

Peter Mark Hastings

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EDUCATION

- 1994 PHD in Computer Science, University of Michigan, Thesis: *Automatic Acquisition of Word Meaning from Context*
- 1988 MS in Computer Science, Johns Hopkins University
- 1984 BS in Computer Science, Michigan State University

EMPLOYMENT HISTORY

- 2006– ASSOCIATE PROFESSOR, DePaul University, CDM
- 2001–2006 ASSISTANT PROFESSOR, DePaul University, CTI
Teaching courses in computer science, human-computer interaction, cognitive science, and computer game development. Major research projects involve intelligent tutoring for research methods and natural language processing.
- 1999–2001 TEMPORARY LECTURER, University of Edinburgh, School of Informatics
Taught first year Artificial Intelligence Communications and Learning module, first year Human Communications course, and third year Artificial Intelligence, Psychology, and Linguistics Large Practical module.
- 1998, 1999 POSTDOCTORAL RESEARCH FELLOW, University of Memphis, Psychology Department
Performed research with Arthur C. Graesser in intelligent tutoring systems and natural language processing, funded by grants from the National Science Foundation and Census Bureau.
- 1998, 1999 VISITING PROFESSOR, University of Memphis, Department of Mathematical Sciences
Taught undergraduate computer literacy and graduate Natural Language Processing.
- 1997–1998 ADJUNCT PROFESSOR, University of Memphis, Psychology Department
Taught graduate Cognitive Science Seminars on Cognitive Models and Applications of Cognitive Linguistics.
- 1996–1998 POSTDOCTORAL RESEARCH FELLOW, University of Memphis, Psychology Department
Researched and developed techniques for improving children's story writing using intelligent agents, funded by the McDonnell Foundation's Cognitive Studies for Educational Practice program.
- 1994–1996 POSTDOCTORAL RESEARCH FELLOW, University of Michigan, Department of EECS
Developed tutorial materials for the Soar Cognitive Architecture.

- 1991–1994 GRADUATE STUDENT TEACHING ASSISTANT, University of Michigan, Department of EECS
Led lab sections for introductory computer science course.
- 1992 GRADUATE STUDENT TEACHING ASSISTANT, University of Michigan, Psychology Department
Led a recitation section for introductory psychology course.
- 1989–1990 GRADUATE STUDENT RESEARCH ASSISTANT, University of Michigan, Department of EECS
Developed natural language processing techniques for a large automobile manufacturer.
- 1984–1989 RESEARCH SCIENTIST, National Security Agency, Fort Meade, Maryland
Developed a system to aid in a large information extraction task. Spent 9 months at Carnegie Mellon University’s Center for Machine Translation studying language acquisition.

GRANTS AND OTHER RECOGNITION

Funded Grants

- 2022–2023 REDUCING FOREIGN LANGUAGE ANXIETY WITH AN EMOTIONALLY INTELLIGENT TUTORING SYSTEM
- Funder: DePaul University Research Council
 - Goal: Testing emotionally intelligent e-learning system for identifying and ameliorating anxiety in English-language learners
 - Role: PI, working with PhD student Daneih Ismail
 - Amount: \$1813
- 2021–2024 GRADUATE ASSISTANCE IN AREAS OF NATIONAL NEED (GAANN)
- Funder: U.S. Department of Education
 - Goal: Offer opportunities for advanced graduate training to underserved populations
 - Role: PI.
 - Co-PIs: Alexander Rasin, Daniela Raicu, Filipo Sharevski, Bamshad Mobasher.
 - Amount: \$455,094
- 2021 TWEET N’ SOUR
- External sponsors through Bridging AI and UX summer internship program
 - Goal: Develop and evaluate tool to give feedback on tweets and reduce bias in social media
 - Role: Advisor to student team
- 2020–2021 REDUCING FOREIGN LANGUAGE ANXIETY USING AN E-LEARNING SYSTEM
- Funder: DePaul University Research Council
 - Goal: Evaluate ability to identify and ameliorate anxiety in English-language learners
 - Role: PI, working with PhD student Daneih Ismail
 - Amount: \$3000
- 2019–2021 DEVELOPING A DEEPER UNDERSTANDING OF COGNITIVE PROCESSES DRIVING MULTIPLE DOCUMENT COMPREHENSION
- Agency: US Institute of Education Sciences
 - Goal: Integrating information from different sources is a current major focus in education. This grant seeks to analyze student writing to determine the cognitive underpinnings of

their integrative processes.

- Role: Consultant. D. McNamara and K. Allen, Arizona State University, and J. Magliano, co-PIs.

2019–2021 THE DEVELOPMENT OF THE WRITING ASSESSMENT TOOL (WAT): AN ON-LINE PLATFORM FOR THE AUTOMATED ASSESSMENT OF WRITING EDUCATION TECHNOLOGY

- Agency: US Institute of Education Sciences
- Goal: Integrating information from different sources is a current major focus in education. This grant seeks to analyze student writing to determine the cognitive underpinnings of their integrative processes.
- Role: Consultant. D. McNamara and K. Allen, Arizona State University, and J. Magliano, co-PIs.

2019 FACULTY SUMMER RESEARCH GRANT: FAKENEWS!

- Funder: DePaul CDM
- Goal: Develop initial plan and materials for serious game teaching students about fake news
- Role: PI, working with PhD student Keith Cochran.
- Amount: \$7500

2016–2018 COLLABORATIVE INSTRUCTION FELLOWSHIP FOR COMPUTATIONAL NEUROSCIENCE

- Funder: DePaul University Quality of Instruction Council
- Goal: Create new course in Computational Neuroscience for Neuroscience B.S. students
- Role: PI, collaborating with Professors Sandra Virtue from Psychology and Eric Norstrom from Biology
- Amount: \$12,240

2016–2018 GRADUATE ASSISTANCE IN AREAS OF NATIONAL NEED (GAANN)

- Funder: U.S. Department of Education
- Goal: Offer opportunities for advanced graduate training to underserved populations
- Steven Lytinen, PI. Co-PI with Cynthia Putnam, Alexander Rasin, and Daniela Raicu from SoC.
- Amount: \$590,556

2014–2016 VIDEO GAME ATTRIBUTES AND MOTIVATION: THE IMPACT OF CHALLENGE, SOUND AND NARRATIVE ON PLAYER MOTIVATION IN FIVE POPULAR GENRES

- Funder: DePaul University Research Council
- Goal: Learn what makes games so motivating
- Role: PI, collaborating with PhD student, Ali Alkhafaji.
- Amount: \$1350

2010–2016 UNDERSTANDING ACROSS GRADES 6 THROUGH 12: EVIDENCE-BASED ARGUMENTATION FOR DISCIPLINARY LEARNING

- Funder: U.S. Institute for Education Sciences
- Goal: Understand how to get students to read with deep understanding
- Role: Key Personnel
- Collaborators: Susan Goldman (PI, UIC), Eric Baumgartner (Inquirium), Anne Britt (NIU), Matt Brown (Inquirium), Cynthia Greenleaf (WestEd), Thomas Griffin (UIC), Thomas Hanson (WestEd), Kimberly Lawless (UIC), Carol Lee (Northwestern), Ben Loh (Inquirium), Larry Ludlow (Boston College), Joseph Magliano (NIU), James Pellegrino (UIC), Bradford Pillow (NIU), Diane Puklin, Joshua Radinsky (UIC), Taffy Raphael (UIC), Cyn-

- thia Shanahan (UIC), Margaret Spencer (U of C), and Jennifer Wiley (UIC)
 - Amount: DePaul portion: \$265,200
- 2007–2010 DIGITAL LITERACY ASSESSMENT
 - Funder: U.S. Institute for Education Sciences
 - Goal: Create tools to automatically assess students’ historical essays
 - Role: *Ad hoc* consultant. PI: S. Goldman (UIC)
- 2003 NATURAL LANGUAGE TRAINING CORPORA
 - Funder: DePaul Library
 - Goal: Purchase textual training corpora for a variety of language processing research projects throughout CTI
 - Role: PI
 - Amount: \$3000
- 2003 SUMMER STIPEND ON RESEARCH METHODS TUTOR
 - Funder: DePaul Quality of Instruction Council
 - Goal: Further develop tutoring system to be used in Research Methods in Psychology classes.
 - Role: PI
 - Amount: \$3000
- 2002–2004 RESEARCH METHODS TUTOR
 - Funder: DePaul Quality of Instruction Council
 - Goal: Develop materials and technology for tutoring system to be used in Research Methods in Psychology classes.
 - Role: co-PI with David Allbritton, DePaul Psychology Department
 - Amount: \$3000
- 2000–2002 TEACHING COMPOSITION SKILLS VIA FEEDBACK FROM MULTIPLE AGENTS
 - Funder: UK Engineering and Physical Sciences Research Council
 - Goal: Develop an intelligent tutoring system to help students learn to write stories well by giving them feedback from multiple points of view.
 - Role: PI
 - Amount: £60,643
- 1998–1999 QUEST QUESTIONNAIRE EVALUATION TOOL
 - Funder: U.S. Census Bureau
 - Goal: Develop software to give feedback about problems in census questions that could cause them to be misinterpreted
 - Role: co-PI with Art Graesser and Roger Kreuz, University of Memphis
 - Amount: \$58,512
- 1997–2000 SIMULATING TUTORS WITH NATURAL DIALOG AND PEDAGOGICAL STRATEGIES
 - Funder: U.S. National Science Foundation
 - Goal: Develop a dialog-based intelligent tutoring system based on behaviors of human tutors
 - Role: co-PI with Art Graesser, Stan Franklin, Max Garzon, Roger Kreuz, Doug Hacker, Barry Gholson, and Xiangen Hu, University of Memphis
 - Amount: \$900,000
- 1996-1998 A MULTIMODAL WRITING ENVIRONMENT

- Funder: James S. McDonnell Foundation, Postdoctoral Research Grant
- Goal: Develop an intelligent tutoring system to help students learn to write stories well by giving them feedback from multiple points of view.
- Role: PI, to collaborate with Art Graesser, University of Memphis
- Amount: \$59,400

