Joseph W. Houpt

CONTACT INFORMATION

Wright State University
3640 Colonel Glenn Hwy.
Dayton, OH 45435

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PROFESSIONAL EXPERIENCE

Associate Professor 2017 to present
Assistant Professor 2012 to 2017
Department of Psychology
Wright Sate University
Adjunct Assistant Professor 2016 to present
Department of Psychology
Miami University
Information Visualization Researcher 2011 to 2012
Ball Aerospace & Technologies Corp.
Human Effectiveness Directorate,
Air Force Research Laboratory, Wright Patterson AFB
Research Assistant 2007 to 2012
Mathematical Psychology Lab,
Indiana University

EDUCATION

Indiana University, Bloomington, IN USA
Ph. D., Psychology and Cognitive Science, 2012
- Thesis Topic: *Statistical Measures for the Double Factorial Paradigm*
- Advisor: Professor James T. Townsend

University of Edinburgh, Edinburgh, UK
M.Sc., Artificial Intelligence, 2006
- Awarded with distinction
- Thesis Topic: *Ambiguous Prepositional Phrase Resolution by Humans*
- Advisor: Dr. Frank Keller

University of Utah, Salt Lake City, UT USA
B. S., Mathematics, 2005
- Minors in Cognitive Science and Psychology

PROFESSIONAL AFFILIATIONS

- Society for Mathematical Psychology
- Psychonomic Society (Fellow)
- Society for Computers in Psychology
- Cognitive Science Society
- Human Factors and Ergonomic Society

ACADEMIC AWARDS

- William K. Estes Early Career Award (Society for Mathematical Psychology), 2016
- R. Duncan Luce Outstanding Paper Award (Journal of Mathematical Psychology), 2015
- IU Cognitive Science Program Outstanding Dissertation Award

Scholarship

- Edited Books

  Houpt, J. W. and Blaha, L. M. (Eds.). (2016). *Mathematical Models of Perception and Cognition: A Festschrift for James T. Townsend (Vols. 1–2)*. Psychology Press.

- Chapters in Books

  Fifić, M., Houpt, J. W., and Rieskamp, J. (2019) Response times as identification tools for cognitive processes underlying decisions. In M. Schulte-Mecklenbeck, A. Kühberger, and J. G. Johnson (Eds.), *A Handbook of Process Tracing Methods*, 2nd Ed. New York, NY: Routledge.

  Houpt, J. W., Townsend, J. T., and Jefferson, B. (*in press*). Stochastic foundations of elementary mental architectures. *New Handbook of Mathematical Psychology, Vol. 2.*

  Townsend, J. T., Wenger, M. J., and Houpt, J. W. (*in press*). Uncovering mental architecture and related mechanisms in elementary human perception, cognition and action. In E. J. Wagenmakers (Ed.), *Stevens' Handbook of Experimental Psychology.* Wiley.

  Blaha, L. M., Houpt, J. W., Frame, M. E., and Kern, J. A. (2017). Capturing You Watching You: Characterizing Visual-Motor Dynamics in Touchscreen Interactions. In Weiskopf, D. Burch, M., Chuang, L., Fischer, B., and Schmidt, A. (Eds.), *Eye Tracking and Visualization – ETVIS 2015, Chicago, IL, USA.* Springer.

  Houpt, J. W. and Burns, D. M. (2017). Statistical analyses for Systems Factorial Technology. In D. R. Little, N. Altieri, M. Fifić, & C-T. Yang (Eds.), *Systems Factorial Technology: A Theory Driven Methodology for the Identification of Perceptual and Cognitive Mechanisms.* London: Academic Press.

  Blaha, L. M. and Houpt, J. W. (2016). Combining the Capacity Coefficient with Statistical Learning to Explore Individual Differences. In J. W. Houpt and L. M. Blaha (Eds.), *Mathematical Models of Perception and Cognition.* Psychology Press.

  Lentz, J. J., He, Y., Houpt, J. W., Delong, J. M., and Townsend, J. T. (2016). Processing Characteristics of Monaural Tone Detection: A Reaction Time Perspective on a Classic Psychoacoustic Problem. In J. W. Houpt and L. M. Blaha (Eds.), *Mathematical Models of Perception and Cognition.* Psychology Press.

