

# ANDREW MCGREGOR OLNEY

Institute for Intelligent Systems • 365 Innovation Drive • Memphis, TN 38152

## Education

Ph.D. in Computer Science

University of Memphis, August 2006

M.S. in Evolutionary and Adaptive Systems

University of Sussex, Brighton UK 2001

First Class Honors with Distinction

B.A. in Linguistics with Cognitive Science

University College London, London UK 1998

Second Class Honors, Upper Division

Certification in Teaching English as a Foreign Language (TEFL)

University College London, London UK 1998

## Professional Experience

*Director*, 2013 – , Institute for Intelligent Systems, University of Memphis, Memphis, TN.

*Associate Professor*, 2013 – , Institute for Intelligent Systems & Department of Psychology, University of Memphis, Memphis, TN.

*Assistant Professor*, 2007 – 2013 , Institute for Intelligent Systems & Department of Psychology, University of Memphis, Memphis, TN.

*Associate Director*, 2006 – 2013 , Institute for Intelligent Systems, University of Memphis, Memphis, TN.

*Visiting Assistant Professor*, 2006 – 2007 , Department of Psychology, University of Memphis, Memphis, TN.

## Awards

Early Career Research Award, University of Memphis, 2011

First place in the Open Interaction category at the American Association for Artificial Intelligence Robot Competition, 2005.

## Patents

U.S. Patent Pending, System and Method for Automatic Extraction of Conceptual Graphs, 2010.

## Funding

National Science Foundation, EAGER: Using Crowdsourced Virtual Students to Create Intelligent Tutors, 2013-2014, PI, \$163,830.

Institute of Education Sciences, Automating the Measurement and Assessment of Classroom Discourse, 2013-2016, PI (on subcontract to UW, PI Marty Nystrand), \$523,442.

Institute of Education Sciences, Understanding the cognitive and motivational profiles of struggling adult readers and developing effective and engaging literacy programs to address their literacy learning needs, 2012 – 2017, Co-PI; PI Art Graesser, \$2,219,911.

Army Research Laboratory, Generalized Intelligent Framework for Tutors, 2012 – 2016, Co-PI; PI Xiangen Hu, \$1,289,545.

Office of Naval Research, Shareable Knowledge Objects (SKO) as Enhanced, Portable ITS Modules, 2012 – 2014, Co-PI; PI Xiangen Hu, \$1,477,402.

National Science Foundation, Beyond Boredom: Modeling and Promoting Engagement during Complex Learning, 2011 – 2014, Co-PI; PI Sidney D’Mello, \$1,123,474.

Institute for Education Sciences, Guru: a computer tutor that models expert human tutors, 2008 – 2011. PI. \$1,858,176.

National Science Foundation, Conditions Guiding Coordinative and Adaptive Dynamics in Human Interaction, 2008 – 2011. Co-PI; PI Rick Dale. \$673,079.

FedEx, TugAV Human Interface, 2006 – 2008. PI. \$2,000.

SBIR with K-A-T Systems, Building and testing a question answering system for army learning environments, 2004. Senior Researcher; PI Art Graesser. \$30,000.

STTR with CHI Systems, Speech interface architecture for human to agent interactions, 2002 – 2003. Senior Researcher; PI Max Louwerse. \$30,000.

## Teaching Experience

*Cognitive Science Seminar* (PSYC/COMP/PHIL 7514/8514), Fall 2011. University of Memphis, Memphis, TN. A review of meaning representations with an emphasis on statistical, logical, and hybrid approaches

*Mind, Brain, & Intelligence* (PSYC 4305), Spring 2010, Spring 2011 (online), Spring 2013 (online). University of Memphis, Memphis, TN. A review of cognitive psychology and cognitive science as it relates to learning, thinking, and teach-

ing.

*Cognitive Science Seminar* (PSYC/COMP/PHIL 7514/8514), Spring 2009. University of Memphis, Memphis, TN. Investigation of how the fields of psychology, computer science, philosophy, sociology, anthropology, and other areas of cognitive science tackle the problems of understanding group structure and behavior.