Unfunded Grant Applications

- 2020–2021 USING MACHINE LEARNING TO CHARACTERIZE SENSORIMOTOR DEFICITS ASSOCIATED WITH SPACE FLIGHT STRESSORS
- Agency: NASA
 - Goal: Study effects on coordination of stressors like radiation associated with long-duration space-flight as might be experienced by flying to Mars
 - Role: Co-PI with Douglas Wallace (Northern Illinois University), Richard Britten (Eastern Virginia Medical School), and Gwendolyn Kartje (CARES)
 - Amount: \$149,862
- 2017–2019 LEARNING SCIENCE ACROSS MULTIPLE DOCUMENTS: UNCOVERING DYNAMIC COGNITIVE PROCESSES USING MULTIPLE DATA STREAMS
- Agency: National Science Foundation
 - Goal: Integrating information from different sources is a current major focus in education. This grant seeks to analyze student writing to determine the cognitive underpinnings of their integrative processes.
 - Role: Consultant. D. McNamara and K. Allen, Arizona State University, and J. Magliano, co-PIs.
- 2017–2019 COMPREHENDING AND LEARNING SCIENCE: ADVANCING UNDERSTANDING THROUGH COMPUTATIONAL LINGUISTIC ANALYSES OF CONSTRUCTED RESPONSES
- Agency: National Science Foundation
 - Goal: To create a fundamental approach to analyzing student inferences made while reading scientific texts.
 - Role: Consultant. D. McNamara and K. Allen, Arizona State University, and J. Magliano, co-PIs.
- 2017–2019 UNDERSTANDING TEMPORAL INTERACTIONS AMONG THE LEARNER, THE TEXT, AND THE TASK
- Agency: National Science Foundation
 - Goal: To understand how inferences made while reading are affected by time.
 - Role: Consultant. D. McNamara and K. Allen, Arizona State University, and J. Magliano, co-PIs.
- 2017–2019 USING COMPUTATIONAL LINGUISTICS TO DETECT COMPREHENSION PROCESSES IN CONSTRUCTED RESPONSES ACROSS MULTIPLE LARGE DATA SETS
- Proposed to the U.S. Institute for Education Sciences, Cognition and Student Learning program
 - Goal: To develop a deep understanding of reading processes and the inferences that underlie them by analyzing a large corpus of online (i.e., while reading) prompted responses.
 - Role: Consultant

- Collaborators: Danielle McNamara (co-PI, Arizona State University), Karen Allen (co-PI, Arizona State University), Joseph Magliano (co-PI, Northern Illinois University)
- 2016–2019 DIP: ENHANCING TEACHERS INSTRUCTIONAL PRACTICE IN STEM: COMPUTER-BASED FEEDBACK ON MIDDLE SCHOOL SCIENCE WRITING
- Agency: National Science Foundation, Cyberlearning and Future Learning Technologies program
 - Goal: Provide in-depth analysis of student writing to their teachers.
 - Role: Advisory Board member
- 2015–2019 THE READING STRATEGIES ASSESSMENT TOOL (RSAT): REFINEMENT AND SCALE UP
- Agency: U.S. Institute for Education Sciences.
 - Goal: Computationally analyze answers to inference-related questions collected while participants are reading to determine the types of inferences they are making.
 - Role: Key Personnel. PI: T. Christ, University of Minnesota. Co-PIs: J. Magliano and K. Millis, Northern Illinois University.
- 2014–2017 PROJECT AWARES: ARGUMENTATIVE WRITING AND REVISION IN SCIENCE
- Agency: U.S. Institute for Education Sciences' Cognition and Student Learning Research Grant Program
 - Goal: Create an intelligent tutoring system to help students revise summary documents and improve the depth of their reading.
 - Role: Subcontractor
 - Amount: DePaul Portion: \$171,488
- 2010–2013 IMPROVING ACCESSIBILITY AND INTEGRATING STATISTICAL CONCEPTS IN A DIALOG-BASED INTELLIGENT TUTORING SYSTEM: EFFECTIVELY TEACHING CRITICAL RESEARCH EVALUATION
- Agency: Spencer Foundation
 - Goal: Extend Research Methods Tutor, and further study its use in the classroom
 - Role: Co-PI with Elizabeth Arnott-Hill, Chicago State University
- 2006–2009 INCREASING CONCEPTUAL CONNECTION WITH MIXED LANGUAGE TUTORING
- Agency: National Science Foundation's Advanced Learning Technologies program
 - Goal: Advance research in Dialog-based Intelligent Tutoring Systems by providing multimodal instruction
 - Role: Co-PI with David Allbritton, DePaul Psychology Department
 - Amount: \$474,663
- 2005–2008 CREATING A USABLE ENVIRONMENT FOR TEACHING ARGUMENT COMPREHENSION AND PRODUCTION SKILLS
- Agency: U.S. Institute for Education Sciences' Cognition and Student Learning Research Grant Program
 - Goal: Create a tutoring system to aid students' comprehension of argumentative texts
 - Role: Co-PI with A. Britt (NIU Psychology) and C. Wolfe (Miami U Psychology).
- 2000 PROMOTING ACTIVE READING STRATEGIES TO IMPROVE STUDENTS' UNDERSTANDING OF SCIENCE, September 2000 - August 2005
- Agency: U.S. National Science Foundation
 - Goal: Develop intelligent tutoring system to improve student reading strategies
 - Role: *Ad hoc* consultant. D. MacNamara (University of Memphis), PI

- 2000 WHY2K: A TUTOR THAT TEACHES MENTAL MODELS USING NATURAL LANGUAGE DIALOGS, September 2000 - August 2005
- Agency: U.S. Office of Naval Research
 - Goal: Enhance a dialog-based intelligent tutoring system for physics
 - Role: *Ad hoc* consultant. PIs: K. VanLehn (University of Pittsburgh) and A. Graesser (University of Memphis),
 - Amount: \$1,168,700
- 2000 DEVELOPING AND TESTING A COMPUTER THAT CRITIQUES SURVEY QUESTIONS, September 2000 - August 2002
- Agency: U.S. National Science Foundation
 - Goal: Further develop tool for critiquing questionnaire questions
 - Role: *Ad hoc* consultant. PI: A. Graesser (University of Memphis)
 - Amount: \$205,900

Other Recognition

- 2023 BEST STUDENT PAPER AWARD NOMINEE: COCHRAN, COHN, HASTINGS, AND ROUET. IMPROVING AUTOMATED EVALUATION OF STUDENT TEXT RESPONSES USING GPT-3.5 FOR TEXT DATA AUGMENTATION. PROCEEDINGS OF ARTIFICIAL INTELLIGENCE IN EDUCATION, 2023.
- 2023 BEST POSTER AWARD NOMINEE: ISMAIL AND HASTINGS. EMOTIONALLY ADAPTIVE INTELLIGENT TUTORING SYSTEM TO REDUCE FOREIGN LANGUAGE ANXIETY. PROCEEDINGS OF ARTIFICIAL INTELLIGENCE IN EDUCATION, 2023.
- 2021 DEPAUL ONLINE TEACHING SERIES (DOTS) COURSE APPROVAL FOR HCI 450, FOUNDATIONS OF HUMAN COMPUTER INTERACTION, June 6 – 30, 2021.
- 2017 COMPUTATIONAL NEUROSCIENCE WORKSHOP, July 10-14, 2017
- Funder: NSF, Administered by University of Missouri's Computational Neurobiology Center
 - Goal: Help faculty prepare for teaching Computational Neuroscience
 - Role: Selected as one of 22 workshop attendees. Learned how to teach neuroscience using computational and mathematical models.
- 2009 DEPAUL UNIVERSITY HONORS DISTINGUISHED FACULTY AWARD, 2009 – 2012

SCHOLARSHIP

Current h-index = 28, from Google Scholar

Journal Publications^{1 2 3}

- 2023 **Keith Cochran, Clayton Cohn**, Peter Hastings, Noriko Tomuro, and Simon Hughes. IDENTIFYING CAUSAL RELATIONS IN STUDENTS' EXPLANATORY ESSAYS WITH BERT. *International Journal of Artificial Intelligence in Education*, 2023. Revise and resubmit, under review. Journal's H-Index 2020-2021: 49.0.
- 2017 Jennifer Wiley, Peter Hastings, **Dylan Blaum, Allison Jaeger, Simon Hughes**, Patricia Wallace, Thomas D Griffin, and M. Anne Britt. DIFFERENT APPROACHES TO ASSESSING THE QUALITY OF EXPLANATIONS FOLLOWING A MULTIPLE-DOCUMENT INQUIRY ACTIVITY IN SCIENCE. *International Journal of Artificial Intelligence in Education*, pages 1–33, 2017.
- 2016 M. Anne Britt, Kristopher J. Kopp, Amanda M. Durik, **Dylan Blaum**, and Peter Hastings. IDENTIFYING GENERAL COGNITIVE ABILITIES INVOLVED IN ARGUMENT COMPREHENSION AND EVALUATION. *German Journal of Educational Psychology*, 30(2-3):1–17, 2016. Impact factor = 0.95.
- 2012 Peter Hastings, **Simon Hughes**, Joseph Magliano, Susan Goldman, and Kimberly Lawless. ASSESSING THE USE OF MULTIPLE SOURCES IN STUDENT ESSAYS. *Behavior Research Methods*, 44(3):622–633, 2012. Impact factor = 2.458.
- 2008 **Elizabeth Arnott**, Peter Hastings, and David Allbritton. RESEARCH METHODS TUTOR: EVALUATION OF A DIALOGUE-BASED TUTORING SYSTEM IN THE CLASSROOM. *Behavior Research Methods*, 40(3):694–698, 2008. Impact factor = 2.458.
- 2007 **Robert Poulsen**, Peter Wiemer-Hastings, and David Allbritton. TUTORING BILINGUAL STUDENTS WITH AN AUTOMATED READING TUTOR THAT LISTENS. *Journal of Educational Computing Research*, 36(2), 2007. Impact factor = 0.659.
- 2005 **Brian Ng** and Peter Wiemer-Hastings. ADDICTION TO THE INTERNET AND ONLINE GAMING. *CyberPsychology and Behavior*, 8(2):110–113, 2005.
- 2004 Anne Britt, Peter Wiemer-Hastings, **Aaron Larson**, and Chuck Perfetti. USING INTELLIGENT FEEDBACK TO IMPROVE SOURCING AND INTEGRATION IN STUDENTS' ESSAYS. *International Journal of Artificial Intelligence in Education*, 14:359–374, 2004.
- 2004 Judy Robertson, Beth Cross, Hamish MacLeod, and Peter Wiemer-Hastings. CHILDREN'S INTERACTIONS WITH ANIMATED AGENTS IN AN INTELLIGENT TUTORING SYSTEM. *International Journal of Artificial Intelligence in Education*, 14:335–357, 2004.
- 2004 Katja Wiemer-Hastings, **A. Janit**, Peter Wiemer-Hastings, **S. Cromer**, and **J. Kinser**. AUTO-

¹My name was changed from Peter Hastings to Peter Wiemer-Hastings in 1996, and back to Peter Hastings in 2007.

²Names in **bold face** are student co-authors.