- Refereed Articles *(32)*

  Glavan, J. J., Haggit, J. M., and Houpt, J. W. (*in press*). Temporal organization of color and shape features during visual search. *Attention, Perception, and Psychophysics.*

  Glavan, J. J. and Houpt, J. W. (*in press*). An Integrated Working Memory Model For Time-Based Resource-Sharing. *Topics in Cognitive Science.*

Glavan, J. J., Fox. E. L., Fifić, M., and Houpt J. W. (2019). Adaptive Design for Systems Factorial Technology Experiments. *Journal of Mathematical Psychology, 92,* 102278.

Garrett, P. M., Howard, Z., Houpt, J. W., Landy, D., and Eidels, A. (2019). Comparative Estimation Systems Perform Under Severely Limited Workload Capacity. *Journal of Mathematical Psychology, 92,* 102255.

Little, D. R., Eidels, A., Houpt, J. W., Garrett, P. M., and Griffiths, D. W. (2019). Systems Factorial Technology analysis of mixture models. *Journal of Mathematical Psychology, 92,* 102229.

Zhang, H., Houpt, J. W., and Harel, A. (*in press*). Establishing reference scales for scene naturalness and openness. *Behavior Research Methods.*

Fisher, C. R., Houpt, J. W., and Gunzelmann, G. (2018). A Comparison of Approximations for Base-level Activation in ACT-R. *Computational Brain and Behavior, 1,* 228-236.

Houpt, J. W. and Bittner, J. L. (2018). Analyzing thresholds and efficiency with hierarchical Bayesian logistic regression. *Vision Research, 148,* 49-58.

Houpt, J. W., Frame, M. E., and Blaha, L. M. (2018). Unsupervised Parsing of Gaze Data with a Beta-process Vector Auto-regressive Hidden Markov Model. *Behavior Research Methods, 50,* 2074-2096.

Houpt, J. W. and Fifić, M. (2017). A Hierarchical Bayesian Approach to Distinguishing Serial and Parallel Processing. *Journal of Mathematical Psychology, 79*, 13-22.

Little, D. R., Eidels, A., Houpt, J. W., and Yang, C.-T. (2017). Set size slope still does not distinguish parallel from serial search. *Behavioral and Brain Sciences, 40*.

Houpt, J. W., Heathcote, A., and Eidels, A. (2017). Bayesian analyses of cognitive architecture. *Psychological Methods, 22,* 288-303.

Hammack, T., Cooper, J., Flach, J., and Houpt, J. W. (2017). Toward an ecological theory of rationality: Debunking the hot hand 'illusion.' *Ecological Psychology, 29*, 50-53.

Houpt, J. W. and Little, D. R. (2017). Statistical Analyses of resilience functions. *Behavior Research Methods, 49,* 1261-1277.

Fox, E. L. and Houpt, J. W. (2016). The perceptual processing of fused multispectral imagery. *Cognitive Research: Principles and Implications, 1*, 1-31.

Houpt, J. W., MacEachern, S. N., Peruggia, M., Townsend, J. T., and Van Zandt, T. (2016). Semiparametric Bayesian approaches to systems factorial technology. *Journal of Mathematical Psychology, 75*, 68-85.

Hawkins, R. D., Houpt, J. W., Eidels, A., and Townsend, J. T. (2016). Can two dots form a Gestalt? Measuring emergent features with the capacity coefficient. *Vision Research, 126*, 19-33.

Heathcote, A., Coleman, J. Eidels, A., Watson, J. M., Houpt, J. W., and Strayer, D. L. (2015). Working memory's workload capacity. *Memory and Cognition, 43*, 973–989.

Godwin, H. J., Walenchok, S., Houpt, J. W., Hout, M. C., and Goldinger, S. D. (2015). Faster than the speed of rejection: Object identification processes during visual search for multiple targets. *Journal of Experimental Psychology: Human Perception and Performance, 41*, 1007-1020.

Endres, M. J., Houpt, J. W., Donkin, C., and Finn, P. R. (2015). Working memory capacity and redundant information processing efficiency. *Frontiers in Quantitative Psychology, 6*.

