Paul C. Parsons

Curriculum Vitae

School of Applied and Creative Computing
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Research interests: Human–computer interaction, data visualization, and design cognition; judgment and coordination in complex sociotechnical systems; user experience for scientific cyberinfrastructure.

APPOINTMENTS

2022 – Present	Associate Professor with tenure, School of Applied and Creative Computing, Purdue University
2015 – 2022	Assistant Professor, Department of Computer Graphics Technology, Purdue University
2013 – 2015	Research Scientist, IBM Research, Toronto, Canada

EDUCATION

2013	PhD, Computer Science, University of Western Ontario
2007	BS, Computing & Cognitive Science, Queen's University at Kingston

HONORS AND AWARDS

2025	Best Paper Award, IEEE VIS, for [J18]. One of five selected from 537 submissions (approximately the top 1%).
2024	Charles B. Murphy Award for Outstanding Undergraduate Teaching: Purdue Polytechnic Institute recipient and university-level nominee.
2024	Most Distinguished Faculty for Research, Purdue University. Student-nominated "Favorite Faculty" recognition for research mentorship.
2022	National Science Foundation CAREER Award. Supports early-career faculty integrating research and education.
2021	Outstanding Design Case of the Year, American Educational Research Association (AERA), Design and Technology SIG, for [J13].
2019	Emerald Literati Award for Outstanding Paper, Emerald Publishing, for [J11]; selected by the journal's editorial advisory board.
2019	Outstanding Faculty in Discovery, Department of Computer Graphics Technology, Purdue University. Departmental research award.
2018	Seed for Success Award, Purdue University. Recognizes research teams securing external awards of $1 million or more.

RESEARCH FUNDING

More than $2 million in external funding under my responsibility.

External Funding

CI CoE: SGX3 — A Center of Excellence to Extend Access, Expand the Community, and Exemplify Good Practices for CI Through Science Gateways
NSF, via University of California San Diego | 2022 – 2027 | PI on sub-award
Total award: $7,499,975; personal responsibility: $296,056

CAREER: Supporting Data Visualization Design Practice
NSF | 2022 – 2027 | PI
Total award: $540,222; full award under my responsibility

Resilient Extra Terrestrial Habitats Institute (RETHi)
NASA | 2019 – 2024 | Co-PI
Total award: $17,000,000; personal responsibility: $500,000

CRII: CHS: Understanding cognitive potentials of interactive visualizations
NSF | 2018 – 2021 | PI
Total award: $194,650; full award under my responsibility

S2I2: Impl.: The Science Gateways Community Institute (SGCI) for the Democratization and Acceleration of Science
NSF, via University of California San Diego | 2016 – 2022 | PI on sub-award
Total award: $15,015,000; personal responsibility: $583,746

Beyond Boundaries: Exploring Transdisciplinary Potential in Visualization
NASA, via James Madison University | 2017 – 2019 | PI
Total award: $4,000; personal responsibility: $2,000

Implementation of Paperless Lean Manufacturing Process to Improve Productivity and Quality Assurance
Indiana Next Generation Manufacturing Competitiveness Center (INMaC) | 2017 | PI
Total award: $47,580

Amounts include REU supplements where applicable and are rounded to the nearest dollar.

Internal Funding

Investigating the Role of Spatial Ability in Learning with Holograms
Purdue Polytechnic Seed Grant | 2019 – 2021 | Co-PI | Total award: $8,000

Investigating 3D AR Holograms for Visualization-Based Activities
Purdue Research Foundation Summer Faculty Grant | 2018 | PI | Total award: $10,400

Purdue IMPACT
Purdue University | 2017 – 2018 | PI | Total award: $10,000

Design of Visual Analytics Tools for Dynamic Decision-Making Under Uncertainty
Purdue Polytechnic Postdoctoral Fellowship Competition | 2016 – 2018 | Co-PI | Total award: $100,000

PUBLICATIONS

- In all publications my name is bolded.
- The first author is typically the lead author, with decreasing contribution corresponding to author order. However, with students I am advising, I am often last author.
- The following superscripts are used: [G] for graduate student; [U] for undergraduate student; [P] for postdoc; * for principal author.
- In the research area of human-computer interaction, conference papers are often viewed as having equal or higher prominence than journal papers. These conference papers are peer-reviewed.
- Acceptance rates (AR) are listed where known.

Conference and Symposium Papers (peer-reviewed)

C32. **Parsons, P. C.**[*], & Abdulsalam, H. (2026). Supporting AI-Assisted UX Evaluation in Scientific Cyberinfrastructure: An Interaction-Profile Perspective. *Gateways 2026*. Washington, DC.

C31. **Parsons, P. C.** (2026). Myths and Ironies of AI-Assisted Design. *ACM Conference on Designing Interactive Systems (DIS 2026)* (pp. 523–535). Singapore. [AR: 21%] https://doi.org/10.1145/3800645.3813086

C30. **Parsons, P.**[*], Agrawal, S., Bui, P., Shukla, P., & Baigelenov, A. (2026). Bias Reconsidered: Ecologically Rational Heuristics in Design Cognition. *Proceedings of DRS 2026*. Edinburgh, UK. [AR: 30–35%] https://doi.org/10.21606/drs.2026.2581

C29. Baigelenov, A.[G*], Shukla, P.[G], Bui, P.[U], & **Parsons, P.**[*] (2026). Talking Inspiration: A Discourse Analysis of Data Visualization Podcasts. *CHI '26: Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems* (pp. 1–11). Barcelona, Spain. [AR: 25.3%] https://doi.org/10.1145/3772318.3791537

C28. **Parsons, P. C.**[*], & Ridley, A. (2025). Judgment as Coordination: A Joint Systems View of Visualization Design Practice. *IEEE Visualization Conference (IEEE VIS '25), short papers*. Vienna, Austria. [AR: 34.2%] https://doi.org/10.1109/VIS60296.2025.00062

C27. **Parsons, P. C.** (2025). Rethinking UX for Sustainable Science Gateways: Orientations from Practice. *10th Annual Conference on Science Gateways (Gateways '25)*. Green Bay, WI. https://doi.org/10.5281/zenodo.17450247

C26. **Parsons, P. C.**[*], & Toombs, A. L. (2025). Teaching to Fail (Before It Happens): Premortem as a Pedagogical Strategy in HCI Education. *7th Annual Symposium on HCI Education (EduCHI '25)*. Bloomington, IN. ACM. [AR: 75%] https://doi.org/10.1145/3742901.3742908

C25. Toombs, A. L.[*], **Parsons, P. C.**, Gray, C. M., El-Shamy, J., & Ostrowski, A. K. (2025). The Ambiguity Amoeba and other Metaphors: Teaching Students to Sketch and Prototype Through Uncertainty. *7th Annual Symposium on HCI Education (EduCHI '25)* (pp. 1–10). Bloomington, IN. ACM. [AR: 75%] https://doi.org/10.1145/3742901.3742916

C24. Shukla, P. C.[G*], Naik, S.[G], Obi, I.[G], Backus, J.[G], Rasche, N., & **Parsons, P. C.** (2025). Rethinking Citation of AI Sources in Student-AI Collaboration within HCI Design Education. *7th Annual Symposium on HCI Education (EduCHI '25)* (pp. 1–8). Bloomington, IN. ACM. [AR: 75%] https://doi.org/10.1145/3742901.3742909

C23. Shukla, P. C.[G*], Bui, P.[U], & **Parsons, P.** (2025). Coping with Uncertainty in UX Design Practice: Practitioner Strategies and Judgment. *C&C '25: Proceedings of the 17th ACM Conference on Creativity and Cognition* (pp. 626–636). [AR: 20.4%] https://doi.org/10.1145/3698061.3726913