³The International Journal of Artificial Intelligence in Education (IJAIED) is the foremost journal in my area. Its 2022 Clarivate Impact Factor is 4.9. Its 2022 h-index is 56. It is in the 96th percentile in Social Sciences / Education, and it is 12/113 in the 89th percentile in Computer Science/Computational Theory and mathematics. I have published three articles in it, one since receiving tenure, and I have another currently under review. I have also published four articles in Behavior Research Methods which has a 2021-22 Impact Factor of 4.325. Impact factors above 2 are described as "High Impact" by https://psychology.fandom.com/wiki/Impact_factors_of_psychology_journals.

- MATIC CLASSIFICATION OF DYSFUNCTIONAL THOUGHTS: A FEASIBILITY TEST. *Behavior Research Methods Instruments and Computers*, 36:203–212, 2004. Impact factor = 2.458.
- 2000 Arthur Graesser, Katja Wiemer-Hastings, Roger Kreuz, Peter Wiemer-Hastings, and Kent Marquis. QUAID: A QUESTIONNAIRE EVALUATION AID FOR SURVEY METHODOLOGISTS. *Behavior Research Methods, Instruments, and Computers*, 32:254–262, 2000. Impact factor = 2.458.
- 1999 Arthur Graesser, **Katja Wiemer-Hastings**, Peter Wiemer-Hastings, R. Kreuz, and the TRG. AUTOTUTOR: A SIMULATION OF A HUMAN TUTOR. *Journal of Cognitive Systems Research*, 1:35–51, 1999. Impact factor = 0.754.

Archival Conference Proceedings^{4 5 6 7}

- 2023 **Keith Cochran, Clayton Cohn**, Peter Hastings, and Jean-Francois Rouet. IMPROVING AUTOMATED EVALUATION OF STUDENT TEXT RESPONSES USING GPT-3.5 FOR TEXT DATA AUGMENTATION. In *Proceedings of the 24th International Conference on Artificial Intelligence in Education*, pages 217–228, 2023. Accepted as full paper. Acceptance rate: 21.1%. **Best Student Paper Award nominee**. CORE Conference Rank: A.
- 2023 **Daneih Ismail** and Peter Hastings. EMOTIONALLY ADAPTIVE INTELLIGENT TUTORING SYSTEM TO REDUCE FOREIGN LANGUAGE ANXIETY. In *Proceedings of the 24th International Conference on Artificial Intelligence in Education. Posters and Late Breaking Results, Workshops and Tutorials, Industry and Innovation Tracks, Practitioners, Doctoral Consortium and Blue Sky*, pages 353–358, 2023. Submitted as Late-Breaking Results short paper / poster. **Best Poster Award nominee**. CORE Conference Rank: A.
- 2023 **Keith Cochran, Clayton Cohn**, and Peter Hastings. IMPROVING NLP MODEL PERFORMANCE ON SMALL EDUCATIONAL DATA SETS USING SELF-AUGMENTATION. In *Proceedings of the 15th International Conference on Computer Science Education*, pages 70–78, 2023. Accepted as full paper. Acceptance rate: 20.9%. CORE Conference Rank: B.
- 2022 **Keith Cochran, Clayton Cohn, Nicole Hutchins**, Gautam Biswas, and Peter Hastings. IMPROVING AUTOMATED EVALUATION OF FORMATIVE ASSESSMENTS WITH TEXT DATA AUGMENTATION. In *Proceedings of the 23rd International Conference on Artificial Intelligence in Education*, pages 390–401, 2022. Accepted as full paper. Acceptance rate: 20%. CORE Conference Rank: A.
- 2022 **Daneih Ismail** and Peter Hastings. TOWARD UBIQUITOUS FOREIGN LANGUAGE LEARNING ANXIETY DETECTION. In *Proceedings of the 23rd International Conference on Artificial Intelligence in Education*, pages 298–301, 2022. Submitted as long paper, accepted as extended abstract. Full paper acceptance rate: 20%. Combined acceptance rate 79%. CORE Conference Rank: A.
- 2022 **Abigail Keller**, Jacob Furst, Daniela Raicu, Peter Hastings, and Roselyne Tchoua. TEXT SUMMARIZATION TOWARDS SCIENTIFIC INFORMATION EXTRACTION. In *2022 IEEE 18th Interna-*

⁴In my field, conference submissions are full papers and are reviewed at least as strictly as journal manuscripts. They are often a preferred means of publication because they get new results disseminated more quickly.

⁵Names in **bold face** are student co-authors.

⁶I presented all papers on which I was first author, and those on which Simon Hughes was first author, because his travel options are limited due to family and work responsibilities.

⁷The two conferences where I have published most of my conference papers, Artificial Intelligence in Education and Intelligent Tutoring Systems, are the most influential in my scholarship area, and they both have an A rating from the Computing Research and Education Association (CORE) of Australasia.

- tional Conference on e-Science (e-Science), pages 225–235, 2022. CORE Conference Rank: B.
- 2021 **Daneih Ismail** and Peter Hastings. WAY TO GO! EFFECTS OF MOTIVATIONAL SUPPORT AND AGENTS ON REDUCING FOREIGN LANGUAGE ANXIETY. In *Proceedings of the 22nd International Conference on Artificial Intelligence in Education*, pages 202–207, 2021. Submitted as long paper, accepted as full paper. Full paper acceptance rate: 23.8%. Combined acceptance rate 62%. CORE Conference Rank: A.
- 2021 **Brian Grey**, Sa Liu, and Peter Hastings. TEACHING SPACE SCIENCE TO MIDDLE SCHOOL STUDENTS USING SERIOUS GAMES IN A POST-COVID WORLD. In *SITE Interactive Conference*, pages 306–311. Association for the Advancement of Computing in Education (AACE), 2021.
- 2020 **Daneih Ismail** and Peter Hastings. A SENSOR-LITE ANXIETY DETECTOR FOR FOREIGN LANGUAGE LEARNING. In *Proceedings of the 14th International Conference on Interfaces and Human Computer Interaction 2020 and 13th International Conference on Game and Entertainment Technologies*, pages 12–26, 2020. Acceptance rate: 17%.
- 2019 Seiji Isotani, Eva Millan, Amy Ogan, Peter Hastings, Bruce McLaren, and Rose Luckin, editors. *Proceedings of the 20th International Conference on Artificial Intelligence in Education*, 2019.
- 2019 **Simon Hughes**, Peter Hastings, and M. Anne Britt. IDENTIFYING THE STRUCTURE OF STUDENTS’ EXPLANATORY ESSAYS. In Seiji Isotani, Eva Millan, Amy Ogan, Peter Hastings, Bruce McLaren, and Rose Luckin, editors, *Proceedings of the 20th International Conference on Artificial Intelligence in Education*. Springer, 2019. Submitted as full paper, accepted as short paper. Full paper acceptance rate: 25%. Combined rate: 58%. CORE Conference Rank: A.
- 2019 **Daneih Ismail** and Peter Hastings. IDENTIFYING FOREIGN LANGUAGE ANXIETY WHEN USING AN E-LEARNING SYSTEM. In *Proceedings of the Multi Conference on Computer Science and Information Systems*, pages 131–140, 2019. Acceptance rate: 17%.
- 2018 Peter Hastings, **Simon Hughes**, and M. Anne Britt. ACTIVE LEARNING FOR IMPROVING MACHINE LEARNING OF STUDENT EXPLANATORY ESSAYS. In Carolyn Penstein Rosé, Roberto Martínez-Maldonado, H. Ulrich Hoppe, Rose Luckin, Manolis Mavrikis, Kaska Porayska-Pomsta, Bruce McLaren, and Benedict du Boulay, editors, *Proceedings of the 19th International Conference on Artificial Intelligence in Education*, LNCS, volume 10947. Springer, 2018. Acceptance rate: 25%. CORE Conference Rank: A.
- 2017 Massimo Di Pierro and Peter Hastings. SOCIAL QUIZZES WITH SCUIZ. In *Proceedings of the 5th World Conference on Information Systems and Technologies*, pages 975–982, Berlin, 2017. Springer. Acceptance rate unavailable.
- 2016 Peter Hastings, **Simon Hughes**, M. Anne Britt, Patricia Wallace, and **Dylan Blaum**. STRATIFIED LEARNING FOR REDUCING TRAINING SET SIZE. In *Proceedings of the 13th International Conference on Intelligent Tutoring Systems, ITS 2016, LNCS 9684*, pages 341 – 346, Berlin, 2016. Springer. Acceptance rate: 42%. CORE Conference Rank: A.
- 2015 **Simon Hughes**, Peter Hastings, M. Anne Britt, Patricia Wallace, and **Dylan Blaum**. MACHINE LEARNING FOR HOLISTIC EVALUATION OF SCIENTIFIC ESSAYS. In *Proceedings of Artificial Intelligence in Education 2015*, Berlin, 2015. Springer. Acceptance rate: 28%. CORE Conference Rank: A.
- 2014 Peter Hastings, **Simon Hughes**, M. Anne Britt, Patricia Wallace, and **Dylan Blaum**. TOWARD AUTOMATIC INFERENCE OF CAUSAL STRUCTURE IN STUDENT ESSAYS. In S. Trausan-Matu and K. Boyer, editors, *Proceedings of Intelligent Tutoring Systems 2014*, pages 266–271, Berlin, 2014.

