

Andrew J. Hampton, PhD

Rosa Deal School of Arts Building
650 E. Parkway South | Rm. 222F
Memphis, TN 38112
(901) 321-3340
andrew.hampton@cbu.edu

Curriculum Vita

EDUCATION

Postdoctoral Research Fellow September 2018–January 2019

University of Memphis

Institute of Intelligent Systems (IIS); Department of Psychology

Advisor: Arthur C. Graesser, PhD

Research Specializations: Learning technologies, computational linguistics, artificial intelligence, human-computer interaction, political psychology

Doctor of Philosophy, Human Factors & I/O Psychology May 2018

Wright State University

Advisor: Valerie L. Shalin, PhD

Dissertation: Symbol Grounding in Social Media Communication

Master of Science May 2013

Wright State University

Advisor: Valerie L. Shalin, PhD

Thesis: Spatialized Audio and Landmarks in Team Navigation

Bachelor of Science December 2009

University of Central Florida; Burnett Honors College

Department of Psychology

Minor: Cognitive Science

WORK HISTORY

Assistant Professor of Psychology August 2021–Present

Christian Brothers University, Behavioral Science Department

Memphis, TN

Research Scientist Assistant Professor January 2019–August 2021

University of Memphis, Institute for Intelligent Systems & Department of Psychology

Memphis, TN

Postdoctoral Research Fellow September 2018–January 2019

University of Memphis, Institute for Intelligent Systems & Department of Psychology

Memphis, TN

Research Associate August 2016–September 2018
University of Memphis, Institute for Intelligent Systems
Memphis, TN

Private Tutor / Mentor August 2015–June 2016
Brainiac, Inc. (Part-time)
San Antonio, TX

Graduate Research Assistant December 2011–June 2016
Wright State University, Department of Psychology
Dayton, OH

Graduate Teaching Assistant August 2013–May 2015
Wright State University, Department of Psychology
Dayton, OH

Research Assistant December 2010–December 2011
Air Force Research Laboratory
Dayton, OH

Administrative Assistant September 2006–December 2009
University of Central Florida, The Scholars Program
Orlando, FL

AWARDS

Human Factors Prize October 2016
Human Factors & Ergonomics Society

Graduate Student Excellence Award April 2014
Wright State University, Department of Psychology

National Merit Scholar August 2009
National Merit Scholarship Corporation

CURRENT RESEARCH

Advancing the Science of Learning Data Science with Adaptive Learning for Future Workforce Development \$3,439,035
PI: Prof. Andrew M. Olney Jan. 2020–
National Science Foundation, [Award #1918751](#) Dec. 2024
Leadership Team Member

The Learner Data Institute: Harnessing the Data Revolution to Make the Learning Ecosystem More Effective, Efficient, and Engaging \$2,584,309
PI: Prof. Vasile Rus Sept. 2019–

National Science Foundation, Award #1934745
Leadership Team Member

Aug. 2021

ElectronixTutor Usability and Small-Scale Testing

PI: Prof. Xiangen Hu

Leadership Team Member

Office of Naval Research / Naval Nuclear Power Training Command

\$475,000

June 2021–

Dec. 2022

PAST SUPPORT

Integration of Intelligent Tutoring Systems for Electronics

PI: Prof. Arthur C. Graesser

Project manager

Office of Naval Research

\$3,800,000

2015–2018

Generalized Intelligent Framework for Tutoring (GIFT)

PI: Prof. Arthur C. Graesser

Team member

U. S. Army Research Laboratory

\$1,508,155

2012–2019

Generalized Intelligent Framework for Tutoring (GIFT)

PI: Prof. Xiangen Hu

U. S. Army Research Laboratory, Cooperating Agreement W911NF-18-2-0039

Leadership Team Member

\$924,484

Jan. 2019–

Jan. 2021

PUBLICATIONS

Edited Volumes

DeFalco, J. A., & Hampton A. J. (Eds.). *A front-line view of the pursuit of artificial intelligence ethics: Machines like us?* London: Routledge. *Manuscript in preparation.*

Sinatra, A. M., Graesser, A. C., Hu, X., Goldberg, B., & Hampton, A. J. (Eds.). (2020). *Design recommendations for intelligent tutoring systems: Volume 8—data visualization.* Orlando, FL: U.S. Army Research Laboratory.

