Michael C. Dorneich, Ph.D.

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OBJECTIVE

To advance human factors research creating usable, reliable, and context-aware adaptive systems that assist human performance in complex domains. To develop, implement, and champion active learning strategies in instruction. To mentor the next generation of scholars, teachers, and practitioners.

EDUCATION

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

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

B. S., Electrical Engineering with Minor in Germanic Studies, University of Illinois at Urbana-Champaign, 1990

ACADEMIC AND INDUSTRY EXPERIENCE

Morrill Professor[1]	Industrial and Manufacturing Systems Engineering, Iowa State University	2024 - present
The Joseph Walkup Professor of Industrial Engineering	Industrial and Manufacturing Systems Engineering, Iowa State University	2023-present
Director of Research	Industrial and Manufacturing Systems Engineering, Iowa State University	2023-present
Professor	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	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 & Teaching Assistant	Electrical Engineering Department, University of Illinois at Urbana-Campaign	1990-1995
IAESTE Intern	Oslo Lysverker, Norway	1987

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[1] Morrill Professorship recognizes faculty members whose professional work has demonstrated outstanding success in teaching and learning in undergraduate, graduate, and/or Extension/outreach programs which is reflected by a national or international reputation in the nominee's discipline.

PUBLICATIONS

Peer-Reviewed Journal Papers

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

63. *Nowatzke, M.J., *Gao, L., **Dorneich, M.C.**, Heaton, E., & Vanloocke, A. (Accepted). "Interviews with US Corn Belt farmers highlight opportunity for improved decision support systems and continued structural barriers to farmland diversification," *Precision Agriculture*. http://dx.doi.org/10.1007/s11119-024-10154-9

62. *Stonewall, J., **Dorneich, M.C.**, Rongerude, J. (Accepted). "Evaluation of Bias in Peer Assessment in Higher Education," *International Journal of Engineering Education*.

61. *Kim, J., *Wang, W., *Miller, J., **Dorneich, M.C.**, Winer, E., Brown, L., & Caldwell, B. (Accepted). "Creating Augmented Reality-Based Experiences for Aviation Weather Training: Challenges, Opportunities, and Design Implications for 3D Authoring," *Ergonomics*. http://dx.doi.org/10.1080/00140139.2024.2329696

60. *Stonewall, J., **Dorneich, M.C**, Rongerude, J. (Accepted). "Training to Increase Student Perceptions of Fairness in Peer Assessment," *Assessment & Evaluation in Higher Education*. http://dx.doi.org/10.1080/02602938.2024.2327858

59. *Finseth, T., **Dorneich, M.C.**, Keren, N., Franke, W.D., & Vardeman, S. (Accepted). "Virtual Reality Adaptive Training for Personalized Stress Inoculation," *Human Factors*. https://doi.org/10.1177/00187208241241968

58. *Kim, J., *Kang, S.H., *Li, J., Mirka, G.A., & **Dorneich, M.C.** (Accepted). "Effects of a Passive Back-Support Exosuit on Postural Control and Cognitive Performance during a Fatigue-Inducing Posture Maintenance Task," *Human Factors*. http://dx.doi.org/10.1177/00187208231221890

57. **Dorneich, M.C.**, Krejci, C., Schwab, N., *Stone, T.F., *Huckins, E., Passe, U., & Thompson, J.R. (Accepted). "Producer and consumer perspectives on supporting and diversifying local food systems in central Iowa," *Agriculture and Human Values*, http://dx.doi.org/s10460-023-10504-9

56. *Sepich, N., **Talyat, M., **Didic, E., **Dorneich, M.C.**, & Gilbert, S.B. (2023). "Video Game Interface Design Patterns to Facilitate Human-Agent Teaming," *International Journal of Human-Computer Interaction*, 1-16, http://dx.doi.org/10.1080/10447318.2023.2262824