- Springer. Acceptance rate: 43%. CORE Conference Rank: A.
- 2013 **Jacob Costello** and Peter Hastings. EVOLUTION OF RESPONSE TIME DISTRIBUTION IN MENU SEARCH. In R. West and T. Stewart, editors, *Proceedings of ICCM 2013: 12th International Conference on Cognitive Modelling*, Ottawa, Canada, 2013. Acceptance rate: 65%.
- 2012 **Simon Hughes**, Peter Hastings, Joseph Magliano, Susan Goldman, and Kimberly Lawless. AUTOMATED APPROACHES FOR DETECTING INTEGRATION IN STUDENT ESSAYS. In S. Cerri, W. Clancey, G. Papadourakis, and K. Panourgia, editors, *Proceedings of Intelligent Tutoring Systems 2012*, Xania, Crete, 2012. Acceptance rate: 44%. CORE Conference Rank: A.
- 2011 Peter Hastings, **Simon Hughes**, Joseph Magliano, Susan Goldman, and Kimberly Lawless. TEXT CATEGORIZATION FOR ASSESSING MULTIPLE DOCUMENTS INTEGRATION, OR JOHN HENRY VISITS A DATA MINE. In G. Biswas and S. Bull, editors, *Proceedings of the 15th International Conference on Artificial Intelligence in Education*, Auckland, New Zealand, 2011. Acceptance rate: 32%. CORE Conference Rank: A.
- 2010 Peter Hastings, **Elizabeth Arnott**, and David Allbritton. SQUEEZING OUT GAMING BEHAVIOR IN A DIALOG-BASED ITS. In V. Aleven, J. Kay, and J. Mostow, editors, *Proceedings of Intelligent Tutoring Systems 2010*, Berlin, 2010. Springer. Acceptance rate: 38%. CORE Conference Rank: A.
- 2004 Peter Wiemer-Hastings, David Allbritton, and **Elizabeth Arnott**. RMT: A DIALOG-BASED RESEARCH METHODS TUTOR WITH OR WITHOUT A HEAD. In *Proceedings of the ITS2004 Seventh International Conference*, Berlin, 2004. Springer-Verlag. Acceptance rate: 39%.
- 2002 **Kalliopi Malatesta**, Judy Robertson, and Peter Wiemer-Hastings. BEYOND THE SHORT ANSWER QUESTION WITH RESEARCH METHODS TUTOR. In S. Cerri, G. Gouarderes, and F. Paraguacu, editors, *Proceedings of the 6th Annual Conference on Intelligent Tutoring Systems*. Springer, 2002.
- 2002 **Beata Klebanov** and Peter Wiemer-Hastings. USING LSA FOR PRONOMINAL ANAPHORA RESOLUTION. In *Computational Linguistics and Intelligent Text Processing, LNCS 2276*, pages 197–199. Springer, 2002.
- 2002 Judy Robertson and Peter Wiemer-Hastings. FEEDBACK ON CHILDREN’S STORIES VIA MULTIPLE INTERFACE AGENTS. In S. Cerri, G. Gouarderes, and F. Paraguacu, editors, *Proceedings of the 6th Annual Conference on Intelligent Tutoring Systems*, pages 923–932. Springer, 2002. Acceptance rate = 57%.
- 2001 Freddy Y. Y. Choi, Peter Wiemer-Hastings, and Johanna Moore. LATENT SEMANTIC ANALYSIS FOR TEXT SEGMENTATION. In Lillian Lee and Donna Harman, editors, *Proceedings of the 2001 Conference on Empirical Methods in Natural Language Processing*, pages 109–117, 2001. Acceptance rate: 32%.
- 2001 Peter Wiemer-Hastings and **Iraide Zipitria**. RULES FOR SYNTAX, VECTORS FOR SEMANTICS. In *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*, Mahwah, NJ, 2001. Erlbaum.
- 2000 Peter Wiemer-Hastings. ADDING SYNTACTIC INFORMATION TO LSA. In *Proceedings of the 22nd Annual Conference of the Cognitive Science Society*, pages 989–993, Mahwah, NJ, 2000. Erlbaum.
- 2000 Arthur Graesser, Katja Wiemer-Hastings, Peter Wiemer-Hastings, and Roger Kreuz. THE GOLD STANDARD OF QUESTION QUALITY ON SURVEYS: EXPERTS, COMPUTER TOOLS, VERSUS STATISTICAL INDICES. In *Proceedings of the Section on Survey Research Methods of the American Statistical Association*, pages 459–464. American Statistical Association, 2000.

- 2000 Katja Wiemer-Hastings, Peter Wiemer-Hastings, **Sonja Rajan**, Arthur Graesser, Roger Kreuz, and **Ashish Karnavat**. DP: A DETECTOR FOR PRESUPPOSITIONS IN SURVEY QUESTIONS. In *Proceedings of the Joint Language Technology Conference*, pages 90–96. ACL Press, 2000.
- 1999 Peter Wiemer-Hastings, **Katja Wiemer-Hastings**, and Arthur Graesser. HOW LATENT IS LATENT SEMANTIC ANALYSIS? In *Proceedings of the 16th International Joint Congress on Artificial Intelligence*, pages 932–937, San Francisco, 1999. Morgan Kaufmann.
- 1999 Peter Wiemer-Hastings, **Katja Wiemer-Hastings**, and Arthur Graesser. IMPROVING AN INTELLIGENT TUTOR’S COMPREHENSION OF STUDENTS WITH LATENT SEMANTIC ANALYSIS. In S. Lajoie and M. Vivet, editors, *Artificial Intelligence in Education*, pages 535–542, Amsterdam, 1999. IOS Press.
- 1999 Peter Wiemer-Hastings, **Katja Wiemer-Hastings**, and Arthur Graesser. APPROXIMATE NATURAL LANGUAGE UNDERSTANDING FOR AN INTELLIGENT TUTOR. In *Proceedings of the 12th International Florida Artificial Intelligence Research Conference*, pages 172–176, Menlo Park, CA, 1999. AAAI Press.
- 1998 Peter Wiemer-Hastings, Arthur Graesser, **Derek Harter**, and the Tutoring Research Group. THE FOUNDATIONS AND ARCHITECTURE OF AUTOTUTOR. In B. Goettl, H. Halff, C. Redfield, and V. Shute, editors, *Intelligent Tutoring Systems, Proceedings of the 4th International Conference*, pages 334–343, Berlin, 1998. Springer.
- 1998 Peter Wiemer-Hastings, Arthur Graesser, and **Katja Wiemer-Hastings**. INFERRING THE MEANING OF VERBS FROM CONTEXT. In *Proceedings of the 20th Annual Conference of the Cognitive Science Society*, pages 1142–1147, Mahwah, NJ, 1998. Erlbaum.
- 1998 Arthur Graesser, Stan Franklin, Peter Wiemer-Hastings, and the Tutoring Research Group. SIMULATING SMOOTH TUTORIAL DIALOGUE WITH PEDAGOGICAL VALUE. In *Proceedings of the 11th International Florida Artificial Intelligence Research Symposium Conference*, pages 163–167. AAAI Press, 1998.
- 1994 Peter Hastings and Steven Lytinen. OBJECTS, ACTIONS, NOUNS, AND VERBS. In *Proceedings of the 16th Annual Conference of the Cognitive Science Society*, pages 397–402, Hillsdale, NJ, 1994. Lawrence Erlbaum Associates.
- 1994 Peter Hastings and Steven Lytinen. THE UPS AND DOWNS OF LEXICAL ACQUISITION. In *Proceedings of the Twelfth National Conference on Artificial Intelligence*, pages 754–759, Cambridge, MA, 1994. MIT Press.
- 1991 **Peter Hastings**, Steven Lytinen, and Robert Lindsay. LEARNING WORDS: COMPUTERS AND KIDS. In K. Hammond and D. Gentner, editors, *Proceedings of the 13th Annual Conference of the Cognitive Science Society*, pages 251–256, Hillsdale, NJ, 1991. Lawrence Erlbaum Associates.
- 1991 **Peter Hastings**, Steven Lytinen, and Robert Lindsay. LEARNING WORDS FROM CONTEXT. In L. Birnbaum and G. Collins, editors, *Machine Learning: Proceedings of the Eighth International Workshop*, pages 55–59, San Mateo, CA, 1991. Morgan Kaufmann.

Other Refereed Conference and Workshop Proceedings

- 2013 **Ali Alkhafaji**, **Brian Grey**, and Peter Hastings. PERCEPTION VS. REALITY: CHALLENGE, CONTROL AND MYSTERY IN VIDEO GAMES. In *Proceedings of CHI 2013 Games User Research Workshop*,

Paris, 2013.

- 2013 **Ali Alkhafaji, Brian Grey,** and Peter Hastings. A NEW DESIGN AND ANALYSIS METHODOLOGY BASED ON PLAYER EXPERIENCE. In *Proceedings of CHI 2013 Games User Research Workshop*, Paris, 2013.
- 2009 Peter Hastings, Anne Britt, B. Sagarin, Amanda Durik, and Kris Kopp. DESIGNING A GAME FOR TEACHING ARGUMENTATION SKILLS. In *AIED 2009: 14th International Conference on Artificial Intelligence in Education, Workshop Proceedings, Workshop on Intelligent Educational Games*, Brighton, England, 2009.
- 2005 Peter Wiemer-Hastings, **Elizabeth Arnott,** and David Allbritton. INITIAL RESULTS AND MIXED DIRECTIONS FOR RESEARCH METHODS TUTOR. In *AIED2005 - Supplementary Proceedings of the 12th International Conference on Artificial Intelligence in Education*, Amsterdam, 2005.
- 2004 Peter Wiemer-Hastings. THE DESIGN AND ARCHITECTURE OF RESEARCH METHODS TUTOR, A SECOND GENERATION DIALOG-BASED TUTOR. In *Proceedings of the ITS2004 Workshop on Dialog-based Intelligent Tutoring Systems*, Maciao, Brazil, 2004.
- 2004 **Asimina Vasalou, Brian Ng,** Peter Wiemer-Hastings, and **Lydia Oshlyansky.** HUMAN-MODERATED REMOTE USER TESTING: PROTOCOLS AND APPLICATIONS. In *Proceedings of the 8th ERCIM Workshop, User Interfaces for All*, 2004.
- 2003 Peter Wiemer-Hastings, David Allbritton, **Jesse Efron,** and **Elizabeth Arnott.** RESEARCH METHODS TUTORING IN THE CLASSROOM. In *AIED2003 - Supplementary Proceedings of the 11th International Conference on Artificial Intelligence in Education*, pages 388 – 392, Sydney, 2003. University of Sydney.
- 2003 Peter Wiemer-Hastings and Kathryn Glasswell. STORYSTATION: AGENT-BASED SCAFFOLDING OF METACOGNITIVE PROCESSES FOR WRITING. In *AIED2003 - Supplementary Proceedings of the 11th International Conference on Artificial Intelligence in Education*, pages 534 – 541, Sydney, 2003. University of Sydney.
- 2000 **J. Marineau,** Peter Wiemer-Hastings, **D. Harter, B. Olde, P. Chipman, A. Karnavat, V. Pomeroy,** Arthur Graesser, and the TRG. CLASSIFICATION OF SPEECH ACTS IN TUTORIAL DIALOG. In *Proceedings of the workshop on modeling human teaching tactics and strategies at the Intelligent Tutoring Systems 2000 conference*, pages 65–71, 2000.
- 1996 Peter Hastings. IMPLICATIONS OF AN AUTOMATIC LEXICAL ACQUISITION MECHANISM. In S. Wermter, E. Riloff, and C. Scheler, editors, *Connectionist, Statistical, and Symbolic Approaches to Learning for Natural Language Processing*. Springer-Verlag, Berlin, 1996.
- 1995 Peter Hastings. USE OF CONTEXT IN AN AUTOMATIC LEXICAL ACQUISITION MECHANISM. In L. Iwanska, editor, *Proceedings of the Workshop on Context in Natural Language of the 14th International Joint Conference on Artificial Intelligence*, 1995.
- 1993 Steven Lytinen, **R. Burrige, Peter Hastings,** and **C. Huyck.** DESCRIPTION OF THE LINK SYSTEM USED FOR MUC-5. In *Proceedings of the Fifth Message Understanding Conference*, San Mateo, CA, 1993. Morgan Kaufmann Publishers.
- 1992 Steven Lytinen, **Bhattacharyya Sayan, Robert Burrige, Peter Hastings, Christian Huyck, Karen Lipinsky, Eric McDaniel,** and **Karenann Terrell.** THE LINK SYSTEM: MUC-4 TEST RESULTS AND ANALYSIS. In *Proceedings of the Fourth Message Understanding Conference*, pages 159–163, San Mateo, CA, 1992. Morgan Kaufmann Publishers.