Houpt, J. W. Sussman, B. L., Newman, S. D., and Townsend, J. T. (2015). Dyslexia and configural perception of character sequences. *Frontiers in Quantitative Psychology, 6*.

Blaha, L. M. and Houpt, J. W. (2015). An extension of workload capacity space for systems with more than two channels. *Journal of Mathematical Psychology, 66*, 1-5.

Donkin, C., Little, D., and Houpt, J. W. (2014). Assessing the speed-accuracy trade-off effect on the capacity of information processing. *Journal of Experimental Psychology: Human Perception and Performance, 40*, 1183-1202.

Houpt, J. W., Blaha, L. M., *McIntire, J. P.*, Havig, P. R., and Townsend, J. T. (2014). Systems Factorial Technology with R. *Behavior Research Methods, 46*, 307-330.

Houpt, J. W., Townsend, J. T., and Donkin, C. (2014). A new perspective on visual word processing efficiency. *Acta Psychologica, 145*, 118-127.

Burns, D., Houpt, J. W., Townsend, J. T., and Endres, M. J. (2013). Functional principal components analysis of workload capacity functions. *Behavior Research Methods, 45*, 1048-1057.

Townsend, J. T., Houpt, J. W., and Silbert, N. H. (2012). General Recognition Theory extended to include response times: Predictions for a class of parallel systems. *Journal of Mathematical Psychology, 56*, 476-494.

Houpt, J. W. and Townsend, J. T. (2012). Statistical Measures for Workload Capacity Analysis. *Journal of Mathematical Psychology, 56*, 341-355.

Houpt, J. W. and Townsend, J. T. (2011). An extension of SIC predictions to the Wiener coactive model. *Journal of Mathematical Psychology, 55*, 267-270.

Eidels, A., Houpt, J. W., Pei, L., Altieri, N., and Townsend, J. T. (2011). Nice guys finish fast, bad guys finish last: Facilitatory vs. inhibitory interaction in parallel systems. *Journal of Mathematical Psychology, 55*, 176-190.

Houpt, J. W. and Townsend, J. T. (2010). The statistical properties of the survivor interaction contrast. *Journal of Mathematical Psychology, 54*, 446-453.

Johnson, S. A., Blaha, L. M., Houpt, J. W., and Townsend, J. T. (2010). Systems factorial technology provides new insights on global–local information processing in Autism Spectrum Disorders. *Journal of Mathematical Psychology, 54*, 53-72.

- Papers Published in Official Proceedings *(14)*

Fox, E. L. and Houpt, J. W. (2018). Quantifying the Effects of Multitasking on Processing Efficiency. In *Proceedings of the Annual Meeting of the Human Factors and Ergonomics Society.* Sage.

Zhang, H. and Houpt, J. W. (2018). When Visual Search Target Is Rare: Overweighting or Underweighting the Probability? In *Proceedings of the Annual Meeting of the Human Factors and Ergonomics Society.* Sage.

Zinn, C., Yamani, Y., Houpt, J. W., and Scott-Sharoni, S. (2018). Assessment Function Analysis of Human-Automation Team Performance: A Reanalysis of Data from Yamani and McCarley (2018). In *Proceedings of the Annual Meeting of the Human Factors and Ergonomics Society.* Sage.

Zhang, H. and Houpt, J. W. (2016). Assessing multispectral image fusion with systems factorial technology. In *Proceedings of the 60th Annual Meeting of the Human Factors and Ergonomics Society.* Sage.

Hammack, T., Flach, J., and Houpt, J. W. (2015). Detecting structure in activity sequences: Exploring the hot hand phenomenon. In *Proceedings of the 59th Annual Meeting of the Human Factors and Ergonomics Society.* Sage.

Houpt, J. W. and Blaha, L. M. (2015). Exploring Individual Differences via Clustering Capacity Coefficient Functions. In D. C. Noelle, R. Dale, A. S. Warlaumont, J. Yoshimi, T. Matlock, C. D. Jennings and P. P. Maglio (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society* (pp. 932-937). Austin, TX: Cognitive Science Society.