Sottolare, R. A., Domeshek, E., Hampton, A. J., Cockroft, J. L., Barr, A., Graesser, A. C., Robson, R., & Tong, R. (Eds.). (2019). *Proceedings of the second adaptive instructional system (AIS) standards workshop.* Menlo Park, CA: Aeterna Publishing.

Journal Articles

Tawfik, A. A., Gatewood, J., Gishbaugher, J. J., & Hampton, A. J. *Toward a definition of learning experience design.* In press. *Technology, Knowledge, and Learning.* doi: 10.1007/s10758-020-09482-2

- Lippert, A. M., Shubeck, K., Morgan, B., Hampton, A. J., & Graesser, A. C. (2020). Multiple agent designs in conversational intelligent tutoring systems. *Technology, Knowledge, and Learning*, 25, 443–463.
- Windsor, L. C., Cupit, G., Hampton, A. J., & Windsor, A. (2019). Local politics in an international context: A linguistic analysis of community resiliency in Memphis, TN. *Local Government Studies*, 45(3), 350–371.
- Graesser, A. C., Hu, X., Nye, B. D., VanLehn, K., Kumar, R., Heffernan, C., Woolf, B., Olney, A. M., Rus, V., Andrasik, F., Pavlik, P. I., Cai, Z., Wetzels, J., Morgan, B., Hampton, A. J., Lippert, A. M., Wang, L., Chen, Q., Vinson, J. E., Kelly, C. N., McGlown, C., Majmudar, C. A., Morshed, B., & Baer, W. (2018). ElectronixTutor: An intelligent tutoring system with multiple learning resources for electronics. *International Journal of STEM Education*, 5(1), 15–35.
- Hampton, A. J., & Shalin, V. L. (2017). Sentinels of breach: Lexical choice as a measure of urgency in social media. *Human Factors*, 59(4), 505–519.
- Purohit, H., Banerjee, T., Hampton, A., Shalin, V. L., Sheth, A. P., Bhandutia, N. (2016). Gender-based violence in 140 characters or fewer: A #BigData case study of Twitter. *First Monday*, 21, Number 1–4. <http://dx.doi.org/10.5210/fm.v21i1>
- Purohit, H., Hampton, A., Bhatt, S., Shalin, V. S., Sheth, A. P., & Flach, J. M. (2014). Identifying seekers and suppliers in social media communities to support crisis coordination. *Computer Supported Cooperative Work*, August 2014. doi: 10.1007/s10606-014-9209-y
- Purohit, H., Hampton, A., Shalin, V. L., Sheth, A. P., Flach, J. M., & Bhatt, S. (2013). What kind of conversation is Twitter? Mining psycholinguistic cues for emergency coordination. *Computers in Human Behavior*, 29(6), 2438–2447.