- 1992 Steven Lytinen, **Sayan Bhattacharyya**, **Robert Burridge**, **Peter Hastings**, **Christian Huyck**, **Karen Lipinsky**, **Eric McDaniel**, and **Karenann Terrell**. DESCRIPTION OF THE LINK SYSTEM USED FOR MUC-4. In *Proceedings of the Fourth Message Understanding Conference*, pages 289–295, San Mateo, CA, 1992. Morgan Kaufmann Publishers.
- 1991 Peter Hastings and Steven Lytinen. AUTOMATIC ACQUISITION OF WORD MEANINGS. In D. Powers and L. Reeker, editors, *Proceedings of the AAAI Spring Symposium on Machine Learning of Natural Language and Ontology, Document D-91-09*, University of Kaiserslautern, FRG, 1991. DFKI.
- 1991 **Peter Hastings**, Steven Lytinen, and Robert Lindsay. PSYCHOLINGUISTIC IMPLICATIONS OF A COMPUTATIONAL LANGUAGE-LEARNING MODEL. In D. Powers, L. Reeker, and B. Humm, editors, *Proceedings of the Workshop on Natural Language Learning of the 12th International Joint Conference on Artificial Intelligence*, 1991.

Invited Articles⁸

- 2019 Peter Hastings, M. Anne Britt, **Katy Rupp**, Kristopher Kopp, and **Simon Hughes**. COMPUTATIONAL ANALYSIS OF EXPLANATORY ESSAY STRUCTURE. In Keith Millis, Debra Long, Joseph P. Magliano, and Katja Wiemer, editors, *Multi-Disciplinary Approaches to Deep Learning*, pages 237–252. Routledge, New York, 2019.
- 2017 Joseph P. Magliano, Peter Hastings, Kristopher Kopp, **Dylan Blaum**, and **Simon Hughes**. COMPUTER-BASED ASSESSMENT OF ESSAYS BASED ON MULTIPLE DOCUMENTS. In Ivar Braten, Jason Braasch, and Matt McCrudden, editors, *Handbook of Multiple Source Use*, pages 502–526. Routledge, New York, 2018. This chapter was an invited submission, but it was subjected to anonymous external review.
- 2011 M. Anne Britt, Katja Wiemer, Keith Millis, Joseph Magliano, and Peter Hastings. UNDERSTANDING AND REASONING WITH TEXT. In P. McCarthy and C. Boonthum, editors, *Applied Natural Language Processing and Content Analysis: Identification, Investigation, and Resolution*. IGI Global, 2011.
- 2007 Xiangen Hu, Z. Cai, Peter Wiemer-Hastings, Arthur Graesser, and Danielle McNamara. STRENGTHS, LIMITATIONS, AND EXTENSIONS OF LSA. In D. McNamara, T. Landauer, S. Dennis, and W. Kintsch, editors, *LSA: A Road to Meaning*. Erlbaum, Mahwah, NJ, 2007.
- 2004 Peter Wiemer-Hastings. LATENT SEMANTIC ANALYSIS. In *Encyclopedia of Language and Linguistics*. Elsevier, Oxford, UK, 2nd edition, 2004.
- 2003 Johanna Moore and Peter Wiemer-Hastings. DISCOURSE IN COMPUTATIONAL LINGUISTICS AND ARTIFICIAL INTELLIGENCE. In A. Graesser, M. Gernsbacher, and S. Goldman, editors, *Handbook of Discourse Processes*, pages 439–486. Erlbaum, Mahwah, NJ, 2003.
- 2001 Arthur Graesser, Peter Wiemer-Hastings, and Katja Wiemer-Hastings. CONSTRUCTING INFERENCES AND RELATIONS DURING TEXT COMPREHENSION. In T. Sanders, J. Schilperoord, and W. Spooren, editors, *Text representation: Linguistic and psycholinguistic aspects*, pages 249–271. Benjamins, Amsterdam, 2001.
- 2000 Peter Wiemer-Hastings and Arthur Graesser. SELECT-A-KIBITZER: A COMPUTER TOOL THAT GIVES MEANINGFUL FEEDBACK ON STUDENT COMPOSITIONS. *Interactive Learning Environments*, 8(2):149–169, 2000.

⁸Although these articles were invited, almost all were subjected to rigorous blind review.

- 2000 Arthur Graesser, Peter Wiemer-Hastings, Katja Wiemer-Hastings, **D. Harter**, N. Person, and the Tutoring Research Group. USING LATENT SEMANTIC ANALYSIS TO EVALUATE THE CONTRIBUTIONS OF STUDENTS IN AUTOTUTOR. *Interactive Learning Environments*, 8(2):129–147, 2000.
- 1999 Arthur Graesser, T. Kennedy, Peter Wiemer-Hastings, and V. Ottati. THE USE OF COMPUTATIONAL COGNITIVE MODELS TO IMPROVE QUESTIONS ON SURVEYS AND QUESTIONNAIRES. In M. Sirken, D. Herrmann, S. Schechter, N. Schwarz, J. Tanur, and R. Tourangeau, editors, *Cognition and Survey Research*, pages 199–216. John Wiley and Sons, New York, 1999.
- 1997 Arthur Graesser and Peter Wiemer-Hastings. REVIEW OF “CHILDREN’S EARLY TEXT CONSTRUCTION” BY C. PONTECORVO, M. ORSOLINI, B. BURGE, AND L.B. RESNICK. *American Journal of Psychology*, 1997.
- 1996 Peter Hastings. THE SOAR COLORING BOOK. Available at <http://ai.eecs.umich.edu/soar/tutorial>, 1996.
- 1994 Steven L Lytinen and Peter M Hastings. ACQUIRING NEW WORDS FROM CONTEXT. *Integrated Computer-Aided Engineering*, 1(6):511–526, 1994.

Refereed Conference Presentations

- 2020 Jean-François Rouet, Peter Hastings, Mônica Macedo-Rouet, Anna Potocki and M. Anne Britt, (2020), Online Assessment of Students’ Text Comprehension: Explorations into the Automated Scoring of Constructed Responses Society for Text & Discourse, July 14, 2020.
- 2017 **Ali Alkhafaji** and Peter Hastings, (2017). HOW DO PLAYERS EXPERIENCE MYSTERY IN VIDEO GAMES? DePaul University School of Computing Research Symposium.
- 2017 **Daneih Ismail** and Peter Hastings, (2017). RESEARCH REVIEW: USING TECHNOLOGY TO OVERCOME NEGATIVE EMOTIONS WHILE LEARNING A SECOND LANGUAGE. DePaul University School of Computing Research Symposium.
- 2013 **Ali Alkhafaji**, Peter Hastings, and **Brian Grey**, (2013). A NEW DESIGN AND ANALYSIS METHODOLOGY BASED ON PLAYER EXPERIENCE. DePaul University School of Computing Research Symposium.
- 2012 **Ali Alkhafaji**, **Brian Grey**, and Peter Hastings. ESTABLISHING A NEW FRAMEWORK TO MEASURE CHALLENGE, CONTROL AND GOALS IN DIFFERENT GAME GENRES, 2013.
- 2010 Hastings, P. (2010) Exploring the solar system in two classrooms. Games, Learning and Society Conference 6.0. Madison WI, June 2010
- 2008 **Arnott, E.**, Hastings, P., and Allbritton, D., (2008). RESEARCH METHODS TUTOR: EVALUATION OF A DIALOGUE-BASED TUTORING SYSTEM IN THE CLASSROOM. Presented at the meeting of the Society for Computers in Psychology, November 2008, by the first author.
- 2004 **Arnott, E.**, Wiemer-Hastings, P., and Allbritton, D., (2004). RMT: A DUAL-PURPOSE TUTORING SYSTEM FOR PSYCHOLOGY RESEARCH METHODS. Presented at the meeting of the Society for Computers in Psychology, Minneapolis, Minnesota, November 2004.
- 2004 **Arnott, E.**, **Burkmier, M.**, and Wiemer-Hastings, P., (2004). THE CHICAGO RIVER E-LEARNING SYSTEM: LEARNING NEW MATERIAL IN A FORMAL OR PERSONALIZED SETTING. Presented at the meeting of the Society for Computers in Psychology, Minneapolis, Minnesota, November 2004.

- 2003 Wiemer-Hastings, K., Janit, A., Wiemer-Hastings, P., Cromer, S., and Kinser, J. (2003). AUTOMATIC IDENTIFICATION OF NEGATIVE BIASES IN INTERPRETING LIFE EVENTS. Presented at the meeting of the Society for Computers in Psychology, Vancouver, British Columbia, November 2003.
- 2003 Allbritton, D., Wiemer-Hastings, P., **Arnott, E.**, and **Efron, J.** (2003). STRATEGIES FOR RESEARCH METHODS TUTORING USING LATENT SEMANTIC ANALYSIS. Presented at the meeting of the Society for Computers in Psychology, Vancouver, British Columbia, November 2003.
- 2003 **Larson, A.**, Britt, A., and Wiemer-Hastings, P. (2003). USING INTELLIGENT FEEDBACK TO IMPROVE SOURCING AND INTEGRATION IN STUDENTS' ESSAYS. Presented at the meeting of the Society for Computers in Psychology, Vancouver, British Columbia, November 2003.
- 2003 Wiemer-Hastings, P., Robertson, J., and Glasswell, K. (January 2003). IMPROVING STUDENT'S WRITING WITH STORYSTATION. Presented at the Winter Text Conference, Jackson Hole, Wyoming.
- 2001 Wiemer-Hastings, P., (January, 2001). IMPROVING LSA WITH SYNTAX. Presented at the Winter Text Conference, Jackson Hole, Wyoming.
- 2001 Wiemer-Hastings, K. and Wiemer-Hastings, P., (January, 2001). HOW TO HANDLE PRESUPPOSITIONS IN QUESTIONS. Presented at the Winter Text Conference, Jackson Hole, Wyoming.
- 2000 Wiemer-Hastings, P., (July, 2000). SELECT-A-KIBITZER: A MULTI-AGENT ARCHITECTURE FOR GIVING FEEDBACK ON STUDENT COMPOSITIONS. Poster presented at Meeting of the Society for Text and Discourse, Lyon, France.
- 1999 Wiemer-Hastings, P. SEMANTIC AND SYNTACTIC CONSTRAINTS OF VERBS. Poster presentation at Cognitive Linguistics '99. Stockholm, Sweden. July 11-16, 1999.
- 1999 Wiemer-Hastings, P., **Wiemer-Hastings, K.**, and Graesser, A. (1999) USING LATENT SEMANTIC ANALYSIS TO EVALUATE TUTEE CONTRIBUTIONS. Presentation at Winter Text '99, Jackson, Wyoming.
- 1997 Wiemer-Hastings, P. (1997). BEYOND THE GRAMMAR-CHECKER. Presentation at the conference of the National Council of Teachers of English, Detroit, Michigan.
- 1997 Wiemer-Hastings, P., Graesser, A., and **Wiemer-Hastings, K.** (1997). SYMBOLIC, STATISTICAL, AND HUMAN VERB ACQUISITION. Poster in *Proceedings of the 19th Annual Conference of the Cognitive Science Society*, 1997.
- 1997 Wiemer-Hastings, P. (1997). THE ROLE OF DIFFERENT KNOWLEDGE SOURCES IN LEXICAL ACQUISITION. Presentation at the Fifth European Congress of Psychology, Dublin, Ireland.