55. *Wang, W., *Miller, J., *Meister, P., **Dorneich, M.**, Brown, L., Whitehurst, G., & Winer, E. (2023). "Development and Implementation of an Augmented Reality Thunderstorm Simulation for General Aviation Weather Theory Training," *Journal of Imaging Science and Technology*. 67(6), 1-14. http://dx.doi.org/10.2352/J.ImagingSci.Technol.2023.67.6.060402

54. *Meister, P., *Miller, J., *Wang, K., **Dorneich, M.C.**, Winer, E., Brown, L., & Whitehurst, G. (2023). "Evaluation of Augmented Reality Interactive Print for General Aviation Weather Training," *AIAA Journal of Air Transportation*. 32(1), 12-21. http://dx.doi.org/10.2514/1.D0364

53. *Jasper, A., *Sepich, N.C., Gilbert, S.G., **Dorneich, M.C.**, & Kelly, J.W. (2023). "Predicting Cybersickness Using Individual and Task Characteristics," *Computers in Human Behavior*. 146, 107800. http://dx.doi.org/10.1016/j.chb.2023.107800

52. *Tokadli, G. & **Dorneich, M.C.** (2023). "Comparison of Two Aerospace Use Cases to Develop Human-Autonomy Teaming Characteristics," *Frontiers in Aerospace Engineering*. 2, 1214115. http://dx.doi.org/10.3389/fpace.2023.1214115

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). "Designing Three-Dimensional Augmented Reality Weather Visualizations to Enhance General Aviation Weather Education," *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.**, & *Tokadlı, 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. **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]

42. 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

41. *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

40. *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

39. *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

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), 133-146, http://dx.doi.org/ijee.ie/1atestissues/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,, & *Beekhuyzen, 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://doi.org/ doi.org/10.1002/tl.20432

Book Chapters

23. *Tan, A., Cotos, E., & **Dorneich, M.C.** (2023). "Genre-Based L2 Research Writing: SLA-CALL interfaces for designing Interactive Virtual Reality Environments," Chapter 2, *Frontiers in Computer Assisted Language Learning* (M. Peterson & N. Jabbari). London: Routledge. pp. 7-25, http://dx.doi.org/10.4324/9781003395218

22. **Dorneich, M.C.**, Wu, P., Gilbert S.B., & Winer, E. (2023). "Utilizing Mixed Reality to Support Adaptive Worker Training," Chapter 8, *Design Recommendations for Intelligent Tutoring Systems, Volume 11 Professional Career Education* (A.M. Sinatra, A.C. Graesser, X. Hu, L.N. Townsend, & V. Rus, Eds.). Orlando, FL: US Army Combat Capabilities Development Command – Soldier Center. pp. 57-68, https://gifttutoring.org/documents/167

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, Eds.). Boca Raton, FL: CRC Press. pp. 11-29. http://dx.doi.org/10.1201/9780429425905-2

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. Sottilare, A. Sinatra, C. S. Burke, Eds.). Bingley, UK: Emerald Publishing Limited. pp. 247-277. http://dx.doi.org/10.1108/S1534-085620180000019014

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. Sottilare, A. Graesser, X. Hu, & A. Sinatra, Eds.). Orlando, FL: U.S. Army Research Laboratory. pp. 169-178. http://dx.doi.org/10.4324/9781315617572-24

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. Sottilare, 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. (2018). "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. http://dx.doi.org/10.1016/B978-0-08-101869-9.00009-1

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. http://dx.doi.org/10.1201/b11963-30

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Peer-Reviewed Conference Papers

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166. *Kim, J., *Wang, K., Dorneich, M.C., Winer, E., Brown, L., & Whitehurst, G. (2024). "Preliminary Evaluation of Extended Reality Authoring Tool for General Aviation Weather Training," *IEEE/AIAA 43rd Digital Avionics Systems Conference.* San Diego, CA, Sep 29-Oct 3.