Hammack, T., Flach, J., and Houpt, J. W. (2015). Detecting structure in activity sequences: Exploring the hot hand phenomenon. In J. Flach and P. Tsang (Eds.), *Proceedings of the 18th Annual International Symposium on Aviation Psychology.* Dayton, OH. **(N)**

Fox, E. L., *Glavan, J. J.* and Houpt, J. W. (2014). Evaluation of cognitive processing in redundant audio-visual signals. In P. Bello, M. Guarini, M. McShane and B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 475-480). Austin, TX: Cognitive Science Society.

Heathcote, A., Eidels, A., Houpt, J. W., Coleman, J., Watson, J., and Strayer, D. L. (2014). Multitasking in working memory. In P. Bello, M. Guarini, M. McShane and B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 601-606). Austin, TX: Cognitive Science Society.

Chen, X., Howes, A., Lewis, R. L., Myers, C. W., and Houpt, J. W. (2013). Using reinforcement learning to find computationally rational eye movements in the distractor-ratio task. The 1st Multidisciplinary Conference on Reinforcement Learning and Decision Making. **(N)**

Townsend, J. T. and Houpt, J. W. (2012). A new perspective on visual word processing efficiency. 28th Annual Meeting of the ISP. **(N)**

Houpt, J. W. and Townsend, J. T. (2010). A new perspective on visual word processing efficiency. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 1148-1153). Austin, TX: Cognitive Science Society.

Townsend, J. T., Houpt, J. W., Silbert, N. H., and Altieri, N. A. (2009). Toward a new psychophysics based on geometry and stochastic systems theory. 25th Annual Meeting of the ISP. **(N)**

Repperger, D. W., Havig, P. R., Reis, G. A., Farris, K. A., McIntire, J. P., Townsend, J. T., Eidels, A., and Houpt, J. W. (2009). Studies on hazard functions and human performance. *The Ohio Journal of Science*, 109: A-6. **(N)**

- Recent Additional Conference Presentations

Houpt, J. W., Fisher, C. R., and Gunzelmann, G. (2019). Fundamental Tools for Deriving Likelihood Functions for ACT-R Models. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; Montreal, QC.

Fox, E. L. and Houpt, J. W. (2019). A Bayesian Model of Multitasking Efficiency across Time. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; Montreal, QC.

Glavan, J. J. and Houpt, J. W. (2019). Parallel processing of color and shape during visual search. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; Montreal, QC.

Mahoney, L. and Houpt, J. W. (2019). Post-error speeding using an automated aid. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; Montreal, QC.

Glavan, J. J., Houpt, J. W., Camos, V., and Barrouillet, P. (2018). Mapping the effects of cognitive load and delay on serial recall. Poster presented at the Annual Meeting of the Psychonomic Society; New Orleans, LA.

Zhang, H. and Houpt, J. W. (2018). With or without the probability: The description-experience gap in visual search performance. Poster presented at the Annual Workshop on Object Perception, Attention, and Memory; New Orleans, LA.

Houpt, J. W. and Frame, M. E. (2018). Functional ANOVA for analyzing response dynamics. Talk presented at the Annual Meeting of the Society for Computers in Psychology; New Orleans, LA.

Glavan, J. J. and Houpt, J. W. (2018). Extending an integrated computational model of the time-based resource-sharing theory of working memory. Poster presented at the Annual Meeting of the Cognitive Science Society; Madison, WI.

Zinn, C., Houpt J. W., Yamani, Y., and Scott-Sharoni, S. (2018). Gauging human-automation team efficiency with assessment functions. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Cunio, R., Houpt, J. W., McIntire, J. P., and Dommett, D. W. (2018). Multimodal Cueing to Facilitate Spatial Understanding for Virtual Environment Navigation Tasks. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Fox, E. L., Tolston, M., Funke, G. J., Houpt, J. W., Bowers, M., and Miller, B. (2018). Multifractal scaling in team-level heart rate dynamics and its relation to trusting behavior. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Zhang, H. and Houpt, J. W. (2018). The effects of varying intra-letter spacing on word identification capacity. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Fifić, M., Houpt, J. W., and Riskamp, J. (2018). A response time methodology for testing between compensatory or non-compensatory decision strategies using hierarchical Bayesian SFT approach. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Glavan, J. J. and Houpt, J. W. (2018). An Integrated Working Memory Model For Time-Based Resource-Sharing. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; Madison, WI.