*Computational Models of Cognition* (PSYC 7503/8503), Spring 2009, University of Memphis, Memphis, TN. An introduction to the fundamentals of computational cognitive models and their application in computational psychology.

*Psychology of Perception* (PSYC 3304), Spring 2008, University of Memphis, Memphis, TN. A basic introduction to sensory perception. Topics included vision, hearing, taste, smell, touch, pain, and vestibular perception

*Computational Psycholinguistics*, Spring 2003, University of Memphis, Memphis, TN. Taught Perl to complement the theoretical aspects of the course. Developed course materials and graded assignments.

*English Instructor*, 1997 – 1998, University College London, London, UK. Developed course materials and taught English to non-native speakers.

## Student Advising/Mentoring

Degree	Department	Name	Graduated
M.S.	Computer Science	Borhan Samei	2015
Ph.D.	Psychology	Whitney Cade	2015*
Ph.D.	Psychology	Blair Lehman	2015◇
Ph.D.	Psychology	Carol Forsyth	2015◇
Ph.D.	Mgmt. Information Systems	Jeff Kaleta	2015
Ph.D.	Computer Science	Javier Snaider	2012
Ph.D.	Comm. Sciences and Disorders	Anne Warlamount	2012
B.A.	Psychology	Patrick Hays	2011
M.S.	Counseling Psychology	Claire Williams	2011
M.S.	Elec. and Comp. Engineering	Lu Han	2010◇
B.A.	Psychology	Camilla Blanks	2010
B.A.	Psychology	Jamal Williams	2010
B.A.	Psychology	Whitney Cade	2009◇

\* Chair

◇ Committee

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Student Advising/Mentoring – *Continued from previous page*

Degree	Department	Name	Graduated
B.A.	Psychology	Blair Lehman	2008◇
B.A.	Psych. & C.S.	Lucy Shores	2008
M.S.	Computer Science	Sushma Vemulapalli	2008◇
M.S.	Computer Science	Natasha Velaga	2008◇
B.A.	Psychology	O'meed Entezari	2008

★ Chair

◇ Committee

## Journal Articles

- Riordan, M. A., Kreuz, R., & Olney, A. M. (In Press). Alignment is a function of conversational dynamics. *Journal of Language and Social Psychology*.
- Olney, A. M. (2013b). Symbolic, indexical, and iconic communication with domestic dogs. *Humana.Mente Journal of Philosophical Studies*, 24, 79–98.
- Olney, A. M. (2013a). Predicting film genres with implicit ideals. *Frontiers in Psychology*, 3(565).
- D'Mello, S., Olney, A., Williams, C., & Hays, P. (2012). Gaze tutor: A gaze-reactive intelligent tutoring system. *International Journal of Human-Computer Studies*, 70(5), 377 – 398.
- Olney, A. M., Graesser, A. C., & Person, N. K. (2012b). Question generation from concept maps. *Dialogue and Discourse*, 3(2), 75–99.
- Olney, A. M., Dale, R., & D'Mello, S. (2012a). The world within Wikipedia: An ecology of mind. *Information*, 3, 229–255.
- Olney, A. M. (2011). Large scale latent semantic analysis. *Behavior Research Methods*, 43(2), 414–423.
- D'Mello, S., Olney, A. M., & Person, N. (2010). Mining collaborative patterns in tutorial dialogues. *Journal of Educational Data Mining*, 2(1), 1–37.
- VanLehn, K., Graesser, A. C., Jackson, G. T., Jordan, P., Olney, A., & Rose, C. (2007). When are tutorial dialogues more effective than reading? *Cognitive Science*, 31, 3–62.
- Graesser, A. C., Chipman, P., Haynes, B., & Olney, A. M. (2005). AutoTutor: An intelligent tutoring system with mixed-initiative dialogue. *IEEE Transactions on Education*, 48(4), 612– 618.
- Shiva, S. G., Sherrell, L., Lee, S., & Olney, A. (2005). Engineering agent-based software systems. *Journal of Computing Sciences in Colleges*, 20(6), 28–28.