Book Chapters

- Hampton, A. J., & Graesser, A. C. (in press). General applications of data visualization. In A. M. Sinatra, A. C. Graesser, X. Hu, B. Goldberg, & A. J. Hampton (Eds.) *Design recommendations for intelligent tutoring systems: Volume 8—data visualization*. Orlando, FL: U.S. Army Research Laboratory.
- Harrison, L. & Hampton, A. J. (in press). Walk me through this: Utilizing kinesthetic effect in data storytelling. In A. M. Sinatra, A. C. Graesser, X. Hu, B. Goldberg, & A. J. Hampton (Eds.) *Design recommendations for intelligent tutoring systems: Volume 8—data visualization*. Orlando, FL: U.S. Army Research Laboratory.
- Hampton, A. J., & Baker, R. S. (2019). Reports to facilitate improvements in adaptive instructional systems. In A. M. Sinatra, A. C. Graesser, X. Hu, K. Brawner, and V. Rus (Eds.) *Design recommendations for intelligent tutoring systems: Volume 7—self-improving systems* (pp. 147–152). Orlando, FL: U. S. Army Research Laboratory
- Morgan, B., Hogan, A. M., Hampton, A. J., Lippert, A. M., & Graesser, A. C. (2019). The need for personalized learning and the potential of intelligent tutoring systems. In P. Van Meter, A. List, D. Lombardi, and P. Kendeou (Eds.), *Handbook of learning from multiple representations and perspectives* (pp. 490–508). New York: Routledge.
- Cai, Z., Hampton, A. J., Graesser, A. C., Hu, X., Cockroft, J. L., Shaffer, D. W., Dorneich, M. C., & Sinatra, A. M. (2018). Roles of talking agents in online collaborative learning environments. In R. Sottolare, A. C. Graesser, X. Hu, and A. M. Sinatra (Eds.), *Design recommendations for*

intelligent tutoring systems: Volume 6—team tutoring (pp. 169–177). Orlando, FL: U.S. Army Research Laboratory.

Graesser, A. C., Dowell, N., Hampton, A. J., Lippert, A. M., Li, H., & Shaffer, D. W. (2018). Building intelligent conversational tutors and mentors for team collaborative problem solving: Guidance from the 2015 Program for International Student Assessment. In J. Johnston, R. Sottolare, A. M. Sinatra, & C. S. Burke (Eds.), *Building intelligent tutoring systems for teams: What matters* (pp. 173–211). West Yorkshire, UK: Emerald Publishing.

Graesser, A. C., Nixon, T. M., Hampton, A. J., Franklin, S. E., & Love, J. B. (2018). VIA: Using GOMS to improve authorware for a virtual internship environment. In R. D. Roscoe, S. D. Craig, & I. Douglas (Eds.), *End-user considerations in educational technology design* (pp. 205–216). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-2639-1

Shubeck, K. T., Fang, Y., Hampton, A. J., Morgan, B., Hu, X., & Graesser, A. C. (2018). Embedding effective teaching strategies in intelligent tutoring systems. In S. Craig. (Ed.), *Tutoring and intelligent tutoring systems* (pp. 129–156). Hauppauge, NY: Nova Science Publishers, Inc.

Zachary, W. W., Goldberg, B., & Hampton, A. J. (2018). The role of context in team performance and team training. In R. Sottolare, A. C. Graesser, X. Hu, and A. M. Sinatra (Eds.), *Design recommendations for intelligent tutoring systems: Volume 6—team tutoring* (pp. 121–131). Orlando, FL: U.S. Army Research Laboratory.

Graesser, A. G., Lippert, A. M., & Hampton, A. J. (2017). Successes and failures in building learning environments to promote deep learning: The value of conversational agents. In J. Buder and F. W. Hesse. (Eds.), *Informational environments: Effects of use, effective design* (pp. 273–298). New York: Springer.

Conference Proceedings

Hampton, A. J., Gatewood, J., Gishbaugher, J. J., & Tawfik, A. A. *Say what? Learner reactions to unexpected agent dialogue moves*. Manuscript submitted for publication.

Hampton, A. J., & Tawfik, A. A. (2020). Experiential instruction of metacognitive strategies. In R. A. Sottolare & J. Schwarz (Eds.) *Proceedings of the Second International Conference, AIS 2020, Held as Part of the 22nd HCI International Conference* (pp. 108–116). Switzerland: Springer Nature.

Hampton, A. J. (2019). Conversational AIS as the cornerstone of hybrid tutors. In R. A. Sottolare & J. Schwarz (Eds.) *Proceedings of the First International Conference, AIS 2019, Held as Part of the 21st HCI International Conference* (pp. 634–644), Orlando, FL, USA, July 26–31, 2019.

