	PhD, AeroE/HCI	Summer 2021
Mittal, Anuj (*Krejci, Caroline)	PhD, IMSE	Fall 2019
Du, Yu	PhD, IMSE	Spring 2019
Yang, Euijung	PhD, IMSE	Summer 2016
Annamalai, Ramanathan	MS, IMSE	Summer 2020
Ko, Andrew	MS, HCI **	Summer 2020
Volz, Katherine	MS, IMSE	Summer 2018
Huang, Wanyu (*Krejci, Caroline)	MS, IMSE	Spring 2018
Smith, Alicia	MS, IMSE	Summer 2017
Stonewall, Jacklin	MS, IMSE/HCI	Spring 2016
Li, Bena	MS, HCI **	Spring 2016
Bonner, Desmond	MS, IMSE/HCI	Fall 2015
Barnawal, Prashant (*Fernandez-Baca, David)	MS, HCI, CS	Fall 2015
Jacobson, Benjamin	MS, IMSE	Summer 2015
Dudley, Rachel (*Kelkar, Atul)	MS, HCI/ME	Fall 2014

Graduate Students as Major Advisor: Current

Name	Degree
Bonner, Desmond	PhD, IE/HCI
Farad, Yvonne	PhD, IMSE
Kim, Jiwon	PhD, IMSE
Tan, April	PhD, HCI, English
Yao, Tian	PhD, HCI
Francis, Richard	MS, HCI
Ragsdale Lee, Hanna	MS, HCI

Graduate Students as Committee Member: PhD

Aleman, Ezequiel (PhD, Educ/HCI, 2023)	Sean Kortsch (PhD, Univ of Toronto, 2019)
Ouverson, Kaitlyn (PhD, HCI, 2023)	Walton, Jamiahus (PhD, HCI, 2019)
Nowatzke, Matthew (PhD, Agronomy, 2022)	Macallister, Anastacia (PhD, HCI, 2018)
Jasper, Angelica (PhD, HCI, 2022)	Slavina, Anna (PhD, HCI, 2018)
Saadat, Shekoofe (PhD, Kinesiology, 2022)	Mumani, Ahmad (PhD, IE, 2018)
Hutchinson, Jack (PhD, Univ of W Australia, 2022)	Muesel, Chase (PhD, HCI, 2017)
Becker, Kimberly Pace (PhD, English, 2022)	Bhattacharya, Bhaskar (PhD, HCI, 2016)
Hoover, Melynda (PhD, HCI, 2021)	Albeshar, Abdulmohsen (PhD, HCI, 2016)
Schimpf, Daniel (PhD, IMSE, 2021)	Sjolund, Lori (PhD, HCI/Psych, 2016)
Xiao, Zhang (PhD, IMSE, 2021)	Casallas, Juan Sebastián (PhD, HCI, 2016)
Lim, Alex (PhD, Psych/HCI, 2020)	Guo, Enruo (PhD, HCI, 2015)
Norasi, Hamid (PhD, IMSE, 2020)	Lou, Chenlu (PhD, IMSE, 2014)

Graduate Students as Committee Member: MS

Wang, Kexin (MS, CE/HCI, 2023)	Vasan, Midhun (MS, IMSE, 2016)
Sepich, Nate (MS, IMSE, 2022)	Liu, Jungyu (MS, HCI, 2016)
Mazurick, Adam (MS, HCI, 2021)	Slavina, Anna (MS, Psychology, 2016)
Srinivasan, Ramya (MS, AERO E, 2021)	Schnieders, Thomas (MS, HCI, 2016)

Baumann, Steffen (MS, HCI, 2020)
Reynolds, Matthew (MS, HCI, 2020)
Beeman, Amy (MS, HCI, 2019)
Iglesias-Pena, Mariangely (MS, HCI, 2018)
Rane, Vrishtee (MS, IE, 2018)
Evans, Gabriel (MS, HCI, 2018)
Greenhill, Andrew (MS, Georgia Tech, 2018)
Finseth, Tor (MS, AERO E, 2018)
Singh, Anapum (MS, IMSE, 2017)
Koyama, Yumi (MS, HCI, 2017)
Farber, Jeff (MS, HCI, 2017)
Nowatske, Matthew (MS, HCI, 2016)
Broyhill, Shaun (MS, HCI, 2016)

Janusz, Olivia (MS, IE, 2016)
Mittal, Anuj (MS, IMSE, 2015)
Walton, Jamiahus (MS, IMSE, 2015)
Skinner, Amanda (MS, HCI, 2015)
Liu, Jungyu (MS, IMSE, 2015)
Hampel, Morgan (MS, IMSE, 2014)
Laabs, Heidi (MS, IMSE, 2015)
Muesel, Chase (MS, HCI, 2014)
Curtis, Michael (MS, HCI, 2014)
Amin-Naseri, Mostafa (MS, IMSE, 2014)
Hanson, Jordan (MS, IMSE, 2014)
Burton, Melissa (MS, HCI, 2013)