165. *Ragsdale-Lee, H. & **Dorneich, M.C.** (2024). "Evaluation of Risk Shift Between Individuals and Teams in an Operational Task," *ASPIRE: Human Factors and Ergonomics Society Annual Meeting.* Phoenix, AZ, Sep 9-13.

164. *Farah, Y., & **Dorneich, M.C.** (2024). "Human Autonomy Teaming in a Cooperative Gamified Testbed: How can AI teammates support teamwork processes?" *ASPIRE: Human Factors and Ergonomics Society Annual Meeting.* Phoenix, AZ, Sep 9-13.

163. *Yao, T., **Dorneich, M.C.,** Passe, U., Schwab, N., Losch, M., Krejci, C.C., & Caron, J. (2024). "Vulnerable Community in the Face of Heat: A Pilot Study on Perceptions, Behaviors, and Support Networks During Heat Events," *ASPIRE: Human Factors and Ergonomics Society Annual Meeting.* Phoenix, AZ, Sep 9-13.

162. *Kim, J., **Dorneich, M.C.,** Winer, E., & *Wang, K. (2024). "Development of a Survey Instrument to Measure Educators' Preparedness for Creating Extended Reality Learning Modules," *ASPIRE: Human Factors and Ergonomics Society Annual Meeting.* Phoenix, AZ, Sep 9-13.

161. *Newendorp, Gilbert, S.B., & **Dorneich, M.C.** (2024). "User's AI Expertise (AIX): Measuring One's Mental Model of an AI System," *2024 International Conference on Emerging Trends in Networks and Computer Communications.* Windhoek, Namibia, July 23 - 25.

160. *Sanaei, M., Gilbert, S.B., **Perron, A.J., *Javadpour, N., **Sabouni, H., **Dorneich, M.C.,** & Kelly, J.W. (2024). "Effects of Scene Complexity on Workload, Presence, and Cybersickness in a Task-Based VR Game," *Human-Computer Interaction International 2024.* Washington DC, 29 June - 4 July.

159. Newendorp, A.K, Sanaei, M., Perron, A.J., Sabouni, H., Javadpour, N., Sells, M.J., Nelson, K.T., Dorneich, M.C., & Gilbert, S.B. (2024). "Apple's Knowledge Navigator: Why Doesn't that Conversational Agent Exist Yet?," *ACM CHI conference on Human Factors in Computing Systems.* Honolulu, HI, May 11-16. [*Honorable Mention, Best Paper Award*]. http://doi.org/10.1145/3613904.3642739

158. *Wang, K., *Miller, J., *Kim, J., **Dorneich, M.C** & Winer, E. (2023). "An XR Authoring Tool for Customizing Aviation Weather Educational Content," *2023 Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC).* Orlando, FL, Nov. 27 - Dec. 1.

157. *Patel, P.S., Krejci, C.C., Schwab, N.G., & **Dorneich, M.C.** (2023). "An Agent-Based Model of Agricultural Land Use in Support of Local Food Systems," *2023 Winter Simulation Conference.* San Antonio, TX, December 10-13. Invited.

156. **Dorneich, M.C.,** Gilbert, S., *Francis, R., **Talyat, M., **Driskell, J., & **Didic, E. (2023). "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. http://doi.org/10.1177/21695067231192892.

155. *Farah, Y., & **Dorneich, M.** (2023). "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. http://doi.org/10.1177/21695067231196239

154. *Tan, A., Cotos, E., & **Dorneich, M.** (202). "Genre-based L2 Research Writing: A Virtual Reality Prototype for Research Writing Competence," *EUROCALL 2023 conference.* Reykjavik, Iceland, Aug 15-18. http://doi.org/

153. *Kim, J., *Wang, K., *Miller, J., **Dorneich, M.C.,** Winer, E., & Brown, L. (2023). "A User-Centered Extended Reality Authoring Tool Development Framework for General Aviation Weather Training," *Digital Avionics Systems Conference.* Barcelona, Spain, October 1-5. http://doi.org/ 10.1109/DASC58513.2023.10311255

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

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148. *Wilson, G.W., *Farah, Y., *Furukawa, V., *Tan, A.M.H.E., **Dorneich, M.C.**, & 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

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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*. Posrtmouth, VA, September 18-22. http://doi.org/10.1109/DASC55683.2022.9925794

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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 (I/ITSEC)*. 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. *Tokadlı, 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. *Tokadlı, 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, Sep 8-12.