Hampton, A. J., & Graesser, A. C. (2019). Foundational principles and design of a hybrid tutor. In R. A. Sottolare & J. Schwarz (Eds.) *Proceedings of the First International Conference, AIS 2019, Held as Part of the 21st HCI International Conference* (pp. 96–107), Orlando, FL, USA, July 26–31, 2019.

Hampton, A. J., Rus, V., Andrasik, F., Nye, B. D., & Graesser, A. C. (2019). A Conversational intelligent agent for Navy career guidance and counseling. In R. Barták and K. Brawner (Eds.) *Proceedings of the Thirty-Second Florida Artificial Intelligence Research Society Conference* (pp. 402–407). Sarasota, FL: AAAI Press.

Hu, X., Cai, Z., Hampton, A. J., Cockroft, J. L., Graesser, A. C., Copeland, C., & Folsom-Kovarik, J. T. (2019). Capturing AIS behavior using xAPI-like statements. In R. A. Sottolare & J. Schwarz

(Eds.) *Proceedings of the First International Conference, AIS 2019, Held as Part of the 21st HCI International Conference* (pp. 204–216), Orlando, FL, USA, July 26–31, 2019.

Sottolare, R. A., Stensrud, B., & Hampton, A. J. (2019). Examining elements of an adaptive instructional system (AIS) conceptual model. In R. A. Sottolare & J. Schwarz (Eds.) *Proceedings of the First International Conference, AIS 2019, Held as Part of the 21st HCI International Conference* (pp. 239–250), Orlando, FL, USA, July 26–31, 2019.

Carmon, C., Morgan, B., & Hampton, A. J. (2018). Semantic matching evaluation in ElectronixTutor. In K. E. Boyer, & M. Yudelson (Eds.), *Proceedings of Educational Data Mining* (pp. 580–583). International Educational Data Mining Society, Buffalo, NY.

Graesser, A. C., Hampton, A. J., Morgan, B., Wang, L., Majmudar, C. A., Morshed, B. I., Hu, X., Nye, B. D., Cai, Z., Tackett, A. C., & Olney, A. (2018). ElectronixTutor: An adaptive learning platform with multiple resources. In *Proceedings of the Interservice / Industry Training, Simulation, & Education Conference*, Orlando, FL.

Hampton, A. J., Nye, B. D., Pavlik, P. I., Swartout, W. R., Graesser, A. C., & Gunderson, J. (2018). Mitigating knowledge decay from instruction with voluntary use of an adaptive learning system. In C. P. Rosé, R. Martínez-Maldonado, H. U. Hoppe, R. Luckin, M. Mavrikis, K. Porayska-Pomsta, B. McLaren, & B. du Boulay (Eds.), *Proceedings of the 2018 Artificial Intelligence in Education Conference* (pp. 119–133). London, UK, Springer International Publishing.

Rüsenberg, F., Hampton, A. J., Shalin, V. L., & Feufel, M. A. (2018, July). Stop words are not “nothing”: German modal particles and public engagement in social media. In R. Thompson, C. Dancy, A. Hyder, & H. Bisgin (Eds.), *International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation* (pp. 89–96). Springer, Cham, Switzerland.

Hampton, A. J., Bhatt, S., Smith, A., Brunn, J., Purohit, H., Shalin, V. L., Flach, J. M., Sheth, A. P. (2017). Constructing synthetic social media stimuli for an emergency preparedness functional exercise. In T. Comes, F. Bénaben, C. Hanachi, M. Lauras, & A. Montarnal (Eds.), *Proceedings of ISCRAM '17*. Albi, Occitanie Pyrénées-Méditerranée, France.