- Graesser, A. C., Lu, S., Jackson, G. T., Mitchell, H., Ventura, M., Olney, A., & Louwerse, M. M. (2004). AutoTutor: A tutor with dialogue in natural language. *Behavioral Research Methods, Instruments, and Computers*, 36, 180–193.
- Song, K., Hu, X., Olney, A., & Graesser, A. C. (2004). A framework of synthesizing tutoring conversation capability with web based distance education courseware. *Computers & Education*, 42(4), 375–388.

## Top Tier Refereed Conference Publications

- Olney, A., Cade, W., & Williams, C. (2011, June). Generating concept map exercises from textbooks. *Proceedings of the Sixth Workshop on Innovative Use of NLP for Building Educational Applications* (pp. 111–119). Portland, Oregon: Association for Computational Linguistics. **acceptance rate 26%**.
- Cade, W. L., Lehman, B. A., & Olney, A. (2010, June). An exploration of off topic conversation. *Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the Association for Computational Linguistics* (pp. 669–672). Los Angeles, California: Association for Computational Linguistics. **acceptance rate 31%**.
- D'Mello, S., Hays, P., Williams, C., Cade, W., Brown, J., & Olney, A. M. (2010a). Collaborative lecturing by human and computer tutors. *Intelligent Tutoring Systems, Lecture Notes in Computer Science* (pp. 178–187). Berlin: Springer. **acceptance rate 30%**.
- D'Mello, S., Williams, C., Hays, P., & Olney, A. M. (2010b). Individual differences as predictors of learning and engagement. In S. Ohlsson, & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 308–313). Austin, TX: Cognitive Science Society. **acceptance rate 30%**.
- Olney, A. M. (2010). Likability-based genres: Analysis and evaluation of the netflix dataset. In S. Ohlsson, & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 37–42). Austin, TX: Cognitive Science Society. **acceptance rate 30%**.
- Olney, A. M. (2009). Generalizing latent semantic analysis. *IEEE International Conference on Semantic Computing* (pp. 40–46). Los Alamitos, CA, USA: IEEE Computer Society. **acceptance rate 30%**.
- Olney, A. M. (2007a). Dialogue generation for robotic portraits. *Proceedings of the International Joint Conference on Artificial Intelligence 5th workshop on Knowledge and Reasoning in Practical Dialogue Systems* (pp. 15–21). Hyderabad, India. **acceptance rate 16%**.
- Olney, A. M. (2007b). Latent semantic grammar induction: Context,