C22. Baigelenov, A.[G*], Shukla, P. C.[G], & **Parsons, P.** (2025). How visualization designers perceive and use inspiration. *CHI '25: Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*. Yokohama, Japan. [AR: 24.9%] https://doi.org/10.1145/3706598.3714191

C21. **Parsons, P. C.**[*], Krishnaraj, S.[G], Berent-Spillson, M.[U], & Gerber, J.[U] (2024). What is User Experience to Science Gateways? *9th Annual Conference on Science Gateways (Gateways '24)*. Bozeman, MT. https://doi.org/10.5281/zenodo.13864426

C20. Obi, I.[G*], Naik, S.[G], Gray, C. M., **Parsons, P. C.**, Toombs, A. L., Jo, M.[G], & Mondan, P.[G] (2024). Metacognitive Strategies to Foster Interculturally-Aware Design Competency. *6th Annual Symposium on HCI Education (EduCHI '24)*. NY, NY. ACM. [AR: 59%] https://doi.org/10.1145/3658619.3658624

C19. Toombs, A. L.[*], & **Parsons, P. C.** (2024). Navigating Complexity: Implementing a "Buckets and Lenses" Approach to Cultivate Adaptive Thinkers in HCI. *6th Annual Symposium on HCI Education (EduCHI '24)*. NY, NY. ACM. [AR: 59%] https://doi.org/10.1145/3658619.3658625

C18. Zhang, Z.[G*], & **Parsons, P.**[*] (2023). Designing visual displays for deep space habitats: Challenges and opportunities from a cognitive task analysis with ISS mission control. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting, 67(1)*. Washington, DC. https://doi.org/10.1177/21695067231200875

C17. **Parsons, P. C.**[*], Shukla, P.[G], Baigelenov, A.[G], & Gray, C. M. (2023). Developing Framing Judgment Ability: Student Perceptions from a Graduate UX Design Program. *Proceedings of the 5th Annual Symposium on HCI Education (EduCHI '23)* (pp. 23–32). Hamburg, Germany. https://doi.org/10.1145/3587399.3587401

C16. **Parsons, P.**[*], & Gray, C. M. (2022). Separating Grading and Feedback in UX Design Studios. *EduCHI '22: 4th Annual Symposium on HCI Education at ACM CHI 2022*. New Orleans, LA.

C15. **Parsons, P.**[*], Shukla, P. C.[G], & Park, C.[G] (2021). Fixation and Creativity in Data Visualization Design: Experiences and Perspectives of Practitioners. *IEEE Visualization Conference (IEEE VIS 2021) short papers*. New Orleans, LA (virtual due to COVID). [AR: 29%]

C14. **Parsons, P.**[*], & Shukla, P. C.[G] (2020). Data Visualization Practitioners' Perspectives on Chartjunk. *IEEE Visualization Conference (IEEE VIS 2020) short papers*. Salt Lake City, UT (virtual due to COVID). https://doi.org/10.1109/VIS47514.2020.00049

C13. **Parsons, P.**[*], Gray, C. M., Baigelenov, A.[G], & Carr, I.[U] (2020). Design Judgment in Data Visualization Practice. *IEEE Visualization Conference (IEEE VIS 2020) short papers*. Salt Lake City, UT (virtual due to COVID). https://doi.org/10.1109/VIS47514.2020.00042

C12. **Parsons, P.**[*], Chen, Y.-C.[G], Ho, Y.-S.[G], Groothuis, K.[U], Dentler, B.[U], Stirm, C., Gesing, S., & Zentner, M. (2020). Common Usability Problems and Solutions for Science Gateways. *5th Annual Science Gateways Conference*. Baltimore, MD (virtual due to COVID). https://doi.org/10.17605/OSF.IO/4TUZ9

C11. Watkins, C.[G], Gray, C. M.[*], Toombs, A. L., & **Parsons, P.** (2020). Tensions in Enacting a Design Philosophy in UX Practice. *DIS '20: Proceedings of the Designing Interactive Systems Conference 2020* (pp. 2107–2118). New York, NY: ACM Press. Eindhoven, NL (virtual due to COVID). [AR: 24%] https://doi.org/10.1145/3357236.3395505

C10. **Parsons, P.**[*], Gesing, S., Stirm, C., & Zentner, M. (2020). SGCI Incubator and its Role in Workforce Development: Lessons Learned from Training, Consultancy, and Building a Community of Community-Builders for Science Gateways. *Proceedings of the 2020 ACM Conference on Practice and Experience in Advanced Research Computing (PEARC '20)*, short papers. Portland, OR (virtual due to COVID). [AR: 68%] https://doi.org/10.1145/3311790.3400850

C9. Karabiyik, T.[P*], Magana, A. J., **Parsons, P.**, & Seah, Y. Y.[G] (2020). Characterizing students' design strategies during simulation-based engineering of sustainable buildings. *Proceedings of the 2020 ASEE Annual Conference & Exposition*. Montreal, Canada (virtual due to COVID).

C8. **Parsons, P.**[*], Gray, C. M., Rasche, N. J., & Toombs, A. L. (2020). Vertical Integration in UX Design Studios. *2nd Annual ACM SIGCHI Symposium on HCI Education (EduCHI 2020) at CHI 2020*. Honolulu, HI (virtual due to COVID). [AR: 48%]

C7. Gonzalez-Torres, A.[*], Byrd, V. L., & **Parsons, P.** (2019). VKE: a Visual Analytics Tool for Cybersecurity Data. In *Proceedings of the 2019 International Conference on Security and Management (SAM '19)* (pp. 56–62). Las Vegas, NV.

C6. Vorvoreanu, M., Gray, C. M.[*], **Parsons, P.**, & Rasche, N. J. (2017). Advancing UX Education: A Model for Integrated Studio Pedagogy. *CHI '17: Proceedings of the 2017 ACM Conference on Human Factors in Computing Systems* (pp. 1441–1446). [AR: 25%] https://doi.org/10.1145/3025453.3025726

C5. **Parsons, P.**[*], Sedig, K., Didandeh, A., & Khosravi, A. (2015). Interactivity in Visual Analytics: Use of Conceptual Frameworks to Support Human-Centered Design of a Decision-Support Tool. *Hawaii International Conference on System Sciences* (pp. 1138–1147). IEEE. https://doi.org/10.1109/HICSS.2015.138

C4. **Parsons, P.**[G*], & Sedig, K. (2012). Toward a holistic framework for human-information interaction. *Canadian Association for Information Science*. Waterloo, ON.

C3. Sedig, K.[*], & **Parsons, P.**[G*] (2012). Enhancing the epistemic utility of physical information spaces through digital information interfaces. *IASTED Conference on Human-Computer Interaction*. Baltimore, MD. https://doi.org/10.2316/P.2012.772-019

C2. Sedig, K., & **Parsons, P.**[G*] (2010). Representations of Information Spaces in Educational Tools. *World Conference on Educational Multimedia, Hypermedia and Telecommunications* (pp. 905–910). AACE. www.editlib.org/p/34742.

C1. **Parsons, P.**[G*], & Sedig, K. (2010). Utility of Interaction in Knowledge-Oriented Activities. *World Conference on Educational Multimedia, Hypermedia and Telecommunications* (pp. 895–904). AACE. www.editlib.org/p/34741.