126. *Tokadlı, 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.**, & *Tokadlı, 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 (I/ITSEC)*. 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.

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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. *Tokadlı, 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 Pub.

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., & Sottilare, 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, Apr 29 – May 1.

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 (I/ITSEC)*. 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. Hoefer, 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, Apr 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,

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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.

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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.

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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)

29. Gao, L., Nowatzke, M. VanLoocke, A., Heaton, E., & **Dorneich, M.** (2023). "Exploring the Use of Nudge Theory to Facilitate Adoption of Conservation Practices among Farmers: Insights into Land-Use Conversion," *Rural Sociological Society*. Burlington, VT, August 2-6.

28. **Dorneich, M.C.**, Francis, R., Gilbert, S.B., Talyat, M., & Driskell, J. (2023). "Collaboration Analytics of HAT Gameplay: One Approach," *Collaborative Analytics Workshop, Learning Analytics and Knowledge Conference 2023*. Arlington, TX, March 23.

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: 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

79 Funded Proposals (48 external agencies, 8 industry, 11 internal Iowa State University, 12 internal Honeywell R&D)

Iowa State University

79. Gilbert, S.., Winer, W., **Dorneich, M.C** & Lathrop, J. (2024). "Modeling and Analysis Toolkit for Realizable Intrinsic Cognitive Security (MATRICS)", DARPA (Sub to Collins Aerospace) ($1,201,000 for 36 months).

78. Passe, U., **Dorneich, M.C.,** Terpstra-Schwab, N., Krejci, C.C., & Caron, J.W. (2023). "REU supplement for SCC-IRG Track 2: A data-driven approach to designing a community-focused indoor heat emergency alert system for vulnerable residents (CommHEAT)", NSF RFP 22-529, Smart & Connected Communities (S&CC) ($20,000 for 7 months).

77. **Dorneich, M.C.,** Winer, E., Whitehurst, G., & Brown, L. (2023). "Augmented Weather Interfaces Project: Immersive Extended Reality Training", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation ($200,000 for 12 months).

76. Kelly, J., **Dorneich, M.C.,** & Gilbert, S. (2023). "HCC: Small: Adaptation to Cybersickness", National Science Foundation ($600,000 for 36 months).

75. Gilbert, S. & **Dorneich, M.C.** (2023). "Voting Machine Usability Analysis", ES&S Election Systems & Software ($35,962 for 5 months).

74. **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).

73. 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).

72. 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).

71. Welk, G., Philippe, 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).

70. **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).

69. **Dorneich, M.C.,** Winer, E., & Brown, L. (2022). "Augmented Weather Interfaces Project: Immersive Extended Reality Training", Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) Federal Aviation Administration (FAA) Center of Excellence (COE) for General Aviation ($70,000 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., Ganapathysubrumanian, 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., & Terpenny, 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, Brottman, & 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.,, Terpenny, 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.,** Gannnon, 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 DTFAWA-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).

PATTENTS

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). "Nuerophysiologically 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

40. "Gaming Research and Outreach to Strengthen 21st Century Work and Learning", US Bank InQ Network Seminar Series (Virtual; March 27, 2024).