- projectivity, and prior distributions. *Proceedings of the Second Workshop on TextGraphs: Graph-Based Algorithms for Natural Language Processing* (pp. 45–52). Rochester, NY, USA: Association for Computational Linguistics. **acceptance rate 24%**.
- Olney, A. M. (2007c). Multi-robot dispatch. *Proceedings of the International Joint Conference on Artificial Intelligence 5th workshop on Knowledge and Reasoning in Practical Dialogue Systems* (pp. 42–45). Hyderabad, India. **acceptance rate 16%**.
- Willits, J., D’Mello, S., Duran, N., & Olney, A. (2007). Distributional statistics and thematic role relationships. In D. S. McNamara, & J. G. Trafton (Eds.), *Proceedings of the 29th annual conference of the Cognitive Science Society* (pp. 707–712). Austin, TX.: Cognitive Science Society. **acceptance rate 30%**.
- Chipman, P., Olney, A., & Graesser, A. (2005). The AutoTutor 3 architecture: A software architecture for an expandable, high-availability ITS. In J. Cordeiro, V. Pedrosa, B. Encarnacao, & J. Filipe (Eds.), *Proceedings of WEBIST 2005: First International Conference on Web Information Systems and Technologies* (pp. 466–473). Portugal: INSTICC Press. **acceptance rate 30% approx.**
- VanLehn, K., Graesser, A. C., Jackson, G. T., Jordan, P., Olney, A., & Rose, C. P. (2005). When is reading just as effective as one-on-one interactive tutoring? In B. Bara, L. Barsalou, & M. Bucciarelli (Eds.), *Proceedings of the 27th Annual Meetings of the Cognitive Science Society* (pp. 2259–2264). Mahwah, NJ: Erlbaum. **acceptance rate 26%**.
- Graesser, A. C., Jackson, G. T., Mathews, E. C., Mitchell, H. H., Olney, A., Ventura, M., Chipman, P., Franceschetti, D., Hu, X., Louwerse, M. M., Person, N. K., & TRG (2003). Why / AutoTutor: A test of learning gains from a physics tutor with natural language dialog. In R. Alterman, & D. Hirsh (Eds.), *Proceedings of the 25rd Annual Conference of the Cognitive Science Society* (pp. 1–5). Boston, MA: Cognitive Science Society. **acceptance rate 23%**.
- Jackson, G. T., Mathews, E. C., Lin, D., Olney, A., & Graesser, A. C. (2003). Modeling student performance to enhance the pedagogy of AutoTutor. In P. Brusilovsky, A. T. Corbett, & F. de Rosis (Eds.), *User Modeling* (pp. 368–372). Springer. **acceptance rate 25%**.
- Olney, A. M., Louwerse, M., Mathews, E., Marineau, J., Hite-Mitchell, H., & Graesser, A. C. (2003). Utterance classification in AutoTutor. *Proceedings of the HLT-NAACL 03 Workshop on Building Educational Applications Using Natural Language Processing* (pp. 1–8). Philadelphia: Association for Computational Linguistics. **acceptance rate 23%**.

## Second Tier Refereed Conference Publications

- Olney, A. M., Hays, P., & Cade, W. L. (2013, July). XNAgent: Authoring embodied conversational agents for tutor-user interfaces. In E. Walker, & C.-K. Looi (Eds.), *Proceedings of the Workshops at the 16th International Conference on Artificial Intelligence in Education (AIED 2013)*, Vol. 7 (pp. 137–145).
- Olney, A., D’Mello, S., Person, N., Cade, W., Hays, P., Williams, C., Lehman, B., & Graesser, A. (2012). Guru: A computer tutor that models expert human tutors. In S. Cerri, W. Clancey, G. Papadourakis, & K. Panourgia (Eds.), *Intelligent Tutoring Systems*, Vol. 7315 of *Lecture Notes in Computer Science* (pp. 256–261). Springer Berlin / Heidelberg. **acceptance rate 44% as short paper.**
- Person, N., Olney, A., D’Mello, S., & Lehman, B. (2012). Interactive concept maps and learning outcomes in Guru. *Proceedings of the Twenty-Fifth International FLAIRS Conference* (pp. 456–461). Menlo Park, CA: AAAI Press. **acceptance rate 50% approx.**
- Razor, T., Olney, A., & D’Mello, S. (2011, May). Student speech act classification using machine learning. *Proceedings of the Twenty-Fourth International Florida Artificial Intelligence Research Society Conference* (pp. 275–280). Palm Beach, Florida: AAAI Press. **acceptance rate 50% approx.**
- Riordan, M. A., Dale, R., Kreuz, R. J., & Olney, A. (2011). Evidence for alignment in a computer-mediated text-only environment. In L. Carlson, C. Hoelscher, & T. F. Shipley (Eds.), *Proceedings of the 33rd annual meeting of the Cognitive Science Society* (pp. 2411–2416). Austin, TX: Cognitive Science Society. **acceptance rate 75% as poster.**
- Snaider, J., Olney, A. M., & Person, N. (2011). Nonverbal action selection for explanations using an enhanced behavior net. In H. H. Vilhjálmsson, S. Kopp, S. Marsella, & K. R. Thórisson (Eds.), *Intelligent Virtual Agents*, Vol. 6895 of *Lecture Notes in Computer Science* (pp. 141–147). Springer. **acceptance rate 49% as short talk.**
- Lehman, B., Cade, W., & Olney, A. M. (2010). Off topic conversation in expert tutoring: Waste of time or learning opportunity? In R. Baker, A. Merceron, & P. J. Pavlik (Eds.), *Proceedings of the 3rd International Conference on Educational Data Mining* (pp. 101–110). **acceptance rate 43%.**
- Olney, A. M. (2009, November). GnuTutor: An open source intelligent tutoring system based on AutoTutor. *Proceedings of the 2009 AAAI Fall Symposium on Cognitive and Metacognitive Educational Systems* (pp. 70–75). Washington, DC: AAAI Press. **acceptance rate 35% approx.**
- Jackson, G. T., Olney, A., Graesser, A. C., & Kim, H.-J. J. (2006). AutoTutor 3-D simulations: Analyzing users’ actions and learning trends. In R. Sun (Ed.), *Proceedings of the 28th Annual Meetings of the Cognitive Science Society* (pp. 1557–1562). Mahwah, NJ: Erlbaum. **acceptance rate 71% as poster.**
- Graesser, A., Olney, A., Ventura, M., & Jackson, G. T. (2005). AutoTutor’s