Journal Articles (peer-reviewed)

J21. **Parsons, P. C.**[*], Gray, C. M., & Baigelenov, A.[G] (2027). Design Knowledge in Data Visualization: Mapping the Epistemic Landscape. *IEEE Transactions on Visualization and Computer Graphics* (Proc. IEEE VIS '26). Forthcoming. [AR: 24.5%]

J20. **Parsons, P. C.**[*], Shukla, P.[G], Bui, P.[U], Agrawal, S.[G], & Baigelenov, A.[G] (2027). Situatedness in Visualization Design: Making Unresolved Work Actionable. *IEEE Transactions on Visualization and Computer Graphics* (Proc. IEEE VIS '26). Forthcoming. [AR: 24.5%]

J19. Zhang, Z.[G*], Manikkan, S.[G], Krishnan, M.[G], Azimi, M.[P], Vaccino, L.[G], Wang, J.[G], Xue, C.[G], Dyke, S. J., Bilionis, I., Han, S., & **Parsons, P.**[*] (2026). Managing delay-induced challenges in remote monitoring of uncrewed space habitats: The impact of forecasting telemetry visualizations. *Acta Astronautica*, 241, 1–18. https://doi.org/10.1016/j.actaastro.2025.12.036

J18. **Parsons, P. C.**[*], & Shukla, P. C.[G] (2026). Beyond Problem Solving: Framing and Problem–Solution Co-Evolution in Data Visualization Design. *IEEE Transactions on Visualization and Computer Graphics* (Proc. IEEE VIS '25), 32(1), 24–34. [AR: 24.4%] [best paper award] https://doi.org/10.1109/TVCG.2025.3633866

J17. Murali Krishnan, R.[G*], Zhang, Z.[G], Hao, K.[G], Manikkan, S.[G], **Parsons, P.**, Dyke, S. J., Bilionis, I., Wang, J.[G], Xue, C.[G], Han, S., & Azimi, M.[P] (2025). HabSim-HMS: A Systems Testbed to Investigate Situational Awareness for Extraterrestrial Habitation. *AIAA Journal*, 63(2), 389–403. https://doi.org/10.2514/1.J064693

J16. Lu, F., Nanjappan, V., **Parsons, P.**, Yu, L., & Liang, H.-N.[*] (2023). Effect of display platforms on spatial knowledge acquisition and engagement: an evaluation with 3D geometry visualizations. *Journal of Visualization*, 26, 667–686. https://doi.org/10.1007/s12650-022-00889-w

J15. Karabiyik, T.[P*], Magana, A. J., **Parsons, P.**, & Seah, Y. Y.[G] (2023). Pedagogical approaches for eliciting students' design thinking strategies: tell-and-practice vs. contrasting cases. *International Journal of Technology and Design Education*, 33(3), 1087–1119. https://doi.org/10.1007/s10798-022-09757-y

J14. **Parsons, P.**[*] (2022). Understanding Data Visualization Design Practice. *IEEE Transactions on Visualization and Computer Graphics* (Proc. IEEE VIS '21), 28(1), 665–675. [AR: 24.9%] https://doi.org/10.1109/TVCG.2021.3114959

J13. Gray, C. M.[*], **Parsons, P.**, Toombs, A. L., Rasche, N., & Vorvoreanu, M. (2020). Designing an Aesthetic Learner Experience: UX, Instructional Design, and Design Pedagogy. *International Journal of Designs for Learning*, 11(1), 41–58. [best paper award] https://doi.org/10.14434/ijdl.v11i1.26065

J12. Vieira, C.[P*], **Parsons, P.**[*], & Byrd, V. (2018). Visual Learning Analytics of Educational Data: A Systematic Literature Review and Research Agenda. *Computers & Education*, 122, 119–135. https://doi.org/10.1016/j.compedu.2018.03.018

J11. Du, W.[G*], Qian, Z. Y., **Parsons, P.**, & Chen, Y.[*] (2018). Personal Web Library: Organizing and Visualizing Web Browsing History. *International Journal of Web Information Systems*, 14(2), 212–232. [best paper award] https://doi.org/10.1108/IJWIS-09-2017-0065

J10. Demelo, J.[G], **Parsons, P.**[*], & Sedig, K. (2017). Ontology-Driven Search and Triage: Design of a Web-Based Visual Interface for MEDLINE. *JMIR Medical Informatics*, 5(1), e4. https://doi.org/10.2196/medinform.6918

J9. Sedig, K.[*], **Parsons, P.**[*], & Haworth, R. P. (2017). Player–Game Interaction and Cognitive Gameplay: A Taxonomic Framework for the Core Mechanic of Videogames. *Informatics*, 4(1), Article 4. https://doi.org/10.3390/informatics4010004

J8. Sedig, K.[*], **Parsons, P.**[*], Liang, H.-N., & Morey, J. (2016). Supporting sensemaking of complex objects with visualizations: Visibility and complementarity of interactions. *Informatics*, 3(4), Article 20. https://doi.org/10.3390/informatics3040020

J7. Sedig, K.[*], **Parsons, P.**[*], Naimi, A.[G], & Willoughby, K.[G] (2015). Reconsidering healthcare evidence as dynamic and distributed. *International Journal of Evidence-Based Healthcare*, 13(2), 43–51. https://doi.org/10.1097/XEB.0000000000000030

J6. **Parsons, P.**[*], & Sedig, K. (2014). Adjustable properties of visual representations: Improving the quality of human-information interaction. *Journal of the Association for Information Science and Technology*, 65(3), 455–482. https://doi.org/10.1002/asi.23002

J5. Haworth, R.[G*], **Parsons, P.**[G], & Sedig, K. (2013). Design of digital cognitive games: Some considerations. *Cognitive Technology*, 18(1), 22–27.

J4. Sedig, K.[*], & **Parsons, P.**[G*] (2013). Interaction Design for Complex Cognitive Activities with Visual Representations: A Pattern-Based Approach. *AIS Transactions on Human-Computer Interaction*, 5(2), 84–133. http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1057&context=thci.

J3. Sedig, K.[*], **Parsons, P.**[G], Dittmer, M.[G], & Ola, O.[G] (2012). Beyond information access: Support for complex cognitive activities in public health informatics tools. *Online Journal of Public Health Informatics*, 4(3). http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3615827/.

J2. Sedig, K., **Parsons, P.**[G*], & Babanski, A.[G] (2012). Towards a characterization of interactivity in visual analytics. *Journal of Multimedia Processing Technologies*, 3(1), 12–28.

J1. Liang, H.-N.[G*], **Parsons, P.**[G], Wu, H.-C.[G], & Sedig, K. (2010). An exploratory study of interactivity in visualization tools: 'Flow' of interaction. *Journal of Interactive Learning Research*, 21(1), 5–45. www.editlib.org/p/32419.