Glavan, J. J. and Houpt, J. W. (2018). Talk presented at the Midwest Cognitive Science Conference; Bloomington, IN.

Zinn, C., Yamani, Y., Houpt, J. W., and Scott-Sharoni, S. (2018). Gauging human-automation team efficiency with assessment functions. Poster presented at the Midwest Cognitive Science Conference; Bloomington, IN.

Cunio, R., Houpt, J. W., McIntire, J. P., and Dommett, D. W. (2018). Mutimodal Cueing to Facilitate Spatial Understanding for Virtual Environment Tasks. Poster presented at the Midwest Cognitive Science Conference; Bloomington, IN.

Zhang, H. and Houpt, J. W. (2017). The joint processing of global properties in scene categorization. Poster presented at the 58th Annual Meeting of the Psychonomic Society; Vancouver, BC, Canada.

Houpt, J. W. and Fifić, M. (2017). Adaptive experimental design for systems factorial technology. Talk presented at the 58th Annual Meeting of the Psychonomic Society; Vancouver, BC, Canada.

Houpt, J. W., Frame, M. E., and Blaha, L. M. (2017). Data driven eye gaze Path segmentation. Poster presented at the Annual Meeting of the Cognitive Science Society; London, UK.

Zhang, H. and Houpt, J. W. (2017). Processing global properties in scene categorization. Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

Fox, E. L. and Houpt, J. W. (2017). Analysis of dynamic multispectral video using systems factorial technology (SFT). Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

Glavan. J. J. and Houpt, J. W. (2017). Temporal organization of color and shape processing during target detection in conjunctive visual search. Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

Haggit, J. and Houpt, J. W. (2017). Modeling the Influence of Visual Priming in Feature and Conjunctive Search. Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

Houpt, J. W. and Bittner, J. L. (2017). Analyzing Thresholds and Efficiency with Hierarchical Bayesian Logistic Regression. Talk presented at MODVIS; St. Pete Beach, FL.

Garrett, P. M., Thorpe, A., Landy, D., Houpt, J. W., and Eidels, A. (2016). How do you count? Cognitive processing systems of enumeration. Poster presented at the 57th Annual Meeting of the Psychonomic Society; Boston, MA.

Zhang, H., Houpt, J. W., and Harel, A. (2016). Linear ranking scales of naturalness and openness of scenes. Poster presented at the 57th Annual Meeting of the Psychonomic Society; Boston, MA.

Yang, C.-T., Chen, J., Houpt, J. W., Eidels, A., and Little, D. R. (2016). Visual word processing efficiency for Chinese characters and English words. Poster presented at the 57th Annual Meeting of the Psychonomic Society; Boston, MA.

Houpt, J. W. and Frame, M. E. (2016). Gaze Path Segmentation with the beta process autoregressive hidden Markov model. Talk presented at the Annual Meeting of the Society for Computers in Psychology; Boston; MA.

Walenchok, S., Houpt, J.W., Godwin, H., Hout, M., and Goldinger, S. (2016). Is this object "Gray" or is this object "Not Blue"?: Confirmatory and disconfirmatory strategies influence object identification during visual search. Talk presented at the 24th Annual Workshop on Object Perception, Attention, and Memory; Boston, MA.

Haggit, J. and Houpt, J. W. (2016). An investigation of visual priming mechanisms in visual search. Talk presented at the 24th Annual Workshop on Object Perception, Attention, and Memory; Boston, MA.

Houpt, J. W. and Frame, M. E. (2016). Nonparametric Bayesian dynamic systems analysis applied to a large eyetracking corpus. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; New Brunswick, NJ.

Glavan, J. J. and Houpt, J. W. (2016). Exploring the time-based resource-sharing model through computational modeling. Talk presented at the Annual Meeting of the Society for Mathematical Psychology; New Brunswick, NJ.

Fox, E. L., *Melas, J.*, and Houpt, J. W. (2016). Analysis across multi-sensor image displays using the capacity coefficient. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; New Brunswick, NJ.