- coverage of expectations during tutorial dialogue. *Proceedings of the Eighteenth International Florida Artificial Intelligence Research Society Conference* (pp. 518–523). Menlo Park, CA: AAAI Press. **acceptance rate 49%**.
- Kim, H. J., Graesser, A., Jackson, G. T., Olney, A., & Chipman, P. (2005). The effectiveness of computer simulations in a computer-based learning environment. In G. Richards (Ed.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2005* (pp. 1362–1367). Chesapeake, VA: AACE. **acceptance rate 43%**.
- Olney, A. M., & Cai, Z. (2005b). An orthonormal basis for topic segmentation in tutorial dialogue. *Proceedings of the Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing* (pp. 971–978). Philadelphia: Association for Computational Linguistics. **acceptance rate 32%**.
- Olney, A. M., & Cai, Z. (2005a). An orthonormal basis for entailment. *Proceedings of the Eighteenth International Florida Artificial Intelligence Research Society Conference* (pp. 554–559). Menlo Park, CA: AAAI Press. **acceptance rate 49%**.
- Ventura, M. J., Hu, X., Graesser, A. C., Louwerse, M. M., & Olney, A. (2004). The context dependent sentence abstraction model. In K. D. Forbus, D. Gentner, & T. Regier (Eds.), *Proceedings of the 26rd Annual Meeting of the Cognitive Science Society* (pp. 1387–1392). Mahwah, NJ: Erlbaum. **acceptance rate 72% as poster**.
- Graesser, A. C., Moreno, K., Marineau, J., Adcock, A., Olney, A., & Person, N. (2003). AutoTutor improves deep learning of computer literacy: Is it the dialog or the talking head? In U. Hoppe, F. Verdejo, & J. Kay (Eds.), *Proceedings of Artificial Intelligence in Education* (pp. 47–54). Amsterdam: IOS Press. **acceptance rate 32% approx**.
- Mathews, E. C., Jackson, G. T., Olney, A., Chipman, P., & Graesser, A. C. (2003). Achieving domain independence in AutoTutor. In N. Callaos, M. Margenstern, J. Zhang, O. Castillo, & E. Doberkat (Eds.), *Proceedings of the Seventh World Multiconference on Systemics, Cybernetics, and Informatics* (pp. 172–176). Orlando: IIIS. **acceptance rate 35% approx**.
- Louwerse, M. M., Graesser, A. C., Olney, A., & the Tutoring Research Group (2002). Good computational manners: Mixed-initiative dialog in conversational agents. In C. Miller (Ed.), *Etiquette for Human-Computer Work: Papers from the AAAI Fall Symposium* (pp. 71–76). AAAI Press.
- Marineau, J., Olney, A., Louwerse, M., Person, N., Olde, B., Susarla, S., Chipman, P., Graesser, A. C., & TRG (2002). AutoTutor's log files and categories of language and discourse. In C. P. Rose, & V. Eleven (Eds.), *Workshop Proceedings of Empirical Methods for Tutorial Dialogue Systems at ITS 2002* (pp. 85–92). San Sebastian, Spain. **acceptance rate 32% approx**.