Late-Breaking Work and Work-in-Progress Papers

L7. Naik, S.[G*], Shukla, P. C.[G*], Obi, I.[G], Backus, J.[G], Rasche, N., & **Parsons, P. C.** (2025). Tracing the Invisible: Understanding Students' Judgment in AI-Supported Design Work. *C&C '25 Posters: Proceedings of the 17th ACM Conference on Creativity and Cognition, Posters Track* (pp. 438–442). https://doi.org/10.1145/3698061.3734399

L6. Baigelenov, A.[G*], Shukla, P. C.[G], Zhang, Z.[G], & **Parsons, P. C.**[*] (2025). Are Cognitive Biases as Important as they Seem for Data Visualization? *CHI EA '25: Extended Abstracts of the 2025 CHI Conference on Human Factors in Computing Systems*. Yokohama, Japan. [AR: 32.7%] https://doi.org/10.1145/3706599.3719926

L5. Shukla, P. C.[G*], Bui, P.[U], Levy, S. S.[U], Kowalski, M.[U], Baigelenov, A.[G], & **Parsons, P. C.**[*] (2025). De-skilling, Cognitive Offloading, and Misplaced Responsibilities: Potential Ironies of AI-Assisted Design. *CHI EA '25: Extended Abstracts of the 2025 CHI Conference on Human Factors in Computing Systems*. Yokohama, Japan. [AR: 32.7%] https://doi.org/10.1145/3706599.3719931

L4. Shukla, P. C.[G*], Naik, S.[G], Obi, I.[G], Bui, P.[U], & **Parsons, P. C.** (2024). Communication Challenges Reported by UX Designers on Social Media: An Analysis of Subreddit Discussions. *CHI EA '24: Extended Abstracts of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI LBW)* (pp. 1–6). Honolulu, HI. ACM. [AR: 33.9%] https://doi.org/10.1145/3613905.3650881

L3. **Parsons, P.**[*], Baigelenov, A.[G], Hung, Y.-H.[G], & Schrank, C.[U] (2020). What Design Methods do DataVis Practitioners Know and Use? *Extended Abstracts of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI LBW)* (pp. 1–8). ACM. Honolulu, HI (virtual due to COVID). [AR: 41.8%] https://doi.org/10.1145/3334480.3383048

L2. Baigelenov, A.[G], & **Parsons, P.**[*] (2018). Interactivity Factors in Visualization-Based Exploratory Search. *CHI EA '18: Extended Abstracts on Human Factors in Computing Systems* (pp. 1–6). [AR: 39.9%] https://doi.org/10.1145/3170427.3188558

L1. Hung, Y.-H.[G*], & **Parsons, P.**[*] (2017). Assessing User Engagement in Information Visualization. *CHI EA '17: Extended Abstracts on Human Factors in Computing Systems* (pp. 1708–1717). [AR: 38.7%] https://doi.org/10.1145/3027063.3053113

Workshop Papers

W19. **Parsons, P.** (2026). Judging How to Think with AI as a Tool for Thought. *CHI 2026 Workshop on Tools for Thought: Understanding, Protecting, and Augmenting Human Cognition with Generative AI — From Vision to Implementation*. Barcelona, Spain.

W18. **Parsons, P. C.** (2025). Visualization Was Here: Reorienting Research When Visualizations Fade into the Background. *4th alt.VIS Workshop (alt.VIS 2025) at IEEE VIS*. Vienna, Austria.

W17. Shukla, P. C.[G*], & **Parsons, P.** (2025). Identifying Framing Practices in Visualization Design through Practitioner Reflections. *7th Workshop on Visualization for Communication (VisComm)* (pp. 1–5). Vienna, Austria. https://doi.org/10.1109/VisComm69388.2025.00005

W16. Toombs, A. L.[*], Montague, K., Wong, R. Y., Brewer, R. N., Naik, S., **Parsons, P. C.**, Sabanovic, S., & Whitley, D. (2025). "Oops, PAIA did it again": Navigating Future Social Boundaries with Personal AI Assistants That Talk to Us and Each Other. *20th Annual iConference*. Bloomington, IN.

W15. Toombs, A. L.[*], Montague, K., Wong, R. Y., Brewer, R. N., Naik, S., **Parsons, P. C.**, Sabanovic, S., & Whitley, D. (2024). Future Dialogues: Personal AI Assistants and Their Interactions with Us and Each Other. In *Companion Publication of the 2024 Conference on Computer-Supported Cooperative Work and Social Computing (CSCW '24)* (pp. 675–678). https://doi.org/10.1145/3678884.3687139

W14. **Parsons, P.** (2023). Preparing Future Data Visualization Designers for Professional Practice. *IEEE VIS Workshop on Visualization Education, Literacy, and Activities (EduVis '23)*. Melbourne, Australia.

W13. Shukla, P. C.[G*], & **Parsons, P.**[*] (2023). How visualization designers' assumptions can mislead in communicating with visualizations. *IEEE VIS Workshop on Visualization for Communication (VisComm '23)*. Melbourne, Australia.

W12. Gray, C. M., & **Parsons, P. C.** (2023). Building Student Capacity to Engage with Design Methods. *Proceedings of the 5th Annual Symposium on HCI Education (EduCHI '23)* (pp. 19–22). Hamburg, Germany. https://doi.org/10.1145/3587399.3587415

W11. **Parsons, P.**[*], & Shukla, P. C.[G] (2022). Considering the Role of Guidelines in Visualization Design Practice. *4th IEEE VIS Workshop on Visualization Guidelines in Research, Design, and Education (VisGuides '22)*. Oklahoma City, OK.

W10. Shukla, P. C.[G*], & **Parsons, P.**[*] (2022). Negotiating Visualization Minimalism: a preliminary analysis of Twitter Conversations. *IEEE VIS Workshop on Visualization for Communication (VisComm '22)*. Oklahoma City, OK.

W9. **Parsons, P.**[*], Zhang, Z.[G], & Murray, J.[U] (2022). Adaptive Performance: A Generative Theory for HCI Design in Extraterrestrial Habitats. *SpaceCHI 2.0: Advancing Human-Computer Interaction for Space Exploration*. A Workshop at ACM CHI 2022. New Orleans, LA.

W8. **Parsons, P.**[*], & Zhang, Z.[G] (2022). Visual Communication of Potential Anomalies with Boundary Lines in ISS Mission Control. *IEEE VIS Workshop on Visualization for Communication (VisComm '22) Late-Breaking Work*. Oklahoma City, OK.

W7. **Parsons, P.*** (2020). How Do Visualization Designers Think? Design Cognition as a Core Aspect of Visualization Psychology. *Workshop on Visualization Psychology at IEEE VIS 2020*. Salt Lake City, UT (virtual due to COVID).

W6. Murdoch-Kitt, K., Gray, C. M.*, **Parsons, P.**, Toombs, A. L., Louw, M., & Van Gent, E. (2019). Developing Students' Instrumental Judgment Capacity for Design Research Methods. *Dialogue: Proceedings of the AIGA Design Educators Community Conferences (Decipher, Vol. 1)* (pp. 108–115). https://doi.org/10.3998/mpub.11688977

W5. **Parsons, P.*** (2018). Conceptual Metaphor Theory as a Foundation for Communicative Visualization Design. *IEEE VIS Workshop on Visualization for Communication (VisComm)*. Berlin, Germany.

W4. Hung, Y.-H.G*, & **Parsons, P.*** (2018). Affective Engagement for Communicative Visualization: Quick and Easy Evaluation using Survey Instruments. *IEEE VIS Workshop on Visualization for Communication (VisComm)*. Berlin, Germany.

W3. Saenz, M.G, Baigelenov, A.G, Hung, Y.-H.G, & **Parsons, P.*** (2017). Reexamining the cognitive utility of 3D visualizations using augmented reality holograms. *Workshop on Immersive Analytics: Exploring Future Interaction and Visualization Technologies for Data Analytics (Immersive 2017)*.

W2. Vieira, C.P*, **Parsons, P.**, & Byrd, V. L. (2017). Exploring important and difficult concepts to learn in information visualization. *2nd Pedagogy of Data Visualization Workshop (PDVW 2017)*.