Invited Presentations and Colloquia

- 2017 Computational Neuroscience presentation at the Neuroscience Students' meeting.
- 2017 Computational Neuroscience invited lecture in NEU 201, introduction to Neuroscience.
- 2016 Identifying causal structure in student essays. Research Colloquium, CSC 500.
- 2013 Learning Principles in Teaching and Video Games. Keynote presentation, Associated Colleges of the Chicago Area Pedagogy Symposium. Elmhurst College, November 2, 2013. Invited by the organizer of the conference, based on suggestion by one of my research collaborators.
- 2012 Game Attributes and Their Effect on Learning and Motivation, Invited presentation to DePaul

UPE chapter, April 2012.

- 2011 Assessing Multiple Source Integration In Student Essays, Presidential Panel Presentation at Society for Computers in Psychology, November, 2011, with S. Hughes, J. Magliano, S. Goldman, and K. Lawless, presented by Magliano.
- 2011 TEXT CATEGORIZATION FOR ASSESSING MULTIPLE DOCUMENTS INTEGRATION, OR JOHN HENRY VISITS A DATA MINE, NIU Discourse Psychology Colloquium, February 2011.
- 2008 RESEARCH DIRECTIONS FOR EDUCATIONAL/SERIOUS GAMES, NCSU Future of Games seminar series, April 2008.
- 2008 RESEARCH DIRECTIONS FOR EDUCATIONAL/SERIOUS GAMES, Indiana University Psychology Seminar, April 2008.
- 2005 LEARNING AND TECHNOLOGY, Guest lecture in DePaul School for New Learning's special topics course for the MA in Applied Technology program. October, 2005.
- 2004 FROM TUTORING TO TURING: LATENT SEMANTIC ANALYSIS AS COGNITIVE MODEL AND BUDGET NATURAL LANGUAGE UNDERSTANDING, University of Minnesota, Duluth. September, 2004.
- 2004 FROM TUTORING TO TURING: LATENT SEMANTIC ANALYSIS AS COGNITIVE MODEL AND BUDGET NATURAL LANGUAGE UNDERSTANDING, Northwestern University, Department of Psychology. February, 2004.
- 2004 FROM TURING TO TUTORING: LATENT SEMANTIC ANALYSIS AS COGNITIVE MODEL AND BUDGET NATURAL LANGUAGE UNDERSTANDING, University of Buffalo, Cognitive Science Seminar. February, 2004.
- 2003 RESEARCH METHODS TUTORING IN THE CLASSROOM. Research presentation to DePaul Instructional Technology Development. December, 2003.
- 2002 STORYSTATION: MULTIPLE AGENTS GIVE CHILDREN FEEDBACK ON THEIR STORIES. University of Illinois Chicago, Department of Psychology. September, 2002.
- 2002 WHAT DID THAT STUDENT SAY? Understanding students with an approximate language understanding mechanism. DePaul University Department of Psychology. April, 2002.
- 1999 THE USES OF LSA IN AUTOTUTOR. Invited presentation at the Circle Research Group, Carnegie Mellon University and University of Pittsburgh, November 1999.
- 1998 INFERRING THE MEANINGS OF VERBS FROM CONTEXT. Invited presentation given at the Language Research Forum, The University of Memphis. April 15, 1998.

Other Creative Activity

- 2012 Educational game, ADVISOR TO THE KING, published to Apple App Store, August, 2012. Designed to improve players' reading of argumentative texts.

Research Advising

PhD advisor

- 2018– **Keith Cochran** Natural Language Processing. Five years in program (part-time). Completed breadth exams, working on proposal on machine learning and natural language processing for Education.
- 2016– **Daneih Ismail** Technology, emotion, and learning. Seven years in program (full-time). Passed HCI and AI breadth exams. Preparing dissertation, expected defense Fall, 2023.
- 2010– **Brian Grey** Serious Games. Four years in program (part-time). Passed AI and SE breadth exams. Took a sabbatical in 2016, then returned in 2019. Is currently progressing toward dissertation proposal.
- 2010–2019 **Simon Hughes** Machine Learning and Natural Language Processing. Defended dissertation on October 3rd, 2019, “Automatic Inference of Causal Reasoning Chains from Student Essays”.
- 2010–2018 **Ali Alkhafaji** Mystery in Videogames. Defended dissertation: May 2018. “A Critical Analysis of Mystery in Videogames”
- 2008–2015 **Jacob Costello** Cognitive Modeling. Eight years in program (part-time). Passed all exams, but dropped out of program.

PhD dissertation committee member

- 2019 **Blaine Tomkins** (advisor: Sandra Virtue, DePaul Psychology) Dissertation defense: “Inferring Character Emotions During Reading: An ERP Study”, August 3, 2019.
- 2014–2017 **Jinghui Cheng** (advisor: Cynthia Putnam, DePaul CDM) Dissertation defense: “Supporting Therapy-Centered Game Design for Brain Injury Rehabilitation”, December 12, 2016.
- 2011–2015 **Kathryn Wozniak** (advisor: José Zagal, DePaul CDM) Dissertation defense: “Supporting Adult Learners’ Metacognitive Development with a Sociotechnical System”, June 5, 2015.
- 2011 **Iraide Zipitria** (advisors: Jon A. Elorriaga and Ana Arruarte, University of the Basque Country) Dissertation defense: “From Human to Automatic Summary Grading”, December 16, 2011. (Also provided formal assessment of the dissertation.)
- 2009 **Andriy Shepitsen** (advisor: Noriko Tomuro) Proposal defense: “Knowledge-based Information Retrieval and Recommender Systems Using Domain Knowledge and Natural Language Processing”, December 9, 2009. Left the program.
- 2009 **Stanley Mlnarczyk** (advisor: Steve Lytinen) Dissertation defense: “Investigation of Mechanisms to Improve Question Answering”, March 9, 2009.

Masters students

- 2022 **Abigail Keller** Master's Thesis committee member. "Text Summarization towards Scientific Information Extraction"
- 2020 **Clayton Cohn** Masters Thesis advisor. "BERT Efficacy on Scientific and Medical Datasets: A Systematic Literature Review"
- 2014–2016 **Daewoo Chong** Spring 13-14, Fall 14-15: Masters Thesis (not completed). Machine Learning and Natural Language Processing.
- 2011 **Alex Damarjian** Spring 10-11: Independent study. Resulted in unpublished manuscript: Designing an Educational Digital Game.
- 2008 **Brian Grey** Fall 08-09: Independent study. Resulted in unpublished manuscript: Serious Games. Subsequently entered PhD program at DePaul as my student.
- 2010–2011 **Todd Diemer, Raymundo Ginez, Nicholas Shank, Cesar Torres** Fall 10-11, Spring 10-11: Independent study in HCI. Children's DVD-Based Library. Developed for evaluation in Chicago Public Schools.
- 2006 **Michael Hannemann** Spring 05-06: Independent study: Artificial Intelligence in Education. Resulted in unpublished manuscript: Hannemann (2006), Description of the Lisp Tutor System.
- 2006 **Scott Vrshek** Spring 05-06: Independent study: Artificial Intelligence in Education. Resulted in unpublished manuscript: Vrshek (2006), EMOTION IN ANIMATED PEDAGOGICAL AGENTS: THE EFFECTS OF EMOTION ON AUTOTUTOR.
- 2006 **Kevin Buffardi** Spring 05-06: Independent study in Artificial Intelligence in Education. Resulted in unpublished manuscript: Buffardi and Wiemer-Hastings, (2006). INTELLIGENT TUTORING SYSTEMS WITH MIXED-LANGUAGE. Subsequently, Buffardi received PhD in Artificial Intelligence (eLearning) at Virginia Tech University and is now Assistant Professor at California State University, Chico.
- 2005–2006 **Christopher Cope** Spring 04-05, Spring 05-06: Master's Project. HCI. Resulted in unpublished manuscript, Cope and Wiemer-Hastings (2006), MODELING PROBLEM SOLVING BEHAVIOR OF COMMAND LINE INTERFACE USERS: A HIDDEN MARKOV MODEL APPROACH.
- 2004 **Robert Poulsen** Winter 03-04, Spring 03-04: Master's Project. Artificial Intelligence in Education. Resulted in publication of journal article, Poulsen, Wiemer-Hastings, and Allbritton (2007), TUTORING BILINGUAL STUDENTS WITH AN AUTOMATED READING TUTOR THAT LISTENS.
- 2003-2004 **Francisco Iacobelli** Fall 03-04, Winter 03-04: Master's Project. Natural Language Processing and Cognitive Science. Resulted in unpublished manuscript: Iacobelli and Wiemer-Hastings (2004), SENTENCE SEGMENTATION FOR STRUCTURED LATENT SEMANTIC ANALYSIS (SLSA). Subsequently, Iacobelli received PhD in Cognitive Systems from Northwestern University, and is currently Assistant Professor at Northeastern Illinois University.
- 2003 **Brian Ng** Spring 02-03: Independent study in HCI. MMORPG addiction. Resulted in publication of journal article: Ng and Wiemer-Hastings (2007). ADDICTION TO THE INTERNET AND ONLINE GAMING.

2003 **Asimina Vasalou** Spring 02-03: Independent study in HCI, Remote usability testing. Resulted in publication of workshop paper: Vasalou, Ng, Wiemer-Hastings, and Oshlyansky (2004), HUMAN-MODERATED REMOTE USER TESTING: PROTOCOLS AND APPLICATIONS.

Undergraduate students

2020 **Paulina Grzybowicz** Honors Thesis. ALGORITHMIC BIAS IN ARTIFICIAL INTELLIGENCE. Thesis director.