## Short Refereed Conference Publications

- Pavlik, P., Maass, J., Rus, V., & Olney, A. (2012). Facilitating co-adaptation of technology and education through the creation of an open-source repository of interoperable code. In S. Cerri, W. Clancey, G. Papadourakis, & K. Panourgia (Eds.), *Intelligent Tutoring Systems*, Vol. 7315 of *Lecture Notes in Computer Science* (pp. 677–678). Springer Berlin / Heidelberg. **acceptance rate 76% as poster.**
- Cade, W. L., Olney, A. M., Hays, P., & Person, N. K. (2010). Tutor me Elmo: Improving engagement and learning gains in intelligent tutoring systems with a robotic interface. In G. Biswas, D. Carr, Y. Chee, & W. Hwang (Eds.), *Early Career Researchers Track Proceedings of the IEEE 3rd International Conference on Digital Game and Intelligent Toy Enhanced Learning* (pp. 1–2). Jhongli, Taiwan: National Central University. **acceptance rate 61%.**
- Cade, W. L., & Olney, A. M. (2010). Using topic models to bridge coding schemes of differing granularity. In R. Baker, A. Merceron, & P. J. Pavlik (Eds.), *Proceedings of the International Conference on Educational Data Mining* (pp. 281–282). **acceptance rate 43%.**
- Olney, A. M. (2010). Extraction of concept maps from textbooks for domain modeling. In V. Aleven, J. Kay, & J. Mostow (Eds.), *Intelligent Tutoring Systems*, Vol. 6095 of *Lecture Notes in Computer Science* (pp. 390–392). Springer Berlin / Heidelberg. **acceptance rate 32% approx.**
- Olney, A. M., & D'Mello, S. (2010). A DIY pressure sensitive chair for intelligent tutoring systems. In V. Aleven, J. Kay, & J. Mostow (Eds.), *Intelligent Tutoring Systems*, Vol. 6095 of *Lecture Notes in Computer Science* (p. 456). Springer Berlin / Heidelberg. **acceptance rate 30%.**
- Olney, A. M. (2009). GnuTutor: An open source intelligent tutoring system. *Proceedings of the 14th International Conference on Artificial Intelligence in Education* (p. 803). Brighton UK: Amsterdam: IOS Press. **acceptance rate 32% approx.**
- Olney, A. M. (2007). Semantic heads for grammar induction. *Proceedings of the Workshop on Psychocomputational Models of Human Language Acquisition*. (pp. 13–15). Nashville, TN. **acceptance rate 69% as poster.**
- Hanson, D., Olney, A., Prilliman, S., Mathews, E., Zielke, M., Hammons, D., Fernandez, R., & Stephanou, H. (2005). Upending the uncanny valley. *Proceedings of the Twentieth National Conference on Artificial Intelligence and the Seventeenth Annual Conference on Innovative Applications of Artificial Intelligence* (pp. 1728–1729). Menlo Park, CA: AAAI Press. **acceptance rate 18%.**
- Kim, H. J., Graesser, A., Jackson, G. T., Olney, A., & Chipman, P. (2005). Computer simulation as an instructional technology in AutoTutor. In C.

- Looi, G. McCalla, B. Bredeweg, & J. Breuker (Eds.), *Artificial Intelligence in Education: Supporting Learning Through Intelligent and Socially Informed Technology* (pp. 845–847). Amsterdam: IOS Press. **acceptance rate 31%**.
- Hu, X., Cai, Z., Louwerse, M., Olney, A., Penumatsa, P., Graesser, A. C., & TRG (2003). A revised algorithm for latent semantic analysis. In G. Gottlob, & T. Walsh (Eds.), *Proceedings of the Eighteenth International Joint Conference on Artificial Intelligence* (pp. 1489–1491). San Francisco: Morgan Kaufmann. **acceptance rate 28% as poster.**
- Graesser, A. C., Hu, X., Olde, B. A., Ventura, M., Olney, A., Louwerse, M., Franceschetti, D. R., & Person, N. K. (2002). Implementing latent semantic analysis in learning environments with conversational agents and tutorial dialog. In W. G. Gray, & C. D. Schunn (Eds.), *Proceedings of the 24rd Annual Conference of the Cognitive Science Society* (p. 37). Mahwah, NJ: Erlbaum.
- Olney, A. M., Person, N. K., Louwerse, M., & Graesser, A. C. (2002). AutoTutor: A conversational tutoring environment. *Proceedings of the ACL-02 Demonstration Session* (pp. 108–109). Philadelphia: Association for Computational Linguistics. **acceptance rate 26%**.