W1. **Parsons, P.***, Sedig, K., Mercer, R. E., Khordad, M., Knoll, J., & Rogan, P. (2015). Visual analytics for supporting evidence-based interpretation of molecular cytogenomic findings. *Proceedings of the 2015 Workshop on Visual Analytics in Healthcare (VAHC '15) at IEEE VIS* (pp. 1–8). New York, New York, USA: ACM Press. https://doi.org/10.1145/2836034.2836036

Poster, Demonstration, and Presentation Abstracts

A6. Montague, K.*, Jackson, D., Briggs, P., Talhouk, R., Carvalho, L., Scott, L., Lawson, S., Toombs, A. L., Gray, C. M., **Parsons, P.**, Nicolau, H., Pires, A. C., Guerreiro, T., & Vines, J. (2026). Slide.Bingo: From Passive Attendance to Active Listening Through AI-Generated Bingo. *CHI EA '26: Extended Abstracts of the 2026 CHI Conference on Human Factors in Computing Systems* (pp. 1–5). Barcelona, Spain. https://doi.org/10.1145/3772363.3799376

A5. Rasche, N. J.*, & **Parsons, P.** (2021). Student Participation in Shaping "Company" Culture in a Multi-level Industry Engagement Studio. *Technological University Dublin: Polytechnic Summit 2021*. [Oral presentation abstract]

A4. Kao, D.*, Mousas, C., Magana, A. J., Harrell, D., Ratan, R., Melcer, E., Sherrick, B., **Parsons, P.**, & Gusev, D. A. (2020). Hack.VR: A Programming Game in Virtual Reality. *International Conference on the Foundations of Digital Games, Demo Papers*. Malta (virtual due to COVID).

A3. **Parsons, P.***, Hung, Y.-H.G, & Baigelenov, A.G (2018). Toward an Analysis of Practitioner-Oriented Resources for Visualization Design. *IEEE VIS '18: Proceedings of the IEEE Conference on Information Visualization (InfoVis), Poster Abstracts* (pp. 2).

A2. Baigelenov, A.G, Saenz, M.G, Hung, Y.-H.G, & **Parsons, P.*** (2017). Toward an understanding of observational advantages in information visualization. *IEEE VIS '17: Proceedings of the IEEE Conference on Information Visualization (InfoVis), Poster Abstracts*.

A1. Hung, Y.-H.G*, & **Parsons, P.*** (2017). Evaluating user engagement in information visualization using mixed methods. *IEEE VIS '17: Proceedings of the IEEE Conference on Information Visualization (InfoVis), Poster Abstracts* (pp. 2).

Books

B1. Sedig, K.*, & **Parsons, P.*** (2016). *Design of visualizations for human-information interaction: A pattern-based framework* (1st ed.). Synthesis Lectures on Visualization. Morgan & Claypool. https://doi.org/10.2200/S00685ED1V01Y201512VIS005

Book Chapters

BC12. **Parsons, P.*** (2023). Design Cognition in Data Visualization. In M. Chen, D. Albers Szafir, R. Borgo, L. Padilla, D. J. Edwards, & B. Fisher (Eds.), *Visualization Psychology* (pp. 197–215). Springer. https://doi.org/10.1007/978-3-031-34738-2_8

BC11. Gray, C. M.*, Williams, R. M., **Parsons, P.**, Toombs, A. L., & Westbrook, A.U (2023). Trajectories of Student Engagement with Social Justice-Informed Design Work. In B. Hokanson, M. Exter, M. Schmidt, & A. Tawfik (Eds.), *Toward Inclusive Learning Design: Social Justice, Equity, and Community* (pp. 289–301). Educational Communications and Technology: Issues and Innovations book series. Switzerland: Springer. https://doi.org/10.1007/978-3-031-37697-9_22

BC10. Gray, C. M.*, **Parsons, P.**, & Toombs, A. L. (2020). Building a Holistic Design Identity Through Integrated Studio Education. In B. Hokanson, G. Clinton, A. A. Tawfik, A. Grincewicz, & M. Schmidt (Eds.), *Educational Technology Beyond Content: A New Focus for Learning* (pp. 43–55). Springer. https://doi.org/10.1007/978-3-030-37254-5_4

BC9. González-Torres, A.*, Hernández-Campos, M.G, González-Gómez, J.G, Byrd, V. L., & **Parsons, P.** (2020). Information Visualization as a Method for Cybersecurity Education. In K. Daimi & G. Francia (Eds.), *Innovations in Cybersecurity Education* (pp. 55–70). Springer. https://doi.org/10.1007/978-3-030-50244-7_4

BC8. **Parsons, P.*** (2018). Promoting representational fluency for cognitive bias mitigation in information visualization. In G. Ellis (Ed.), Cognitive *Biases in Visualizations*. Springer. https://doi.org/10.1007/978-3-319-95831-6_10

BC7. Sedig, K.*, & **Parsons, P.**G* (2014). Interacting with Digital Information. *Encyclopedia of Information Science & Technology* (3rd ed., pp. 3762–3769). IGI Global. https://doi.org/10.4018/978-1-4666-5888-2.ch370

BC6. **Parsons, P.**G*, & Sedig, K. (2013). Common visualizations: Their cognitive utility. In W. Huang (Ed.), *Handbook of Human-Centric Visualization* (pp. 671–691). New York: Springer. https://doi.org/10.1007/978-1-4614-7485-2_27

BC5. **Parsons, P.**G*, & Sedig, K. (2013). Distribution of Information Processing while Performing Complex Cognitive Activities with Visualization Tools. In W. Huang (Ed.), *Handbook of Human-Centric Visualization* (pp. 693–715). New York: Springer. https://doi.org/10.1007/978-1-4614-7485-2_28

BC4. Sedig, K.*, **Parsons, P.**G, Dittmer, M.G, & Haworth, R.G (2013). Human-centered interactivity of visualization tools: Micro- and macro-level considerations. In W. Huang (Ed.), *Handbook of Human-Centric Visualization* (pp. 717–743). New York: Springer. https://doi.org/10.1007/978-1-4614-7485-2_29

BC3. **Parsons, P.**G*, & Sedig, K.* (2012). The Role of Interactive Representations in Cognitive Tools for Learning. In S. Abramovich (Ed.), *Computers & Education* (2nd ed., pp. 27–46). Hauppauge, NY.

BC2. **Parsons, P.**[G*], & Sedig, K. (2011). Human-information interaction: An emerging focus for educational cognitive tools. In A. Mendez-Villa (Ed.), *Education in a technological world: Communicating current and emerging research and technological efforts* (pp. 245–251). Badajoz, Spain: Formatex.

BC1. Sedig, K.[*], & **Parsons, P.**[G*] (2011). Interactivity of Information Representations in e-Learning Environments. *Interactivity in E-Learning* (pp. 29–50). IGI Global.