Zhang, H., *Melas, J.*, and Houpt, J. W. (2016). Letter spacing and target uncertainty effects on word identification capacity. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; New Brunswick, NJ.

Yang, C.-T., Chen, J., Houpt, J. W., Eidels, A., and Little, D. R. (2016). Visual word processing efficiency for Chinese characters and English words. Poster presented at the Annual Meeting of the Society for Mathematical Psychology; New Brunswick, NJ.

Houpt, J. W., Blaha, L. M., Morris, M. B., and McIntire, J. P. (2016). Revisiting stereoscopic disparity as a feature in visual search. Talk presented at the Annual Interdisciplinary Conference, Breckenridge, Colorado.

- Invited Lectures

  Houpt, J. W. (2017). Quantifying configural perception. Keynote, Configural Processing Consortium; Vancouver, BC, Canada.

  Houpt, J. W. (2017). Toward a cognitive modeling Rosetta Stone. Plenary address, Annual Meeting of the Society for Mathematical Psychology; University of Warwick, UK.

  Houpt, J. W. (2017). Analyzing Visual Search with Mathematical Cognitive Models. University of Southampton; Southampton, UK.

  Houpt, J. W. (2016). Gaussian processes in the study of cognition. Analysis in Motion Initiative Speaker Series. Pacific Northwest National Laboratory; Richland, WA.

  Houpt, J. W. (2016). Stochastic foundations of elementary mental architectures. AFRL Workshop on Probability, Uncertainty and Decision. Wright State University; Dayton, OH.

  Houpt, J. W. (2015). Quantifying configural superiority with the capacity coefficient. University of New South Wales; Sydney, Australia.

  Houpt, J. W. (2015). Quantifying configural superiority with the capacity coefficient. University of Newcastle; Newcastle, Australia.

  Houpt, J. W. (2014). Measuring configural superiority with the capacity coefficient. Keynote at Conference on Theory and Methodology of Configural Perception; Tainan, Taiwan.

  Houpt, J. W. (2014). An introduction to Systems Factorial Technology with R. Workshop at Conference on Theory and Methodology of Configural Perception; Tainan, Taiwan.

  Houpt, J. W., Cox. G. E. and Shiffrin, R. M. (2014). An introduction to Gaussian Processes in psychology. Workshop at the Annual Meeting of the Society of Mathematical Psychology; Quebec, QC.

  Houpt, J. W. (2013). Moving past the mean. Mathematical Models of Perception and Cognition: Essays in Honor of James T. Townsend, Bloomington, IN.

- Scholarship Under Review
  - Refereed Articles

    Blaha, L. M., Houpt, J. W., McIntire, J. P., Fox, E. L., and Morris, M. The pop-out effect of pop-out 3D. *Vision Research.*

    Bowling, N. A., Gibson, A. M., Houpt, J. W., and Brower, C. K. Will the Questions Ever End? Within-Person Increases in Careless Responding during Questionnaire Completion. *Organizational Research Methods.*

    Scott-Sharoni, S., Yamani, Y., Zinn, C., Long, S., Chen, J., and Houpt, Joseph. Exploring the Effects of Perceptual Separability on Human-Automation Team Efficiency. *Human Factors.*

Zhang, H. and Houpt, J. W. Searching with or without probability: The description-experience gap in visual search performance. *Attention, Perception, & Psychophysics.*

- Grants Funded

"Determining the fundamental cognitive properties of decision making," NSF, 2019–2021, $239,880. Role: PI.

"Visual Word Processing Modulated by Reading Experience," National Cheng Kung University Top-Notch Proposal, 2015–2016, $60,000. Role: Co-PI.

"Dynamic Generalizations of Systems Factorial Technology for Modeling Perception of Fused Information," Air Force Office of Scientific Research, 2013–2016, $427,180. Role: PI.

"Towards Understanding Robust Individual and Collaborative Monitoring," Air Force Office of Scientific Research, 2012–2015, $37,100 (of $550,000 total). Role: Key person.

Professional Development Grant, Wright State University, 2014, $3,000.

"Fourth Annual Midwestern Cognitive Science Conference," Air Force Office of Scientific Research, 2014, $4,000. Role: Co-PI.