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; Sep. 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, 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 (F13, F14, S14, F15, F16, F17, S19, S20, S21); IE3610 (F24)

IE 490 VIP Research in Human-Autonomy Teaming (F19)

IE 501/601 MS/PhD Research Basics and Communications (F14)

IE 502/602 MS/PhD Research Conduct (S15)

IE 572 Design and Evaluation of Human-Computer Interaction (S13, S15, S16, S17, S18, S19, S20, S22, S23 dual listed with IE 472X, S24)

IE 576 Human Factors in Product Design (S14, F15, F17, F19, F23)

IE 671 Research Practicum in Ergonomics (S14, S16, S24)

IE 672X Human Factors in Automation Design (F18, F20, F22); IE 6720 (F24)

IE 690 Special Topics (S18)

University of Illinois at Urbana-Champaign

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

Workshops

Organizer and Lead, Game2Work Day 2023, Iowa State University Presidential Research Initiative, Des Moines, IA, September 27, 2023.

Organizer and Lead, Game2Work Day 2022, Iowa State University Presidential Research Initiative, Des Moines, IA, October 27, 2022.

Presenter, Active Learning Techniques, CELT Course Design Institute, online, May 26, 2021.

Presenter, Active Learning Techniques in Large Enrollment courses, CELT Course Design Institute, online, January 13, 2021.

Co-Organizer and Co-lead, Workshop on Human-Centered in Aviation, Ghana Civil Aviation Authority, Accra, Ghana, May 18, 2017.

Co-Organizer and Co-lead, Workshop on Human-Centered Design for NextGen, Ghana Civil Aviation Authority, Accra, Ghana, March 16, 2016.

STUDENT MENTORING

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

Graduate Students as Major Advisor: Graduated (8 PhD, 13 MS)

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
Francis, Rick	MS, HCI	Fall 2023
Farad, Yvonne	MS, IMSE	Summer 2023
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 (5 PhD, 1 MS)

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

Graduate Students as Committee Member: PhD (29)

Ameen, Mohammed K (PhD, HCI, 2024)
Miller, Jack (PhD, HCI/CE, 2024)
Renner, Alex (PhD, HCI/ME, 2023)
Weflen, Eric (PhD, IMSE, 2023)
Philpott, Robert (PhD, HCI/ME, 2023)
Aleman, Ezequiel (PhD, Education/HCI, 2023)
Ouverson, Kaitlyn (PhD, HCI, 2023)
Nowatzke, Matthew (PhD, Agronomy, 2022)
Jasper, Angelica (PhD, HCI, 2022)
Saadat, Shekoofe (PhD, Kinesiology, 2022)
Hutchinson, Jack (PhD, University of W Australia, 2022)
Becker, Kimberly Pace (PhD, English, 2022)
Hoover, Melynda (PhD, HCI, 2021)
Schimpf, Daniel (PhD, IMSE, 2021)
Xiao, Zhang (PhD, IMSE, 2021)

Lim, Alex (PhD, Psych/HCI, 2020)
Norasi, Hamid (PhD, IMSE, 2020)
Sean Kortsch (PhD, University of Toronto, 2019)
Walton, Jamiahus (PhD, HCI, 2019)
Macallister, Anastacia (PhD, HCI, 2018)
Slavina, Anna (PhD, HCI, 2018)
Mumani, Ahmad (PhD, IE, 2018)
Muesel, Chase (PhD, HCI, 2017)
Bhattacharya, Bhaskar (PhD, HCI, 2016)
Albesher, Abdulmohsen (PhD, HCI, 2016)
Sjolund, Lori (PhD, HCI/Psych, 2016)
Casallas, Juan Sebastián (PhD, HCI, 2016)
Guo, Enruo (PhD, HCI, 2015)
Lou, Chenlu (PhD, IMSE, 2014)

Graduate Students as Committee Member: MS (35)

Alabbas, Bassam (MS, HCI, 2024)
Newendorp, Amanda (MS, IMSE/HCI, 2024)
Wang, Kexin (MS, CE/HCI, 2023)
Sepich, Nate (MS, IMSE, 2022)
Mazurick, Adam (MS, HCI, 2021)
Srinivasan, Ramya (MS, AERO E, 2021)
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)
Vasan, Midhun (MS, IMSE, 2016)
Liu, Jungyu (MS, HCI, 2016)
Slavina, Anna (MS, Psychology, 2016)
Schnieders, Thomas (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 (65)