GRADUATE ADVISING

PhD Dissertation Chair or Co-Chair

Completed

Ali Baigelenov | 2018 – 2026 | Chair
Inspiration in Visualization Design: Perception, Discourse, and Epistemic Mediation

Ya-Hsin Hung | 2016 – 2019 | Co-chair
Affective Engagement in Information Visualization

Current

Hamed Abdulsalam | 2026 – Present | Chair

Srishti Shekhar Agrawal | 2025 – Present | Chair

Prakash Shukla | 2021 – 2026 (expected) | Chair
Tentative dissertation: Framing Judgment in Data Visualization Design Practice

Zixu Zhang | 2020 – 2027 (expected) | Chair
Tentative dissertation: Forecasting Under Delay: Visualization and Anomaly Response in Remote Space Operations

DTech Dissertation Chair

Breanna Marshall | 2025 – Present | Chair

Venkatesh Krishnamoorthy | 2023 – Present | Chair

PhD Dissertation Committee Service

Jia Lin Cheoh | Purdue University | 2026 – 2028 (expected)

Suchismita Naik | Purdue University | 2023 – 2026
Multi-Agent Design Patterns for Fostering Sense of Belonging in Online Communities: Insights from Fandom Communities and AI Practitioners

Ike Obi | Purdue University | 2026
Constrained Mediation for Safe Language-Controlled Robot Systems

Sai Shruthi Chuvukula | Purdue University | 2019 – 2021
Designing for Co-Creation to Engage Multiple Perspectives on Ethics in Technology Practice

Paul Thomas | Purdue University | 2020 – 2021
Characterizing Student Proficiency in Software Modeling in terms of Functions, Structures, Behaviors

Gaojian Huang | Purdue University | 2019 – 2021
Aging and Automation: Non-chronological Age Factors and Takeover Request Modality Predict Transition to Manual Control Performance during Semi-autonomous Driving

Yoselyn Walsh | Purdue University | 2017 – 2020
Improving Conceptual Understanding of Statics Concepts through a Tactile Feedback Tool

Shubham Agrawal | Purdue University | 2017 – 2020
Developing Integrated Real-Time Information Delivery Systems for Travelers

Mayari Serrano A | Purdue University | 2019 – 2020
Multimodal Virtual Learning Environments: The Effects of Visuo-Haptic Simulations on Conceptual Learning

Shuang Wei | Purdue University | 2017 – 2020
Understanding Learning Difficulty through Visualizing Students' Eye Movement and Interaction with Education Software

Audrey Reinert | Purdue University | 2017 – 2019
Detecting Human Machine Interaction Fingerprints in Continuous Event Data

Alejandro Guayaquil Sosa | Purdue University | 2016 – 2018
Optimizing Exploded Views for Complex Meshes

Armando Acre Orozco | Tecnológico de Costa Rica | 2020 – Present
Design of visual analytics systems for collaborative decision-making

Nadya Calderon Romero | Simon Fraser University | 2020
Visual Analytics in Personalized Health: A Study of the Expert Analyst - Health Consumer Relationship in a Direct-to-Consumer Data Model

DTech Dissertation Committee Service

Kyle Reed | Purdue University | 2025 – Present

Christopher Carter | Purdue University | 2024 – Present

Christina Nunez | Purdue University | 2023 – 2026
Designing a Digital Platform to Reduce Informal Caregiver Burden: A Design Science Research Approach

Master's Thesis Chair or Co-Chair

Myeonghan Ryu | 2019 – 2020 | Chair
Crowdsourcing Graphical Perception of Time-series Visualization on Mobile Phones

Michael Saenz | 2017 – 2019 | Chair
Task Performance with Space-time Cube Visualizations: Differences Between HoloLens and Desktop Users

Lingyi Zhang | 2017 – 2019 | Chair
A Study on Users' Discovery Process of Amazon Echo Dot's Capabilities

Yexin Wang | 2017 – 2019 | Co-chair
Understanding Periods of Animation Use on Mobile Devices

Yu-Shen Ho | 2017 – 2019 | Chair
Codesigning a Mobile Interface for Travel Planning on Digital Maps

Marlo Owczarzak | 2017 – 2019 | Chair
Perceptions of Audio Notifications Within a Mobile Messaging Experience

Ali Baigelenov | 2016 – 2017 | Chair
Interactivity Factors in Visualization-Based Exploratory Search

Master's Thesis Committee Service

Qi Yang | 2026
Beyond Linear Recipes: A Visualization for Comparing Procedural Variants

Mohammed Metwaly | 2024
360 Video Viewing with Virtual Reality Headsets: Connecting User Head Movements to Intentions

Micah George | 2024
The Effects of Automated Vehicle System Certainty on Drivers' Trust and Behavior

Vishnu Selvakumar | 2023
Augmented Reality in Lunar Extravehicular Activities

Sneha Uppala | 2023
Predicting Response to Dark Patterns Based on Individual Differences

Lauren Werner | 2021
Older Adults and Pervasive Technologies: A Comparison Between Experienced and Inexperienced Users' Perceptions and Mental Representations

Patrick Teall | 2020
Perception of Embodiment in Immersive Virtual Experiences: An Exploratory Study

Syed Faaiz Hussain | 2020
A Comparison of 3D Shape Recognition in Computer Aided Design Between Virtual Reality and Conventional Two-Dimensional Displays

Apurva Nagarajan | 2020
Colored Slope Graph—Visualization of Time Series Data

Yash Gugale | 2020
Exploring Ecosystems in Indiana’s Education and Workforce Development Using a Data Visualization Dashboard

Keyuan Zhou | 2019
Effects of Target Size on Finger Contact Area in Touching the Interface of Appliances

Pradeep Periasamy | 2019
Generative Adversarial Networks for Lupus Diagnostics

Suyash Agrawal | 2019
Using Rapid Application Development for Software Development Projects

Chris Watkins | 2019
Student Design-Value Tensions in Real-World Practice

Stephanie Knab | 2018
Understanding how Climate Change Skeptics Interpret a Data Visualization

Sindhura Elluri | 2017
A Machine Learning Approach for Identifying the Effectiveness of Simulation Tools for Conceptual Understanding

Akshob Dasaiah Aravind | 2017
A Study on Understanding the Creation of Component Maintenance Manual Using Model-Based Definition

Sachin Kumarswamy | 2017
Operationalizing Emotions Based on Click Stream Data on Digital Media Platforms

Weidan Du | 2017
Personal Web Library: Organizing and Visualizing Web Browsing History

Liang Zhao | 2016
Interface factors that affect users' trust towards information visualization

Master of Fine Arts Committee Service

Raman Ghafari | 2023
The Future of IO Kids: Establishing Brushing Habit in Early Childhood

Master's Capstone Advising

2024	Chair: 15 students; committee member: 7 students
2023	Chair: 6 students; committee member: 10 students
2022	Chair: 5 students; committee member: 6 students
2021	Chair: 4 students; committee member: 5 students
2020	Chair: 1 student; committee member: 7 students

TEACHING AND CURRICULUM DEVELOPMENT

Curricular Innovations

Undergraduate UX Design major. Co-developed a new major at the undergraduate level. Curricular innovations include vertical and horizontal integration across and within courses; hands-on, active, studio-based pedagogy; 1-to-1 peer and faculty mentoring; liberal arts integration; and real-world projects sponsored by external industry clients.

Graduate UX Design specialization. Co-developed an area of concentration, including the proposal of additional topical and permanent graduate courses in human-centered design. This specialization mirrors successful strategies developed at the undergraduate level across the larger sequence of courses.