2016 **Vladimir Myers** Honors Thesis. SPEAKING PRESIDENTIALLY: COMPUTATIONALLY IDENTIFYING METAPHORS IN THE SPEECHES OF PRESIDENTIAL CANDIDATES. Thesis director.

2014 **Brandon Bell** Independent study. LEARNING MATH THROUGH PRACTICE, DESIGN AND SOCIAL PLAY. Accepted at GLS 2014, but not presented.

2013 **Matt Baran** Honors Thesis. SPARKLE SQUAD AND INCLUDING SPECIAL NEEDS PARTICIPANTS IN EXTRACURRICULAR ACTIVITIES. Second advisor.

2009 **Laura Knapp** Honors Thesis. LEARNING PRINCIPLES: TRANSFERRED FROM GAME DESIGN TO EDUCATION. Second advisor.

TEACHING

Courses taught at DePaul⁹

Computer Science courses

- CSC 323: Data Analysis
Spring 02-03
- CSC 380/480: Foundations of Artificial Intelligence
Winter 01-02, Fall 09-10, Spring 10-11, Winter 19-20, Winter 20-21, Winter 21-22, Winter 22-23
- CSC 357/457: Expert Systems
Fall 02-03, Fall 03-04, Fall 05-06, Fall 06-07, Fall 07-08, Fall 08-09, Fall 09-10
- **CSC 358/458: Symbolic Programming**
Spring 03-04, Spring 09-10, Winter 11-12, Winter 13-14, Winter 15-16, Winter 17-18, Winter 19-20, Winter 21-22
- CSC 500: Research Colloquium
Winter 11-12, Spring 11-12, Fall 12-13, Winter 12-13, Spring 12-13, Fall 13-14
- **CSC 578: was Neural Networks and Machine Learning, now: Neural Networks and Deep Learning**
Fall 12-13, Fall 13-14, Fall 14-15, Fall 15-16, Fall 16-17, Fall 17-18, Fall 20-21, Spring 20-21, Fall 21-22, Spring 21-22
- **CSC 587: Cognitive Science**
Winter 02-03, Winter 03-04, Winter 04-05, Winter 05-06, Winter 06-07

Game Development courses

- GAM 228: Ethics in Cinema and Games
Winter 08-09, Fall 10-11
- **GAM 382: Serious Games**
Spring 08-09, Spring 12-13

Human Computer Interaction courses

- HCI 360: User-Centered Evaluation
Spring 01-02, Spring 02-03
- IM 360: User-Centered Evaluation
Winter 09-10, Winter 11-12
- HCI 440: Usability Engineering
Fall 03-04, Winter 04-05, Spring 04-05
- **HCI 450: Foundations of Human-Computer Interaction**
Fall 04-05, Fall 05-06, Spring 09-10, Spring 10-11, Spring 11-12, Winter 12-13, Spring 13-14, Fall 14-15, Winter 14-15, Fall 15-16, Spring 15-16, Fall 16-17, Fall 17-18, Spring 18-19, Fall 19-20, Spring 19-20, Fall 20-21, Fall 21-22, Fall 22-23, Winter 22-23, Spring 22-23

⁹Courses in bold were either new courses that I developed, or existing courses that I significantly restructured. More details are provided in the Course Development section.

- HCI 460: Usability Evaluation Methods
Fall 02-03, Winter 02-03
- **HCI 520: Learner-Centered Design**
Spring 12-13, Spring 13-14, Spring 14-15, Spring 15-16, Spring 16-17, Spring 17-18, Spring 18-19, Spring 19-20, Spring 20-21, Spring 21-22, Spring 22-23
- **HCI 590: Topics in HCI: Learning and Technology** (later became HCI 520)
Fall 11-12

Honors courses

- **HON 207: Introduction to Cognitive Science**
Winter 06-07, Spring 06-07, Fall 07-08, Fall 08-09, Spring 08-09, Fall 09-10, Winter 09-10, Fall 10-11, Winter 10-11, Fall 11-12, Fall 12-13, Winter 13-14, Winter 14-15, Winter 15-16, Winter 16-17, Spring 17-18, Fall 19-20

Liberal Studies courses

- ISP 121: Math and Tech Literacy II
Fall 07-08
- LSP 121: Math and Tech Literacy II
Winter 10-11

Instructional Technology Systems courses

- **ITS 427: Information Processing Models of Learning**
Spring 03-04, Spring 04-05, Fall 07-08 (as four-student independent study)
- ITS 431: Distance Learning technologies (as independent study)
Fall 06-07, Winter 09-10
- ITS 560: Training and User Support (as independent study for 3 students)
Fall 08-09
- ITS 589: ITS Capstone
Fall 07-08 (as independent study)

Neuroscience courses

- **NEU 256: Computational Neuroscience**
Winter 17-18, Winter 20-21

Independent Studies (154 total, up to Spring 2023)

- | | |
|---------|---|
| CSC 399 | Topics in Computer Science: Fall 14-15 |
| CSC 599 | Topics in Computer Science (independent study): Summer 2004, Winter 12-13, Fall 12-13 (2), Winter 12-13 (3), Spring 12-13 (3), Fall 13-14 (2), Spring 15-16, Fall 16-17, Winter 16-17, Spring 16-17, Fall 17-18 (2), Winter 20-21 |
| CSC 695 | Master's Research: Spring 13-14, Fall 14-15, Summer 17-18, Winter 19-20, |

	Spring 19-20, Spring 22-23
CSC 696	Master's Project: Spring 02-03, Fall 03-04, Winter 03-04 (2), Spring 03-04 (2), Spring 04-05, Fall 05-06
CSC 698	Master's Thesis: Fall 20-21
CSC 699	Research: Fall 08-09, Winter 08-09, Spring 08-09, Fall 09-10, Winter 09-10, Spring 2010, Fall 10-11 (2), Winter 10-11 (3), Spring 10-11, Fall 11-12 (3), Winter 11-12, Spring 11-12 (2), Winter 13-14, Spring 13-14, Winter 17-18, Spring 17-18, Winter 20-21, Spring 20-21, Fall 21-22, Winter 21-22, Spring 21-22, Fall 22-23, Winter 22-23, Spring 22-23
CSC 701	Research: Winter 11-12, Spring 11-12, Fall 12-13, Winter 12-13, Spring 12-13, Fall 13-14 (2), Winter 13-14 (3), Spring 13-14 (3), Fall 14-15 (4), Winter 14-15 (4), Spring 14-15 (4), Fall 15-16 (4), Winter 15-16 (3) Spring 15-16 (2), Fall 16-17 (2), Winter 16-17 (2), Spring 16-17 (2) Fall 17-18 (2), Winter 17-18 (2), Spring 17-18 (2), Fall 18-19, Winter 18-19, Spring 18-19, Fall 19-20 (2), Winter 19-20 (2), Spring 19-20, Fall 20-21, Winter 20-21, Spring 20-21, Fall 21-22, Winter 21-22, Spring 21-22, Fall 22-23, Winter 22-23, Spring 22-23
CSC 702	Fall 18-19, Winter 18-19, Spring 18-19, Spring 19-20, Fall 20-21, Winter 20-21, Spring 20-21, Fall 21-22, Winter 21-22, Spring 21-22, Fall 22-23, Winter 22-23, Spring 22-23
HCI 590	Topics in HCI: Spring 2003 (2), Fall 2010 (4), Winter 2010, Spring 2010 (3)
HON 395	Honors Senior Thesis: Spring 15-16, Spring 19-20
NEU 399	Independent Study in Neuroscience: Fall 18-19

Course Development

2020	NEU 256: Introduction to Computational Neuroscience. Did a significant overhaul of course, keeping the topics developed in conjunction with colleagues, but adopting a new textbook and integrating new computational tools.
2016–2018	NEU 256: Introduction to Computational Neuroscience. With Sandra Virtue (Psychology) and Eric Norstrom (Biology) developing a new interdisciplinary class to serve as the keystone of the Computational Neuroscience concentration in the new B.S. in Neuroscience degree program.
2016	CSC 578: Transformed to “Neural Networks and Deep Learning”, putting the entire emphasis of the class on neural networks (and their implementation), along with deep, multi-layer versions of neural networks.
2013	CSC 578: Machine Learning and Neural Networks. Adopted Just in Time Teaching (JITT) method, creating weekly online quizzes to check understanding of readings, adapting class content based on quiz answers, and using in-class exercises to give supported practice. Also modified programming assignments to use Matlab, requiring significant redesign and examples. JITT teaching practices have subsequently been adopted for other classes. With Daniela Raicu, worked to redistribute Machine Learning topics from CSC 578 to align with new Advanced Data Mining course, CSC 529.
2011	HCI 520, Learner Centered Design. Developed first as a topics course, and then proposed as a standard elective, and it was accepted. The course focuses on interactive systems that are

intended to help people learn. Also covers current science of how people learn.

- 2009 GAM 382, Serious Games. Developed the course to cover games which have purpose beyond entertainment, particularly games that are meant to help the player learn content that would be useful outside the game.
- 2007 HON 207, Introduction to Cognitive Science (Cognitive Modeling). Developed this new required course in the Honors Program. It covers symbolic and connectionist models of human cognition, and gives students hands-on experience with manipulating several computational models of human cognition.
- 2005 ITS 427, Information Processing Models of Learning. Developed this core course of the Instructional Technology Systems MS degree, covering a range of theories on how people learn, especially with technology.
- 2003 CSC 587, Cognitive Science. Newly developed this interdisciplinary course which had not been taught in several years. Selected a set of papers for readings because there was no suitable textbook. Defined all assignments and exams.

SERVICE

Service to DePaul

Faculty Council

- 2023–
 - Faculty Council alternate from CDM
- 2017–2023
 - Faculty Council representative from CDM
- 2017–2018
 - Member of the Faculty Council’s Committee on Committees
- 2015–2016
 - Faculty Council alternate from CDM

2021– Liberal Studies Council

- 2021
 - Member of Assessment team. Reviewed assessment reports from 5 domains to determine how well they assessed their chosen Learning Outcome. Participated in discussions of all domains.
- 2021–
 - Committee member. Participated in monthly meetings to discuss and decide policies for the Liberal Studies Program.

2017 Dean Reappointment Review Committee

Helped design survey item to collect information from CDM faculty on their views of the Dean, assembled the data, and summarized for a report to the Provost.

Neuroscience program

- 2014–2016
 - Worked with with Dorothy Kozlowski (Biology), Sandra Virtue (Psychology), Eric Norstrom (Neurobiology), Grace Stutzmann (Rosalind Franklin), Elizabeth Rottenberg (Philosophy), Danela Raicu (CDM), and Clark Elliot (CDM) to create a new BS in Neuroscience degree. Helped establish learning objectives, curriculum, define capstone, and set policies. Program was accepted and launched in Fall 2016.
- 2016–
 - Committee member. Make decisions on curricular matters for the program, how to build the neuroscience community at DePaul and in the Chicago area, give input on matters involving adjunct and term faculty associated with the program.
- 2016–
 - Currently serving as CDM advising liaison for the program.