Undergraduate Research Assistants

Kone, Ayman-Yereem (2023)	Bolt, Abigail (2021-2022)	Briana, Sobel, (2016)
Arnold, Allison (2023)	Chandara, John (2021)	Adom, Stanley Nnamdi (2016)
Konadu , Nadya (2023)	Schmidt, Nathan (2021)	Moen, Kjersten (2016)
Perron, Arthur (2023)	Marsh, Jeffery (2021)	Volz, Katie (2013-2015)
Ndoa, Pape (2022-2023)	Zook, Camdyn (2021)	Kittleson, Nicole (2015-2016)
Banuelos-Moriel, Antonio (22-23)	Havelka, Hayden (2021)	Zonner, Jordan (2015)
Driskell, James (2022-2023)	Stoobe, Emma (2021-2022)	Montealegre, David A (2015)
Edgar, Emma (2021)	Segal, Jonathan (2020-2022)	Iglesias, Mariangely (2015)
Walker, Thomas (2022)	Boling, Austin (2021)	Dropps, Maria (2015)
Whitney, Charles Dennis (2022)	Arians, Ruben (2020)	Lynch, Elizabeth (2014)
Didic, Elmin (2021-2022)	Ford, Zachary (2019)	Mater, Samantha (2014)
Rozell, Joseph (2021-2022)	Cavanah, Elizabeth (2019-2021)	Hud, Anton (2014)
Talyat, Mitchell (2021-2023)	Eda, Seiya (2018-2019)	Walker, Kelsey (2014)
Nelson, Cale (2021-2022)	Hanus, Austin (2018)	Singh, Shivander (2014)
Bivens, Nick (2022)	Green, Victoria (2018)	Hoefler, Michael (2013)
Barnhart , Brock (2022)	Kulp, Gabriel (2018)	Dawson, Kayla (2013)
Johnson, Zachary (2022)	Hall, Jarred (2016-2018)	Jackson, Kelli (2013)
Russell, Colin (2022)	Griffith, Tristan (2016-2017)	Litwin, Liat (2013)
Struck, Liam (2022)	Fjelstad, Kate (2016-2017)	McGrath, Kellie (2013)
Fieffer, Stephen (2021-2022)	June, Ge, (2016)	Peiffer, David (2012-2013)

PROFESSIONAL SERVICE

Editorial

Editorial Board, *Cognitive Engineering and Decision Making* (2020-present)
Associate Editor, *IEEE Transactions on Human-Machine Systems* (2013-present)
Associate Editor, *IEEE Transactions on Systems, Man, and Cybernetics* (2005-2013)

Conference and Professional Society Service

Member, Digital Avionics System Conference Executive Committee (2021-202).
General Conference Chair, Digital Avionics Systems Conference (2021)

Technical Program Chair, Digital Avionics Systems Conference (2020)
Chair Elect, Cognitive Engineering and Decision Making technical Group, Human Factors & Ergonomics Society (2022-present)
Track Chair, Digital Avionics Systems Conference, Human Factors Track (2018, 2019).
Program Chair, Cognitive Engineering and Decision Making technical Group, Human Factors & Ergonomics Society (2019-2022)
Program Chair-Elect, Cognitive Engineering and Decision Making technical Group, Human Factors & Ergonomics Society (2017-2019)
Secretary/Treasurer, Cognitive Engineering and Decision Making technical Group, Human Factors & Ergonomics Society (2015-2017)
Session Chair, Human Factors and Ergonomics Society Conference (2012-2013, 2015)
Session Chair, IEEE Systems, Man, and Cybernetics Conference (2011)
Session Co-Chair, IEEE Systems, Man, and Cybernetics Conference (2002)
Session Chair, Digital Avionics Systems Conference (2002)

Community, Industry, and Government Working Groups

Member, CHPcommunity HUB Advisory Group, (2022-)
Member, Industry/NASA Flight Deck Research Working Group (2008-2011).
Member, DARPA Information Science and Technology (ISAT) study group on "Engineering Ensemble Effects" (2007)

Government Agency Review Panels

Panel Reviewer, National Aeronautics and Space Administration (NASA) (2018, 2020).
Panel Reviewer, National Science Foundation (NSF) (2017, 2018, 2020, 2021)
Ad Hoc Reviewer, National Science Foundation (NSF) (2017)
Proposal Reviewer, Institutes of Higher Learning, Singapore (2020)
Proposal Reviewer, Netherlands Organization for Scientific Research (NWO) (2016).
Program Reviewer, Office of Naval Research (ONR) Program Reviews (2015).