Courses Developed or Redesigned

CGT 37208: UXD Studio V: Specialization
CGT 27208: UXD Studio III: Cross-channel
CGT 27108: UXD Learning Studio II: Screen
CGT 17207/27207/37207: UXD Experience Studio
CGT 56200: Cognition & Human-Computer Interaction
CGT 51200: Foundational Readings of UX Design
CGT 52200 (formerly CGT 57200): UXD Grad Studio I: Fundamentals
CGT 53200 (formerly CGT 57200): UXD Grad Studio II: Cross-Channel
CGT 25600: Principles of UX Design (redesigned)
CGT 59700: UXD Graduate Capstone (co-developed)

Courses Taught at Purdue

Graduate

CGT 51200: Foundational Readings of UX Design (2020, 2019, 2018, 2017)
CGT 56200 (formerly CGT 58100): Cognition & Human-Computer Interaction (2025, 2022, 2019, 2018, 2017, 2016)
CGT 57200: UX Design Grad Experience Studio (2024, 2022, 2021, 2020)
CGT 59700: UX Design MS Capstone (2023, 2022, 2021, 2020)
CGT 53200: UX Design Grad Design Studio: II Cross-Channel (2019)
CGT 52200: UX Design Grad Design Studio: I Fundamentals (2022, 2021, 2020, 2018, 2017)
TECH 69700: Qualitative Research Methods in Technology Studies (2026, 2025)

Undergraduate

CGT 17208: UX Design Undergraduate Studio I: Fundamentals (2026, 2023, 2022)
CGT 17207/27207/37207: UXD Experience Studio (2024, 2021, 2020, 2019, 2016)
CGT 25600: Principles of User Experience Design (2016)
CGT 27108: UX Design Undergraduate Studio II: Screen (2023, 2022, 2016)
CGT 27208: UX Design Undergraduate Studio III: Cross-Channel (2019, 2018, 2017)
CGT 37208: UX Design Undergraduate Studio V: Specialization (2021, 2020, 2019, 2018, 2017)

Study Abroad Leadership

Digital Civics and User Experience Design, Newcastle upon Tyne, England. Co-leader with Austin Toombs, 2022 – 2023; sole leader, 2024 – 2026.

Undergraduate Projects Directed

2026	Honors project: Conlan Mah.
2020	Curriculum Mapping. Capstone team of four students.
2019	Digitickets—Purdue Conferences. Capstone team of five students.
2018	Integration of HRV onto VR Environments for Wellness Benefits and Performance Training. Capstone team of four students; sponsor: Execuwell.
2017	Dakshub—ISEEK Purdue. Capstone team of four students.

LEADERSHIP AND SERVICE

Academic Leadership at Purdue

2025 – 2026	Co-Chair, Working Committee on Departmental Goals and Metrics
2025 – 2026	Chair, Faculty Search Committee, Assistant/Associate Professor in Creative Computing and Artificial Intelligence
2023 – 2024	Chair, Working Committee on Faculty Mentoring
2022 – 2024	Undergraduate and Graduate Program Lead, User Experience Design
2022 – 2024	Vice-Chair, CGT Graduate Education Committee

Conference and Community Leadership

2025	Co-Organizer, 7th Annual Workshop on Visualization for Communication (VisComm) at IEEE VIS 2025. Vienna, Austria
2025	General Co-Chair, 10th Annual Conference on Science Gateways (Gateways ’25). Green Bay, WI.
2025	General Co-Chair, ACM Symposium on HCI Education (EduCHI ‘25). Bloomington, IN.
2025	Organizer, 7th Annual Digital Civics Exchange. Northumbria University, Newcastle, UK.
2024 – Present	Steering Committee, ACM Symposium on HCI Education (EduCHI)
2024	Technical Program Co-Chair, ACM Symposium on HCI Education (EduCHI ‘24)
2024	Organizer, 6th Annual Digital Civics Exchange. Northumbria University, Newcastle, UK.
2023 – 2024	Associate Chair (AC), ACM Conference on Human Factors in Computing Systems (CHI), Understanding People subcommittee (CHI ’24)
2023	Workshop Organizer, 6th Annual Workshop on Visualization for Communication (VisComm) at IEEE VIS 2023. Melbourne, Australia
2020 – 2021	Associate Chair (AC), ACM Conference on Human Factors in Computing Systems (CHI), Understanding People subcommittee (CHI ’21)
2019	Associate Chair (AC), ACM Conference on Human Factors in Computing Systems (CHI) Late-Breaking Work (LBW) (CHI ’19)
2015 – Present	Committee Member, IEEE Technical Committee on Visual Analytics and Communication.

Editorial Roles

2015 – 2022	Editorial Review Board Member, Journal of Interactive Learning Research.
2015 – 2021	Editorial Review Board Member, Informatics.

2020	Academic Editor, Informatics.
2017	Editor, Journal of Multimodal Technologies and Interaction, Special Issue on "Coupling Computation and Human Cognition through Interaction Design".
2015 – 2016	Editor, Informatics, Special Issue of Human-Information Interaction.

Selected Program Committees

2026	Program Committee Member, IEEE VIS
2023 – 2026	Program Committee Member, ACM Symposium on HCI Education (EduCHI)
2023	Program Committee Member, IEEE EuroVis Conference, Short Papers
2018, 2025	Program Committee Member, IEEE VIS Workshop on Visualization for Communication (VisComm).
2020, 2022	Program Committee Member, IEEE PacificVis Conference, visualization notes (PacificVis ’20)
2017 – 2020	Program Committee Member, ACM Conference on Intelligent User Interfaces (IUI)
2017 – 2020	Program Committee Member, International Workshop on Big Data Visual Exploration and Analytics (BigVis).
2018 – 2021	Program Committee Member, International EuroVis Workshop on Visual Analytics (EuroVA).

Additional University Service

2016 – 2022, 2025 – Present	Member, CGT Graduate Education Committee
2019 – 2023	Member, faculty search committees in UX Design, Human-Computer Interaction, Interactive Applications Development, and Interactive Media and Computer Graphics.
2019	Member, CGT Undergraduate Curriculum Committee
2023	Member, Search Committee, Associate Dean for Research
2020 – 2024	Member, Education Policy Committee
2018 – 2019	Member, Faculty Affairs Committee
2016 – 2017	Member, Grade Appeals Committee
2022 – 2024	Member, Research Integrity Office
2017 – 2023	Member, Management Information Dashboard Standards Committee

Grant and Promotion Reviewing

2026	Reviewer, Grant Proposal, Natural Sciences and Engineering Research Council of Canada
2024	Ad Hoc Reviewer, NSF PAC
2023	Panel Member, NSF CISE CAREER Program Panel Member, NSF CISE Core Program Panel Member, NSF CISE OAC Program
2022	Panel Member, NSF CISE Core Program
2017	Reviewer, Grant Proposal, Natural Sciences and Engineering Research Council of Canada
2016, 2013	Reviewer, Grant Proposal, Research and Graduate Studies at Xi'an Jiaotong-Liverpool University
2024	External tenure and promotion review.

Selected Paper and Book Reviewing

2015 – 2026	ACM Conference on Human Factors in Computing Systems (CHI)

2014 – 2026	IEEE Conference on Visualization (VIS)
2017, 2018, 2020 – 2022, 2024 – 2026	IEEE Transactions on Visualization and Computer Graphics
2016, 2018, 2020, 2026	ACM Conference on Designing Interactive Systems (DIS)
2026	ACM Symposium on User Interface Software and Technology (UIST)
2023, 2026	EuroVis
2024 – 2026	Gateways Annual Conference
2026	Design Research Society (DRS)
2026	ACM Transactions on Computing Education
2021 – 2022	Computer Graphics Forum
2021 – 2022	Computers & Graphics
2020	Computers & Education
2015, 2018	MDPI Informatics
2019, 2020, 2022	Symposium on HCI Education (EduCHI)
2023	MIT Press (book manuscript review)

Exceptional paper-review recognition: ACM CHI, 2019, 2023, 2024 (three recognitions), 2025, and 2026 (two recognitions); IEEE VIS, 2023 (two recognitions) and 2025.

Professional Membership

ACM Special Interest Group on Computer-Human Interaction (SIGCHI), 2017 – Present.

INVITED TALKS AND SELECTED PRESENTATIONS

Plenary Address

1. **Parsons, P.**, & Kuykendall, H. (2020, November). *Attracting and Retaining Gateways Users by Applying Usability and Accessibility Solutions*. Plenary Address. 5th Annual Science Gateways Conference (Gateways 2020). Virtual.