## Book Chapters

- D'Mello, S. K., Strain, A. C., Olney, A., & Graesser, A. (2013). Affect, meta-affect, and affect regulation during complex learning. In R. Azevedo, & V. Aleven (Eds.), *International handbook of metacognition and learning technologies*, Vol. 26 of *Springer International Handbooks of Education* (pp. 669–681). Springer New York.
- Olney, A. M., & Cade, W. L. (2013). Matching learner models to instructional strategies. In R. Sottolare, A. Graesser, X. Hu, & H. Holden (Eds.), *Design recommendations for adaptive intelligent tutoring systems: Learner modeling*, Vol. 1 of *Adaptive Tutoring* (pp. 23–38). Orlando: U.S. Army Research Laboratory.
- Pavlik, Jr., P. I., Brawner, K., Olney, A. M., & Mitrovic, A. (2013). A review of student models used in intelligent tutoring systems. In R. Sottolare, A. Graesser, X. Hu, & H. Holden (Eds.), *Design recommendations for adaptive intelligent tutoring systems: Learner modeling*, Vol. 1 of *Adaptive Tutoring* (pp. 39–68). Orlando: U.S. Army Research Laboratory.
- Graesser, A. C., D'Mello, S. K., Xiangen, H., Cai, Z., Olney, A., & Morgan, B. (2012). AutoTutor. In P. McCarthy, & C. Boonthum-Denecke (Eds.), *Applied natural language processing: Identification, investigation, and resolution*. (pp. 169–187). Hershey, PA: IGI Global.
- Jeuniaux, P., Olney, A. M., & D'Mello, S. (2012). Practical programming for

- NLP. In P. McCarthy, & C. Boonthum-Denecke (Eds.), *Applied natural language processing: Identification, investigation, and resolution* (pp. 122–156). Hershey, PA: IGI Global.
- Olney, A. M., Person, N. K., & Graesser, A. C. (2012). Guru: Designing a conversational expert intelligent tutoring system. In P. McCarthy, C. Boonthum-Denecke, & T. Lamkin (Eds.), *Cross-disciplinary advances in applied natural language processing: Issues and approaches* (pp. 156–171). Hershey, PA: IGI Global.
- Graesser, A. C., Conley, M. W., & Olney, A. (2011). Intelligent tutoring systems. In K. R. Harris, S. Graham, T. Urdan, A. G. Bus, S. Major, & H. L. Swanson (Eds.), *APA educational psychology handbook, vol 3: Application to teaching and learning* (pp. 451–473). Washington, DC, US: American Psychological Association.
- Olney, A. M., Graesser, A. C., & Person, N. K. (2010). Tutorial dialog in natural language. In R. Nkambou, J. Bourdeau, & R. Mizoguchi (Eds.), *Advances in intelligent tutoring systems*, Vol. 308 of *Studies in Computational Intelligence* (pp. 181–206). Berlin: Springer-Verlag.
- Graesser, A. C., Louwerse, M. M., McNamara, D., Olney, A., Cai, Z., & Mitchell, H. (2007). Inference generation and cohesion in the construction of situation models: Some connections with computational linguistics. In F. Schmalhofer, & C. Perfetti (Eds.), *Higher level language processes in the brain: Inferences and comprehension processes* (pp. 289–310). Mahwah, NJ: Erlbaum.
- Person, N. K., D’Mello, S., & Olney, A. (2007). Toward socially intelligent interviewing systems. In F. G. Conrad, & M. F. Schober (Eds.), *Envisioning the survey interview of the future* (pp. 195–214).
- Graesser, A. C., Olney, A. M., Haynes, B. C., & Chipman, P. (2005). AutoTutor: A cognitive system that simulates a tutor that facilitates learning through mixed-initiative dialogue. In C. Forsythe, M. L. Bernard, & T. E. Goldsmith (Eds.), *Cognitive systems: Human cognitive models in systems design* (pp. 177–212). Mahwah, NJ: Erlbaum.