Journal and Conference Paper Reviews

Reviewer, ACTA Astronautica (2016)
Reviewer, Applied Ergonomics (2011-2012, 2018, 2020).
Reviewer, Aviation (2020).
Reviewer, Computer Methods and Programs in Biomedicine (2015)
Reviewer, Engineering Economist (2020)
Reviewer, Ergonomics (2014-15)
Reviewer, Frontiers in Psychology (2021).
Reviewer, Human Factors (2012-16, 2020)
Reviewer, Human Factors and Ergonomics Conference (2013-16, 2018-2021)
Reviewer, IEEE Transactions on Emerging Topics in Computational Intelligence (2016)
Reviewer, IEEE Transactions on Human-Machine Systems (2013-2016)
Reviewer, IEEE Transactions on Intelligent Systems (2012, 2015-2016)
Reviewer, IEEE Transactions on Knowledge and Data Engineering (2000)

Reviewer, IEEE Transactions on Neural Systems & Rehabilitation Engineering (2020)
Reviewer, IEEE Transactions on Systems, Man, and Cybernetics, Part A (1998-9, 2002-3, 2005-2010)
Reviewer, IEEE Transactions on Systems, Man, and Cybernetics, Part C (2003)
Reviewer, IEEE Systems, Man, and Cybernetics Conference (2005)
Reviewer, International Journal of Advanced Robotic Systems (2013)
Reviewer, International Journal of Environmental Research and Public Health (2018).
Reviewer, International Journal of Human-Computer Interaction (IJHCI) (2018).
Reviewer, Journal of Aircraft (2014)
Reviewer, Journal of Cognitive Engineering and Decision Making (2011-2019, 2021).
Reviewer, Safety (2017)

UNIVERSITY SERVICE

Lead, Engineering Education Research Strategic Planning (2023)
Member, COE Engineering Education PhD Working Group (2022)
Member, College Budget Advisory Committee (2022-)
Member, OVPR Internal Funding Proposal Evaluation Committee (2021-2024).
Member, Faculty Review Board
Member, Resume Face-to-Face Humans Subjects Research Committee, 2020-present
Member, Graduate College Curriculum Committee, 2019-present
Coordinator, Team-Based Learning Teaching and Learning Community (2019-2022).
Member, CATME and ABET Task Force (2021)
Senior Faculty Mentor, Teaching Partners Program, Center for Excellence in Learning and Teaching (CELT), 2016-2017, 2018-2020
Member, College of Engineering Honors Program Committee (2017-present).
CELT Classroom Improvement Study Focus Group for Faculty, 2013
Engineering-LAS Online Learning (ELO) Search Committee, 2015

IMSE Governance Committee, Chair, 2021; Member, 2019-2021
IMSE Graduate Committee, Member, 2014-present
IMSE Faculty Search Committee, Chair, 2019-2020
IMSE Faculty Search Committees, Member, 2012-2013, 2015-2016, 2017-2018, 2022
IMSE Awards & Honors Committee, Member, 2013-2015, 2016-2017
IMSE Publicity & Relations, Member, 2012-2014
IMSE P&T Fact Finding Committee, Member, 2012-2013, 2022

COMMUNITY SERVICE

Board Chair, Board of Education, Charter District 4152, Twin Cities German Immersion School, Minneapolis/St. Paul, MN (Chair: 2007-2009, Elected Member 2006-2009)
Board Secretary, Board of Education, Charter District 4152, Twin Cities German Immersion School, Minneapolis/St. Paul, MN (2006-2007)
Member, Finance Committee, Twin Cities German Immersion School (2009-present)

Member, Governance Committee, Twin Cities German Immersion School (2009-present)
Committee Chair, Grants Committee, Twin Cities German Immersion School (2006-2007)
Committee Chair, Technology Committee, Twin Cities German Immersion School (2006-2007)
Judge, First LEGO League State Championships, Minnesota (1998)

MEMBERSHIPS, AWARDS AND RECOGNITION

Joseph Walkup Professor of Engineering (2023)

Senior Member, Institute of Electrical and Electronics Engineers (2014-present).

Member, Human Factors and Ergonomics Society (2003-present).

Elected Member, Sigma Xi (2017-present), Scientific Research Honor Society.

Jimenez Faculty / Researcher Award, Federal Aviation Administration, PEGASAS Center of Excellence (2022)

IMSE Omurtag Research Excellence Award, Iowa State University (2019)

Education/Human Performance – Team Award, *National Training & Simulation Association (NTSA) Modeling & Simulation Awards* (2019)

Top Downloaded Article first 12 months (2023), *Wiley Publishing*

Outstanding Academic Title (chapter author to edited volume) (2021). *Choice Publishing*

Best of Session Paper Award (2021). *AIAA/IEEE Digital Avionics Systems Conference*.

Best of Session Paper Award (2018). *AIAA/IEEE Digital Avionics Systems Conference*.

Outstanding Engineer Award (2011). Honeywell (Peer-nominated award).

David Meister Award Runner-Up (2010). *Human Factors and Ergonomics Society: Systems Development Technical Group*, (M. Dorneich, lead author).

Best Topic Paper (2006). *Augmented Cognition International Society*, (S. Mathan, lead author).

Technical Achievement Award (2006). Honeywell, Augmented Cognition. (Highest R&D award)

COE Technical Achievement Award (2004). Honeywell, Augmented Cognition.

COE Technical Achievement Award (2002). Honeywell, AWIN Decision Aid.

Technical Achievement Award (2001). Honeywell, Integrated Flight Operations.

50 internal Honeywell Bravo, Spot or Special Recognition awards for research excellence

Finalist for the Harold L. Oleson Award for Excellence in Undergraduate Teaching by a Graduate Student (Fall 1992). University of Illinois.