2015-2017 Conflict of Interest Committee

Whenever a potential conflict of interest is declared between a faculty member’s role within the university and their outside interests, make a determination on whether a real conflict of interest exists, and if so, what actions must be made to mitigate that conflict.

Honors Program

- 2017
 - Member of the Director Replacement Committee: Reviewed applications for the position of Director of the Honors Program and discussed the qualifications of the applicants. The comments were assembled in a report by the outgoing director, Rose Spalding, and given to the Dean of Liberal Studies.
- 2010-2016
 - Honors Program Academic Program Review. Co-chair of subcommittee on research in the Honors Program. Surveyed faculty and administrators of programs at other schools about their support for research. Continued with honors-track study in 2012 and 2013. Reviewed student papers in 2014.
- 2015-2016
 - Member of subcommittee on online classes. Helped determine Honors Program policy on hybrid courses.
- 2013-2021
 - Helped coordinate research symposium, introducing students and chairing sessions.
- 2008-2021
 - Committee member. Reviewed proposals for new Honors courses. Helped decide curricular issues.
- 2006
 - Helped define new required course for the Honors Program in Cognitive Science (HON 207). Supplied readings, project ideas, and some programming for projects. Participated in ongoing discussions to broaden the scope of the course to open it to other instructors.

2005- Social, Cultural, and Behavior Inquiry Liberal Studies Domain

(Formerly known as the Self Society and Modern World domain)

Committee member.

- Participate in the evaluation and selection of new courses for the domain.
- In particular, have served as a liaison with other CDM faculty who are making proposals for the domain.
- Presented the committees views on proposals in Fall 2005 to concerned CTI faculty.

Service within CDM

Program Committees¹⁰

- 2014-2022
 - Artificial Intelligence. Deciding curricular matters and continuing organization of MSAI program.
- 2014-2022
 - Computer Science.
- 2010-
 - Game Development: committee member, 2010 to 2016. Helped revise learning objectives, Spring 2014.

¹⁰In CDM, program committees define are responsible for curricular decisions for the relevant degree programs.

- 2004– • Human Computer Interaction: committee member. Responsible for HCI breadth exam. Participating in determining new directions for the undergraduate and graduate programs. Creating assessment goals and objectives.
- 2004–2009 • Instructional Technology Systems: Chair.

Other Committees

- 2023– • Recruitment Committee: Reviewed approximately 46 applicants, participated in initial interviews, on-campus interviews, evaluating applicants, and making hiring decisions. Squired one applicant.
- 2016– • School of Design Personnel committee: Due to a lack of tenured faculty in the SoD, I was invited to join the committee. Performed probationary and yearly reviews of term and tenure-track faculty. Did in-class visits of faculty and wrote reports for submission to the Dean. Reviewed the reports of other members of the committee.
- 2013– • School of Computing PhD committee:
 - 2014–2018 – Co-chair with Alexander Rasin. Co-chairs organize admissions and evaluations, organize grant and tuition waiver applications, oversee semi-annual School of Computing Research Symposium, coordinate yearly evaluation of PhD student progress, and interface with students. Leading effort to increase transparency of SoC PhD program by posting detailed minutes of all meetings and by rewriting the catalog and other descriptions of the program to correspond to the currently approved requirements.
 - 2013 – Co-chair with Jane Cleland-Huang and Alexander Rasin
 - 2003– – Member. Members evaluate and select applicants for the PhD program, and provide other support for the PhD program as needed. Review approximately 10 applicants per year.
- 2015–2016 • Game Programming Search Committee. Helped develop promotional materials for position. Helped review applicants, and interview those who visited. Discussed qualifications of candidates.
- 2006–2012 • Teaching and Learning Excellence. Developed mechanism for rating and displaying best practices for teaching, especially with respect to distance learning.
- 2009–2010 • CDM Academic Program Review, PhD committee.
- 2007–2015 • Local Review Board. Reviewed proposals for human research within CDM. Interim chair Spring 2014.
- 2006–2009 • Assessment Committee. Liaison for MS ITS program. Helped reorganize assessment from goals-based to objectives-based.
- 2005– • Online Learning Committee member.
- 2005 • International Affairs Committee member. Participated in new move to expand DL offerings worldwide: Global CTI.

- 2002–
 - Research Environment Committee.
- 2019–
 - Co-chair with Tanu Malik (2019–21) and Roselyne Tchoua (2021–present). Organized virtual Research Collaboration Festival via Zoom with participation of faculty and some students from CDM, College of Science and Health, Nursing, Business, Literature, Arts, and Sciences. Advocated for memberships in computing societies for graduate students. Coordinated reviewing of faculty summer grant requests. Coordinated teaching of Research Colloquium.
- 2002–
 - Member. Helped make decisions on how research can best be fostered in CDM. Explored possibilities for publicizing CDM research on 1st floor video screens for students, faculty, and the general public.

Other Service

- 2010–2011
 - Online Learning Task Force. Member of Pedagogy Subcommittee. Drafted research findings, recommendations for pedagogy of collaborative learning.
- 2002–2003
 - Academic program review. Collected and analyzed data about the Computer Science program, especially with respect to distance learning. Helped author report which resulted in a memorandum of understanding.
- 2002–2004
 - Co-leader of group to establish a unified, consistent and maintainable set of web pages which describes research in CTI for our students, potential collaborators from other institutions, and to support internal collaborative efforts. Implementation pending programmer availability.
- 2003
 - Co-authored proposal for new MS degree in Learning Technology Systems. Wrote syllabi for two new courses, and assisted in creation of curriculum.
 - Participated in the Program Review process as part of the Computer Science subcommittee. Helped to plan our analyses, and assign tasks. Analyzed data on differences between DL and non-DL grades in a range of courses. Analyzed student opinions of satisfaction with CTI courses, and of the intellectual rigor of the program.
- 2001–
 - Routine service. Academic advising, interviewing and attending job talks for potential part-time and full-time faculty, student recruitment efforts, special seminar preparation, AI research seminar organizer, CTI Faculty retreat, Summer 2002.

Curriculum Development

- 2019-2020 MS in Artificial Intelligence. Helped create proposal for new program, including existing courses and new courses. Degree was approved and started in Fall 2020.
- 2012 PhD in Human-Centered Design. With Nichole Pinkard, Cynthia Putnam, Doris Rusch, Brian Schrank, Adam Steele, and Jose Zagal, worked to define a new PhD program that would encompass the areas of HCI, game design, and learning and technology.
- 2003 MS Instructional Technology Systems program. Helped develop the proposal for the program which was accepted in Spring 2003. The program was meant for students wishing to pursue a career in development of e-learning systems. The program covered human learning, course

management systems, distance learning, and human-computer interaction, with tracks in software design and systems integration.

2001– Artificial Intelligence curriculum, Fall 2001 to present. Helped manage and coordinate the undergraduate and graduate courses in AI within Computer Science.

PhD Breadth Exams¹¹

2006– **Artificial Intelligence** Helped prepare and grade. Fall 06-07, Spring 06-07, Fall 07-08, Spring 07-08, Fall 08-09, Fall 09-10, Spring 09-10, Spring 09-10, Fall 10-11, Spring 10-11, Fall 11-12, Spring 11-12, Spring 12-13, Fall 14-15, Spring 14-15, Spring 15-16, Spring 17-18, Spring 18-19, Spring 20-21, Fall 21-22, Spring 21-22, Fall 22-23.

2007– **Human Computer Interaction** Coordinated, helped prepare and grade. Fall 07-08, Spring 10-11, Spring 14-15, Fall 15-16, Spring 16-17, Fall 17-18, Spring 17-18, Fall 18-19, Fall 19-20.

Professional Service

Organizing

- 2019
 - Local Organizer for International Artificial Intelligence in Education Conference, held at Palmer House Hilton and DePaul CDM.
- 2009–
 - Editorial Review Board, International Journal of Artificial Intelligence in Education.
- 2005
 - Co-organizer of the tutorials track at the 2005 Artificial Intelligence in Education conference.
- 2004
 - Co-organizer of a workshop at the 2004 Intelligent Tutoring Systems conference on Dialog-based tutoring.

Reviewing Journal Manuscripts

- 2011–
 - Behavior Research Methods
 - February 2011, February 2012, February 2017, July 2017.
- 2007–2016
 - International Journal of Artificial Intelligence in Education
 - November 2007, October 2009, December 2013, August 2016, December 2018, August 2020, May 2022, Fall–Spring 2023.
- 2013–2014
 - International Journal of Computational Intelligence
 - December 2013, July 2014
- 2012–2014
 - Journal of Educational Psychology
 - January 2012, February 2013, January 2014.
- 2011
 - Requirements Engineering
- 2011
 - Transactions on Learning Technologies
- 2009
 - Cognition and Instruction
- 2005
 - Iranian Journal of Electrical and Computer Engineering

¹¹The breadth exams ensure that PhD candidates have suitable training in at least three separate areas of Computing. The exams are related to, but separate from course material.

Senior Program Committee¹²

- 2018–2023 • Artificial Intelligence in Education: 2018, 2019, 2020, 2021, 2023.
- 2010–2014 • Intelligent Tutoring Systems, 2010, 2012, 2014.

Program Committee¹³

- 2023 • Computer-Supported Education.
- 2016 • Intelligent Tutoring Systems.
- 2012–2014 • GAMNLP: Workshop on Games and Natural Language Processing.
- 2010 • Society for Text and Discourse.
- 2001–2017 • Artificial Intelligence in Education: 2001, 2007, 2009, 2017
- 2007 • Midwest AI and Computer Science Conference, MAICS 2007.
- 2003 • Workshop on Intelligent Tutoring Systems in the Classroom at AI in Education.
- 2001 • Cognitive Science and Semantics Workshop at Cognitive Science 2001.

Other Reviewing

- 2012 • Dissertation reviewer and committee member for Iraide Zipitria, Universidad del Pais Vasco, Spain.
- 2009 • Distributional Semantics beyond Concrete Concepts (DiSCo-2009) Workshop at Cognitive Science Conference.
- 2009 • IEEE Transactions on Learning Technologies.
- 2008-2009 • Florida AI Research Conference.
- 2004 • Reviewed grant proposal for the Engineering and Physical Sciences Research Council, United Kingdom.
- 2007,2010 • Cognitive Science Conference.

¹²Senior program committee members review paper submissions, provide meta reviews summarizing other reviews, and resolve disputes when necessary. Sometimes also provide input on the general organization of the conference.

¹³Program committee members review paper submissions for a conference, usually 4–6 papers.