Invited Talks

15. **Parsons, P.** (2026). *Visualization and Judgment: Human-Centered Computing in Data-Rich Practice*. Invited talk, University of Utah, CS/SCI.
14. **Parsons, P.** (2022, April). *Usability Foundations and Usability Testing*. Guest Lecture, EarthCube (NSF-funded Community Dedicated to the Advancement of Geoscience Research).
13. **Parsons, P.** (2022, April). *Common Usability Problems and Usability Testing*. Australian Research Data Commons (ARDC) Platforms Community of Practice Webinar.
12. **Parsons, P.** (2022, February). *Enabling shared ownership of science gateways with user-centered design*. Invited Panelist, National Microbiome Data Collaborative (NMDC). Video: https://www.youtube.com/watch?v=VrUCRmMVfiE
11. **Parsons, P.** (2021, March). *How to Conduct Your Own Usability Tests*. Invited Oral Presentation. Annual ADMI Symposium on Computing at Minority Institutions, Association of Computer Science/Engineering Departments at Minority Institutions.
10. **Parsons, P.** (2020, July). *Usability for Gateways and Data Dashboards*. Guest Lecture, SGCI Coding Institute (NSF).
9. **Parsons, P.** (2020, June) *Gateway Onboarding Usability*. Guest Lecture, EarthCube (NSF-funded Community Dedicated to the Advancement of Geoscience Research).

8. **Parsons, P.** (2020, June). MatchBOX Co-Working Studio AMA (Ask Me Anything) about Usability. Guest Lecture.
7. **Parsons, P.** (2020, February). *Lessons Learned from SGCI's Usability Consulting*. Guest Lecture, Science Gateways Community Institute (NSF).
6. **Parsons, P.** (2019, April). *Designing Interactive Visualizations for Cognitive Activities*. Invited talk at Design Lab Seminar Series. UCSD Design Lab.
5. **Parsons, P.** (2018, August). *Usability, User Experience, and Visualization.* Invited talk at Virtual Residency Summer Workshop on Intermediate Research Computing Facilitation, Advanced CyberInfrastructure - Research and Education Facilitators (ACI-REF).
4. **Parsons, P.** (2015, November). *New Frontiers in Data Visualization*. Invited talk at Workshop on Real-Time Data Visualizations: A 21st Century Confluence of Art, Music, and Science at Ecological Research Sites (Funded by NSF award 1548175). Hubbard Brook Experimental Forest, NH.
3. **Parsons, P.** (2015). *Design of Interactive Visualization Tools for Complex Cognitive Activities*. Invited talk, The Ohio State University, Industrial and Systems Engineering.
2. **Parsons, P.** (2015). *Design of Interactive Visualization Tools for Complex Activities*. Invited talk, University of Miami, Computer Science.
1. **Parsons, P.** (2015). *Design of Interactive Visualization Tools for Complex Cognitive Activities*. Invited talk, Purdue University, Computer Graphics Technology.

Workshops and Masterclasses

7. Gray, C. M.; **Parsons, P. C.** (2023, April). Building Student Capacity to Engage with Design Methods. Masterclass for the 5th Annual Symposium on HCI Education (EduCHI '23), 2023. Online and Hamburg, Germany.
6. **Parsons, P.** User-Centered Design and Usability for Science Gateways. Workshop, Science Gateways Community Institute (NSF), External to Purdue University, 500+ participants. (Offered multiple times: March, 2021; December 2020; September, 2019; May, 2019; August, 2018; May 2018; October, 2017)
5. Murdoch-Kitt, K., Gray, C. M., **Parsons, P.**, Toombs, A. L., Louw, M., Van Gent, E. (2018, September). Developing Students' Instrumental Judgment Capacity for Design Research Methods. Demonstration. Decipher: 2018 Design Educators Research Conference, American Institute of Graphic Arts (AIGA), Ann Arbor, MI
4. **Parsons, P.** (2018, May). Usability Testing for Science Gateways. Workshop, Science Gateways Community Institute (NSF). 14 participants. Austin, TX.
3. **Parsons, P.** (2017, November). Making your gateway easy and pleasant to use: An introduction to usability and user-centered design. Invited Workshop, Science Gateways Community Institute (NSF), 60 participants.
2. **Parsons, P.** (2017, October). Usability Testing for Science Gateways. Workshop, Science Gateways Community Institute (NSF). 14 participants. Indianapolis, IN.
1. Sedig, K. **Parsons, P.** (2017, July). Interacting with Visualizations: A Cognitive Activity, Task, and Action Framework. Half-Day Workshop, HCI International Conference. 15 participants. Vancouver, Canada.

Other Selected Presentations

5. **Parsons, P.** (2025, November). The Design Work You Don't See: How Practitioners Frame Problems Before Visualizing Anything. 5th Biennial Conference on Interdisciplinary Practices in Information Design and Visualization (Information+), Boston, MA. [AR 33%]

4. **Parsons, P.** (2023, November). Instrumental Judgment in Data Visualization Practice. 4th Biennial Conference on Interdisciplinary Practices in Information Design and Visualization (Information+), Edinburgh, UK. [AR 23%]
3. Gray, C. M., **Parsons, P.**, Toombs, A. L. (2018, June). The Integrated Design Studio as an Approach to Transdisciplinary Design Learning. Oral Presentation. Polytechnic Summit, UTEC, Lima, Peru
2. Gray, C. M., Vorvoreanu, M., **Parsons, P.**, Rasche, N. J. (2017, June). Transforming User Experience Design Education Through Integrated Learning. Oral Presentation. Polytechnic Summit, Purdue University, West Lafayette, IN, United States
1. Rasche, N. J., Vorvoreanu, M., **Parsons, P.**, Gray, C. M. (2015, November). *Innovation Through Subversive Design*. Demonstration. World Usability Day, User Experience Professional Association (UXPA), Indianapolis, IN, United States

Posters Without Published Abstracts (peer-reviewed)

4. Uppala, S.[G], Seigfried-Spellar, K., Li, T., & **Parsons, P**. (2025). Predicting Response to Dark Patterns Based on Individual Differences. Poster. ACM Collective Intelligence (CI 2025). San Diego, CA.
3. **Parsons, P.**, Zhang, Z.[G] (2022). Investigating Anomaly Response in ISS Mission Control: Implications for Autonomy in Deep-Space Habitats. Poster. *1st International Workshop on Interdisciplinary Paradigms for Semi-Autonomous Deep-Space Habitation*. San Antonio, TX.
2. Christie, M., Owczarzak, M.[G], Ho, Y.-S.[G], **Parsons, P.**, Krueger, S., Curtis, J., Brookes, E. (2019, September). GenApp Style and Layout Enhancements. Poster. *Gateways 2019*, Science Gateways Community Institute, San Diego, CA, United States
1. **Parsons, P.** (2017, August). Understanding cognitive implications of interactivity design for visualization tools. Poster. *Gordon Research Conference on Visualization in Science and Education*, Lewiston, ME, United States

CONSULTING AND PUBLIC ENGAGEMENT

Professional Consulting and Expert Work

2016 – Present	User Experience Consultant, Science Gateways Community Institute (SGCI) and SGX3. 80 consulting engagements supporting user experience for science gateways (as of September 2026).
2025	Expert Consultant, User Experience (UX) Designer National Occupational Framework, Urban Institute
2025	Expert Witness, Anti-trust case (currently under protective order).

Media Appearance

1. Parsons, P., & Ottley, A. (2025, December 10). Inside IEEEVIS 2025: Key Themes, Best Papers, and the Future of Visualization. Guest appearance on the PolicyViz Podcast, hosted by Jon Schwabish. Listen to the episode