McCurnin, Ryan (2024)
Uvodich, Brian (2024)
Hauschildt, Ethan (2024)
Pinto, Nathaniel (2023)
Pope, Amy (2023-2024)
Kone, Ayman-Yereem (2023)
Arnold, Allison (2023)
Konadu, Nadya (2023)
Perron, Arthur (2023)
Ndoa, Pape (2022-2023)
Banuelos-Moriel, Antonio (22-23)
Driskell, James (2022-2023)
Edgar, Emma (2021)
Walker, Thomas (2022)
Whitney, Charles Dennis (2022)
Didic, Elmin (2021-2022)
Rozell, Joseph (2021-2022)
Talyat, Mitchell (2021-2023)

Russell, Colin (2022)
Struck, Liam (2022)
Fieffer, Stephen (2021-2022)
Bolt, Abigail (2021-2022)
Chandara, John (2021)
Schmidt, Nathan (2021)
Marsh, Jeffery (2021)
Zook, Camdyn (2021)
Havelka, Hayden (2021)
Stoobe, Emma (2021-2022)
Segal, Jonathan (2020-2022)
Boling, Austin (2021)
Arians, Ruben (2020)
Ford, Zachary (2019)
Cavanah, Elizabeth (2019-2021)
Eda, Seiya (2018-2019)
Hanus, Austin (2018)
Green, Victoria (2018)

Ge, June (2016)
Briana, Sobel, (2016)
Adom, Stanley Nnamdi (2016)
Moen, Kjersten (2016)
Volz, Katie (2013-2015)
Kittleson, Nicole (2015-2016)
Zonner, Jordan (2015)
Montealegre, David A (2015)
Iglesias, Mariangely (2015)
Dropps, Maria (2015)
Lynch, Elizabeth (2014)
Mater, Samantha (2014)
Hud, Anton (2014)
Walker, Kelsey (2014)
Singh, Shivander (2014)
Hoefer, Michael (2013)
Dawson, Kayla (2013)
Jackson, Kelli (2013)

Nelson, Cale (2021-2022)   Kulp, Gabriel (2018)   Litwin, Liat (2013)
Bivens, Nick (2022)   Hall, Jarred (2016-2018)   McGrath, Kellie (2013)
Barnhart , Brock (2022)   Griffith, Tristan (2016-2017)   Peiffer, David (2012-2013)
Johnson, Zachary (2022)   Fjelstad, Kate (2016-2017)

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

General Conference Chair, Digital Avionics Systems Conference (2024)

General Conference Chair, Digital Avionics Systems Conference (2021)

Member, Digital Avionics System Conference Executive Committee (2021-2022, 2023-2025).

Technical Program Chair, Digital Avionics Systems Conference (2020)

Track Chair, Digital Avionics Systems Conference, Human Factors Track (2018, 2019).

Chair & Chair-Elect, Cognitive Engineering and Decision Making Technical Group, Human Factors & Ergonomics Society (2022-2025)

Program Chair & Chair-Elect, Cognitive Engineering and Decision Making Technical Group, Human Factors & Ergonomics Society (2017-2022)

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, 2022, 2023)

Community, Industry, and Government Working Groups

Member, CHPcommunity HUB Advisory Group, (2022-present)

Member, Industry/NASA Flight Deck Research Working Group (2008-2011).

Member, DARPA Information Science and Technology (ISAT) study group on "Engineering Ensemble Effects" (2007)

Team-Based Learning Community of Practice (2018-2022)

Government Agency Review Panels

Proposal Reviewer, Army Research Office (ARO) (2023)

Panel Reviewer, National Aeronautics and Space Administration (NASA) (2018, 2020, 2024).

