

## Curriculum Vitae

### **Sarah Ann Douglas**

Professor Emerita  
Department of Computer and Information Science  
University of Oregon  
Eugene, Oregon 97403-1202  
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#### **Research Area**

Human-Computer Interaction: Theories of human-computer interaction, experimental studies of users, user interface design and programming, learning systems.

#### **Education**

- 9/79-6/83 Ph.D. Graduate Special in Cognitive Ergonomics (Computer Science, Psychology, and Engineering), Stanford University.  
9/78-9/79 M.S. Engineering, Stanford University.  
9/64-6/66 A.B. Philosophy, University of California, Berkeley.

#### **Positions**

- 12/10- Professor Emerita, Dept. of Computer and Information Science; Member, Cognitive Science Institute; and Computational Science Institute, University of Oregon.  
9/97-12/10 Professor, Dept. of Computer and Information Science; Member, Cognitive Science Institute; and Computational Science Institute, University of Oregon.  
7/99-6/02 Head, Dept. of Computer and Information Science, University of Oregon.  
7/95-6/98 Director, Cognitive and Decision Sciences Institute, University of Oregon.  
9/89-9/97 Associate Professor, Dept. of Computer and Information Science, and Member, Cognitive Sciences Institute, University of Oregon.  
9/83-8/89 Assistant Professor, Dept. of Computer and Information Science, and Member, Cognitive Science Institute, University of Oregon.  
5/81-9/83 Research Intern, Xerox Palo Alto Research Center.  
9/78-6/82 Research Assistant, NSF Research Grant, Stanford University.  
9/66 - 6/78 Professional Programmer, Systems Analyst, Director of Software Development, and Director of Computing Systems

#### **Professional Honors and Awards**

- Elected to European Academy of Sciences, June 2002.  
Founding member NSF Women in Engineering Leadership Institute (WELI) 2001.  
Charles Johnson Memorial Award given by the University of Oregon Faculty for "Contributions to the University exemplifying advocacy of free speech and assembly without which the objective of nurturing, promoting and fostering new knowledge and the learning process cannot be achieved."  
June 1995.  
Editorial Board of the British Computer Society journal *Interacting with Computers*, 1996-2005.  
NSF/CRA Distributed Mentor award, Summer 1994.  
EDUCOM 1992 Distinguished Natural Science Curriculum Award for the Cardio-Vascular Construction Kit.  
Fulbright lectureship in India, 1991-1992.

Revision: 11/11/11

Elected to Sigma Xi, June 1982.

Numerous undergraduate and graduate scholarships and fellowships.

## **Publications**

### **Books & Software**

Douglas, S.A. and Mithal, A.K. *The Ergonomics of Computer Pointing Devices*. Springer-Verlag, 1997.

Douglas, S.A. and Kirkpatrick, A.E. WinFitts program tests pointing devices for the ISO 9241, Part 9 standard. Since 1999 this is a free download

(<http://www.cs.uoregon.edu/research/hci/research/winfitts.html>).

Douglas, S.A., Peterson, N. and Udovic, D. *The Cardio-Vascular Construction Kit: Software, student laboratory manual and user's manual*. The BIOQUEST Library CD-ROM, University of Maryland: First edition (1993), Second edition (1994), Third edition (1995), Fourth edition (1996); Academic Press: Fifth edition (1998); University of Maryland Sixth (2001) and Seventh edition (2006), copyright University of Oregon.

### **Refereed Book Chapters**

Hundhausen, C.D., & Douglas, S.A. A language and system for constructing and presenting "low fidelity" algorithm visualizations. In S. Diehl (Ed.), *Software Visualization State-of-the-Art Survey*, Lecture Notes in Computer Science 2269 (pp. 227-240), 2002. New York: Springer Verlag.

Douglas, S.A. Conversation analysis and human-computer interaction design. In P. J. Thomas (Ed.), *The Social and Interactional Dimensions of Human-Computer Interfaces*. Cambridge University Press, 1995.

Douglas, S.A. LingWorlds: An Intelligent Object-Oriented Environment for Second-Language Tutoring. In M. Holland, J. Kaplan, & M. Sams (Eds.), *Intelligent Language Tutors: Balancing Theory and Technology*. Lawrence Erlbaum, 1995.

Douglas, S.A. Tutoring as Interaction. In Peter Goodyear (Ed.) *Teaching Knowledge and Intelligent Tutoring*, Ablex, 1991.

Mishra, P., Burke, R. & Douglas, S.A. A Quasi-Natural Language Interface for UNIX. In G. Salvendy (Ed.), *Human-Computer Interaction*. Amsterdam: Elsevier, 1984.

### **Refereed Journals**

Brandt, C., Cennamo, K., Douglas, S., Vernon, M., McGrath, M., and Reimer, Y. A theoretical framework for the studio as a learning environment. *International Journal of Technology and Design Education*, October 2011, Springer-Link DOI 10.1007/s10798-011-9181-5

Cennamo, K., Brandt, C., Douglas, S., McGrath, M., Reimer, Y., and Vernon, M. Managing the complexity of design problems through studio-based learning. *Interdisciplinary Journal of Problem-based Learning*, Vol 5, issue 2, 2011.