Teaching Experience

- Graduate Courses Taught
  - History and Systems in Psychology
  - Mathematical Models of Cognition
  - Introduction to Bayesian Data Analysis
  - Introduction to MATLAB for Psychologists
  - Research Design and Quantitative Methods: ANOVA
- Undergraduate Courses Taught
  - Perception Methods
  - Research Methods in Psychology (IU)
- Doctoral Dissertations Supervised
  - Chaired: Joseph Glavan (*in progress*), Elizabeth Fox, Jordan Haggit, Hanshu Zhang
  - Committee Member: Alex Hough (*in progresss*), Jennifer Baumgartner, Beth Bullemer, August Capiola, James Garrett, Tony Gibson, Truman Gore, David Periard, Elizabeth Peyton, Marc Winterbottom, Eric Robinson
- Master's Theses Supervised
  - Chaired: Rachel Cunio, Elizabeth Fox, Joseph Glavan, Hanshu Zhang, Cara Zinn
  - Committee Member: Joseph Borders (*in progress*), Michael Collins (*in progress*), Kevin O'Neill (*in progress*), Hamada Alzoubi, Andrew Fent, Olivia Fox, Taleri Hammack, Elizabeth Mersch, Mavuso Mzozoyana, Clayton Rothwell, George Woodbury (Miami)

Service

- Department Committee
  - Human Factors Area Co-Leader
  - Interdisciplinary Applied Science and Mathematics Academic Policies Committee
  - Instructor Search Committee (2013)
  - Two Postdoctoral Researcher Search Committees (2015, 2016)
  - Methods Lab Improvement Group
- Professional Service
  - Society for Mathematical Psychology Executive Committee (2019-2025)
  - Tutorial Editor
    - *Journal of Mathematical Psychology*
  - Guest Editor
    - *Journal of Mathematical Psychology*
    - *Frontiers in Quantitative Psychology and Measurement*
  - Article Editor
    - *SAGE Open*
  - Ad-hoc Reviewer
    - Funding Proposals: *Air Force Office of Scientific Research, NSF*
    - Conferences: *Cognitive Science Society Annual Meeting, 2009,2010,2014–2018, Human Factors and Ergonomics Society Annual Meeting, 2015–2018, International Conference on Cognitive Modeling, 2017, 2018*
    - Edited Collections: *Oxford Handbook of Computational and Mathematical Psychology*, *Systems Factorial Technology: A Theory Driven Methodology for the Identification of Perceptual and Cognitive Mechanisms*
    - Journals: *Attention Perception and Psychophysics*, *Behavior Research Methods*, *Cognition*, *Cognitive Psychology*, *Decision*, *Frontiers in Psychology*, *Journal of Computational Neuroscience*, *Journal of Experimental Psychology: Human Perception and Performance*, *Journal of Experimental Psychology: Learning, Memory and Cognition*, *Journal of Mathematical Psychology*, *PLOS ONE*, *PNAS*, *Poznan Studies in Contemporary Linguistics*, *Psychonomic Bulletin & Review*, *Seeing and Perceiving*
  - Organizing Committee
    - *Society for Mathematical Psychology Annual Meeting (co-chair), 2018*
    - *Configural Processing Consortium Annual Meeting, 2011–2018*
    - *Mathematical Models of Perception and Cognition: Essays in Honor of James T. Townsend*
    - *Midwestern Cognitive Science Conference (co-chair), Spring 2014*
  - Program Committee
    - Cognitive Science Society Annual Meeting, 2016, 2017
  - Subject Matter Expert
    - Human performance section at the 2013 Wright Dialogue with Industry, Dayton, OH
- Consulting
  - Ball Aerospace in support of the Air Force Research Laboratory, RHCV
  - L3 Communications Corporation in support of the Air Force Research Laboratory, RHA
  - Battelle Memorial Institute in support of the Pacific Northwest National Laboratory, Analysis in Motion Initiative
- Training

- Organized biweekly reading group focused on Bayesian data analysis with 5–15 participants, including WSU faculty and students, Air Force Researchers and local industry researchers. (2013, 2019)
- Organized weekly reading group focused on time series analysis with 5–15 participants, including WSU students and Air Force Researchers. (2016)