Panel Reviewer, National Science Foundation (NSF) (2017, 2018, 2020, 2021, 2024)

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

93 unique paper reviews for 32 journals, 3 conferences, and 2 book chapters. Journals listed below:

ACM Computing Surveys, ACTA Astronautica, Aerospace Information Systems, Applied Ergonomics, Aviation, Computer Methods and Programs in Biomedicine, Displays, Engineering Economist, Ergonomics, Frontiers in Psychology, Frontiers in Virtual Reality, Human Factors, IEEE Intelligent Systems, IEEE Transactions on Aerospace and Electronic Systems, IEEE Transactions on Emerging Topics in Computational Intelligence, IEEE Transactions on Human-Machine Systems, IEEE Transactions on Systems, Man, and Cybernetics, Part C, IEEE Transactions on Systems, Man, and Cybernetics--Part A: Systems and Humans, International Journal of Advanced Robotic Systems, International Journal of Engineering Education, International Journal of Environmental Research and Public Health, International Journal of Human-Computer Interaction, International Journal of Human-Computer Interaction (IJHCI), Journal of Aerospace Information Systems, Journal of Aircraft, Journal of Cognitive Engineering and Decision Making, PlusONE, Psychoneuroendocrinology, Safety, Technology in Society, The Journal of Experimental Education, Transactions on Knowledge and Data Engineering, Transactions on Neural Systems & Rehabilitation Engineering

UNIVERSITY SERVICE

Teaching-Focused Service

Member, Game Design Major Curriculum Committee (2023-present).

Chair, Engineering Education Research Strategic Planning, College of Engineering (2023)

Member, COE Engineering Education PhD Working Group (2022)

Member, Graduate College Curriculum Committee, 2019-present

Member, CATME and ABET Task Force (2021)

Coordinator, Team-Based Learning Teaching and Learning Community (2019-2022)

Senior Faculty Mentor, Teaching Partners Program, Center for Excellence in Learning and Teaching (CELT), 2016-2017, 2018-1029, 2019-2020, 2023-2024

Mentor, Team-Based Leaning (TBL) Teaching Teams, 2016

Faculty Mentor, Preparing Future Faculty, 2013, 2019, 2023-2024

CELT Classroom Improvement Study Focus Group for Faculty, 2013

IMSE Graduate Committee, Member, 2014-present

Research-focused Service

Director of Research: Run the IMSE Undergraduate Research Program and the IMSE Early Research Proposal program (2023-present)

Member, OVPR Internal Funding Proposal Evaluation Committee (2021-2024).

Administrative-Focused Service

Member, College Budget Advisory Committee, 2022-present

Member, Faculty Review Board, 2016-2019, 2021-present

Member, Resume Face-to-Face Humans Subjects Research Committee, 2020-present

Member, College of Engineering Honors Program Committee, 2017-present

Engineering-LAS Online Learning (ELO) Search Committee, 2015

IMSE Governance Committee, Chair, 2021; Member, 2019-2021

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

COMMNUNITY 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

Academic Awards and Honors

Morrill Professorship (2024-present), "Iowa State University recognizes faculty members whose professional work has demonstrated outstanding success in teaching and learning in undergraduate, graduate, and/or Extension/outreach programs which is reflected by a national or international reputation in the nominee's discipline."

Joseph Walkup Professor of Industrial and Manufacturing Systems Engineering (2023-present), IMSE Department, Iowa State University

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

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

Professional Credentials, Certifications, or Licensing

Six Sigma Plus Green Belt for Growth, 2001

Six Sigma Green Belt for Design, 2003

Associate Certificate in Program Management, ESI, 2008

Memberships

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.

National Awards

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

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

Publishing Awards

Honorable Mention, Best Paper Award (2024), *ACM CHI conference on Human Factors in Computing Systems*

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*.

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

Best Topic Paper (2006). *Augmented Cognition International Society*.

Industry Awards

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

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 (1999-2012)