Bhatt, S., Purohit, H., Hampton, A., Shalin, V. S., Sheth, A. P., & Flach, J. M. (2014). Assisting coordination during crisis: A domain ontology based approach to infer resource needs from tweets. In F. Menczer, J. Hendler, & W. Dutton (Eds.), *Proceedings of the 2014 ACM conference on Web science* (pp. 297–298). ACM, New York, NY.

Hampton, A., Shalin, V. L., Robinson, E., Simpson, B., Finomore, V., Cowgill, J., Moore, T., Rapoch, T., & Gilkey, R. (2012). The Impact of spatialized communications on team navigation. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting 56*(1) (pp. 463–467). SAGE Publications.

Robinson, E., Simpson, B., Finomore, V., Cowgill, J., Shalin, V. L., Hampton, A., Moore, T., Rapoch, T., & Gilkey, R. (2012). Aurally aided visual threat acquisition in a virtual urban battlespace. In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 56, No. 1, pp. 1471–1475). SAGE Publications, New York, NY.

Invited Presentations, Workshops, Tutorials, & Technical Reports

- Hampton, A. J. (2020). *Extended classrooms and hybrid tutors: Making AIS the teacher's best friend*. The Second International Conference, AIS 2020, Held as Part of the 22nd HCI International Conference. Virtual.
- Hampton, A. J. (March 2019). *Conversational intelligent agents for career planning and maintenance*. International Convention of Psychological Science, Paris, France.
- Hampton, A. J. (July 2019). *Fantastic tutors & how to bind them*. ALTTAI Learning Science Colloquium, Memphis, TN.
- Hampton, A. J. (June 2019). *Making it real: Open source tools and industry standards for adaptive learning and assessment systems*. Symposium conducted at the International Association for Computerized Adaptive Testing 2019, Minneapolis, Minnesota.
- DeFalco, J. A., DeFalco, A., & Hampton, A. J. (2018). Establishing a definitional model for AISs: Invoking Dewey's transactional theory of knowledge. In R. A. Sottolare, E. Domeshek, A. J. Hampton, J. L. Cockroft, A. Barr, A. C. Graesser, R. Robson, & R. Tong (Eds.), *Proceedings of the Second Adaptive Instructional System (AIS) Standards Workshop* (pp. 31–35). Menlo Park, CA: Aeterna Publishing.
- Hampton, A. J., Hu, X., Graesser, A. C., Cai, Z., & Tackett, A. C. (June 2018). *Potential to migrate ElectronixTutor to GIFT*. GIFTSym6, Orlando, FL.
- Hampton, A. J. (May 2018). *Potential to migrate ElectronixTutor to GIFT*. Symposium conducted at the 14th International Conference on Intelligent Tutor Systems, Montréal, Canada.
- Morgan, B., Hampton, A. J., Cai, Z., Tackett, A. C., Wang, L., Hu, X., & Graesser, A. C. (2018). *ElectronixTutor integrates multiple learning resources to teach electronics on the web*. Tutorial presented at the International Conference on Artificial Intelligence in Education, London, England, UK.
- Rus, V., Hampton, A. J., Andrasik, F., & Graesser, A. C. (2018). *Claire the counselor: The promise and design of a career guidance and counseling agent*. Intelligent Mentoring Systems (IMS) Workshop of the 19th International Conference of the Artificial Intelligence in Education (AIED) Conference, London, UK.
- Shi, G., Hampton, A. J., Chen, S., Fang, Y., & Graesser, A. C. (2018). *Diagnosing reading deficiencies of adults with low literacy skills in an intelligent tutoring system*. ITS 2018 Workshop: Exploring Opportunities for Caring Assessments, Montréal, QB, Canada.
- Tackett, A. C., Cai, Z., Hampton, A. J., Graesser, A. C., Hu, X., Ramirez-Padro, R., Folsom-Kovarik, J. & Copland, C. (2018). Knowledge components as a unifying standard of intelligent tutoring systems. In *Exploring Opportunities to Standardize Adaptive Instructional Systems (AISs) Workshop of the 19th International Conference of the Artificial Intelligence in Education (AIED) Conference*. London, UK.
- Windsor, L., Cupit, G., Hampton, A. J., & Windsor, A. (2018). *Community engagement and government responsiveness to inclement weather: A Case study of the Memphis 311 system*. The Southern Political Science Association Annual Meeting, New Orleans, LA.
- Hampton, A. J. (August 2017). *Current efforts in complex digital learning environments*. ALTTAI Joint Taiwan–Austria Research Consortium Kenting, Taiwan.