## Dissertation

- Olney, A. M. (2006). *Unsupervised induction of latent semantic grammars with application to parsing*. PhD thesis, University of Memphis.

## Books

- D’Mello, S. K., Calvo, R. A., & Olney, A. M. (Eds.). (2013). *Proceedings of the 6th International Conference on Educational Data Mining*.

## Invited Talks

Agentpalooza: Rapid Creation and Deployment of Embodied Conversational Agents. AAAI-12 Tutorial, Toronto, Canada, July 22nd, 2012.

The PKD Android: Painting a Conversational Portrait. Google, Mountain View, California, December 13th, 2005.

Philip K Dick Resurrected, a Conversational Portrait. Fedex Institute of Technology, Memphis, Tennessee, November 11th, 2005.

The PKD Android. *WIRED* NextFest, Chicago, June 24th – 26th, 2005.

Using Agent Toolkits in the Classroom. Third Annual Consortium for Computing Sciences in Colleges Mid-South Conference, University of Mississippi, Oxford, April 1st, 2005.

## Professional Activities

### Member

- Association for the Advancement of Artificial Intelligence
- Association for Computational Linguistics
- Association for Computing Machinery
- Cognitive Science Society
- International Artificial Intelligence in Education Society
- International Educational Data Mining Society

### Ad hoc Journal Reviewer

- Behavior Research Methods
- Cognitive Science
- Computers and Education
- Discourse & Dialogue
- IEEE Intelligent Systems
- IEEE Transactions on Learning Technologies
- International Journal of Artificial Intelligence in Education
- Journal of Computer Science and Technology
- Journal of Natural Language Engineering
- Wiley Interdisciplinary Reviews: Cognitive Science

### Chair

6th International Conference on Educational Data Mining, 2013.

“Learning in Intelligent Systems,” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2010. (merged)

#### Local Organizer

International Conference on Artificial Intelligence in Education, 2013.

#### Program committee

“Corpus Analysis of Natural Language Dialogue for Building ITSs,” Workshop at the International Conference on Artificial Intelligence in Education, 2011.

Artificial Intelligence in Education, 2011.

33rd Meeting of the Cognitive Science Society, 2011.

Intelligent Tutoring Systems Young Researcher’s Track, 2010.

International Conference of the Florida Artificial Intelligence Research Society, 2010.

“Applied Natural Language Processing,” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2009.

“Applied Natural Language Processing,” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2008.

“Applied Natural Language Processing,” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2007.

“Trends in Natural Language Processing,” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2006.

“Natural Language-based Knowledge Representations: New Perspectives” Special Track at the International Conference of the Florida Artificial Intelligence Society, 2005.

#### Conference Reviewer

American Education Research Association, 2011.

9th International Conference on Development and Learning, 2010.

American Education Research Association, 2010.

10th International Conference on Intelligent Tutoring Systems, 2010.

32nd Meeting of the Cognitive Science Society, 2010.

31st Meeting of the Cognitive Science Society, 2009.

9th International Conference on Intelligent Tutoring Systems, 2008.

30th Meeting of the Cognitive Science Society, 2008.

29th Meeting of the Cognitive Science Society, 2007.

## Technical Skills

Languages: C#, F#, Java, C, Perl, Prolog, Python.

Platforms: Windows, Linux, various embedded systems.

Methodologies: OOP, client/server, machine learning.

Development Tools: Visual Studio .NET, Eclipse, Director MX, JDK, gcc.