Hampton, A. J., Clewley, D., Gautam, D., & Graesser, A. C. (2017). Analysis of mentor speech acts in guided collaborative learning in land science. In *Proceedings of the 2nd Workshop on Intelligent Mentoring Systems IMS2017*. Wuhan, China.

Purohit, H., Bhatt, S., Hampton, A., Shalin, V. L., Sheth, A. P., & Flach, J. M. (2014). *With whom to coordinate, why and how in the ad-hoc social media communities during crisis response*. The 11th International Conference on Information Systems for Crisis Response and Management, University Park, PN.

Purohit, H., Hampton, A., Bhatt, S., Shalin, V. L., Sheth, A. P., & Flach, J. M. (2013). *An Information filtering and management model for Twitter traffic to assist crises response coordination*. Technical Report, Kno.e.sis Center.

Purohit, H., Hampton, A., Shalin, V. L., Sheth, A. P., & Flach, J. M. (2012). *Framework to analyze coordination in crisis response*. Collaboration and Crisis Informatics Workshop in conjunction with CSCW-2012, Seattle, WA.

Purohit, H., Hampton, A., Shalin, V. L., Sheth, A. P., & Flach, J. M. (2012). *What kind of #communication is Twitter? A psycholinguistic perspective on communication in Twitter for the purpose of emergency coordination*. NSF SoCS Symposium.

PROFESSIONAL SERVICE

Chair

June 2020–Present

Adaptive Instructional Systems (AIS) Working Group IEEE P2247
Developing standards for conceptual model, interoperability,
evaluation best practices, and ethical considerations of AIS

Conference Organizing Committee

June 2020, June 2021

Adaptive Instructional Systems, held as part of
Human Computer Interaction International

Conference Track Co-Chair

June 2021

Ethical Consideration in Adaptive Instructional Systems, at
Adaptive Instructional Systems

Conference Special Track Chair

May 2020, May 2021

Intelligent Learning Technologies, at
Florida Artificial Intelligence Research Society

Secretary

August 2018–June 2020

Adaptive Instructional Systems Working Group IEEE P2247

Conference Track Co-Chair

March 2019

Psychology, Ethics, and Artificial Intelligence, at
International Convention of Psychological Science

Conference Workshop Organizer

Intelligent Mentoring Systems, at
International Conference of Artificial Intelligence in Education

June 2017, June 2018

TEACHING EXPERIENCE

University of Memphis

General Psychology,
Honors General Psychology,
Psychology of Film

Spring 2018–Fall 2020

Wright State University

Psychology of Commercial Film

Fall 2013–Spring 2015

Brainiac, Inc.

Standardized test prep,
Psychology,
American history,
Writing

August 2015–June 2016

University of Central Florida

(Undergraduate Teaching Assistant)
Introduction to Psychology

Spring 2008

REFERENCES

Arthur C. Graesser, PhD

Professor Emeritus
Department of Psychology & Institute of Intelligent Systems
University of Memphis
Post-doctoral research fellowship advisor
graesser@memphis.edu
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Valerie L. Shalin, PhD

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Wright State University
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Robert A. Sottolare, PhD

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Soar Technology, Inc.
Colleague
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Jeanine A. DeFalco, PhD

Research Psychologist / Adaptive Training Specialist

U.S. Army Combat Capabilities Development Command—Soldier Center

United States Military Academy at West Point

Colleague

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