Reimer, Y. J. and Douglas, S.A. Ethnography, task analysis, and other background user studies inform the design of a Web-based E-notebook. *International Journal of Human-Computer Interaction*, Volume 17, Number 3, pp. 403-426, September 2004.

Reimer, Y. J. and Douglas, S.A. Implementation challenges associated with developing a web-based E-notebook. *Journal of Digital Information*, Volume 4, Number 3, Article No. 180, 2003-09-03, September 2003. Available at: <http://jodi.ecs.soton.ac.uk/Articles/v04/i03/JacobsReimer>  
Addendum on Related Work, *Journal of Digital Information*, Volume 4 Issue 3 Article No. 295, 2004-03-24, September 2003. Available at:

<http://jodi.ecs.soton.ac.uk/Articles/v04/i03/JacobsReimer/addendum.php3>

- Reimer, Y. J. and Douglas, S.A. Teaching HCI design with the studio approach. *Computer Science Education Journal*, Volume 13(3), September 2003, pp 191-205.
- Douglas, S.A. Tremaine, M., Leventhal, L., Wills, C.E., Manaris, B. Incorporating Human-Computer Interaction into the undergraduate computer science curriculum. *ACM SIGCSE Bulletin*, Volume 34, Issue 1, March 2002, pp. 211-212.
- Hundhausen, C. and Douglas, S.A. Low fidelity algorithm visualization. *Journal of Visual Languages and Computing*, 13(5), 2002, 449-470.
- Hundhausen, C., Douglas, S.A. and Stasko, J.T. A meta-study of algorithm visualization effectiveness. *Journal of Visual Languages and Computing*, 13(3), 2002, 259-290.
- Reimer, Y. and Douglas, S.A. Capturing volatile information: Server-side solutions for a WWW notebook. *Web Net Journal*, volume 3, issue 1, , pp. 36-44, April 2001.
- Sprague, J., Doerry, E., Douglas, S.A. and Westerfield, M. The Zebrafish Information Network (ZFIN): A Resource for Genetic, Genomic and Developmental Research. *Nucleic Acid Research*, January 2001.
- Douglas, S.A. and Kirkpatrick, A.E. The relationship between color model and visual feedback in a color selection interface. *ACM Transactions on Graphics*, Vol. 18, No. 2, April 1999, pp. 96-127.
- Westerfield, M., Doerry, E. and Douglas, S.A. Zebrafish in the net. *Trends in Genetics*, Vol. 15, No. 6, June 1999, pp. 248-249.
- Westerfield, M., Doerry, E. Kirkpatrick, A.E., and Douglas, S.A. Zebrafish informatics and the ZFIN database. *Methods in Cell Biology*, Vol. 6, (1999), pp.339-3550.
- Doerry, E., Douglas, S.A., Kirkpatrick, A.E. User-centered and participatory design for a WWW genetics database. *ACM Interactions*, Vol. 3, May-June 1998, p.69.
- Westerfield, M., Doerry, E. Kirkpatrick, A.E., Driever, W., and Douglas, S.A. An On-line Database for Zebrafish Development and Genetics Research. *Seminars in Cell and Developmental Biology*, Vol. 8, 1997, pp.477-488.
- Douglas, S.A., Doerry, E. and Novick, D. QUICK: A Tool for Graphical User Interface Construction. *The Visual Computer*, Volume 8, Number 2, February 1992.
- Bowden, E., Douglas, S.A. and Stanford, C.A. Testing the Principle of Orthogonality in the Design of Languages, *Human-Computer Interaction*, 4, 2, 1989.
- Douglas, S.A. Reconstructing the Remembrance of Things Past: A Review of Kolodner's *Retrieval and Organizational Strategies in Conceptual Memory: A Computer Model*. *Contemporary Psychology*, December 1985.
- Paulson, B.C., Douglas, S.A., Kalk, A., Touran, A., & Victor, G.A. Simulation and Analysis of Construction Operations. *Journal of Technical Topics in Civil Engineering*, Vol. 109, No. 2, August 1983, pp. 89-104.

### Refereed Proceedings

- Reimer, Y. Cennamo, K. and Douglas, S. Emergent Themes in a UI Design Hybrid-Studio Course. *The 43rd ACM Technical Symposium on Computer Science Education (SIGCSE'12)*, February 29–March 3, 2012, Raleigh, NC. *To appear*.
- Douglas, S. A. *Charm Girls Club: The Nature of Gendered Technology*. *19<sup>th</sup> International Conference of the Simone de Beauvoir Society*, Eugene Oregon USA, June 18, 2011.
- Douglas, S. A. Video Games for Girls: Gendered Technology? *Feminism and Interaction Design Workshop, CHI '11 Abstracts of the ACM Conference on Human Factors in Computing Systems*, Vancouver, BC, May 7-12, 2011.
- Cennamo, K., Scott, B., Douglas, S., McGrath, M. Vernon, M. and Reimer, Y. Adapting Studio-based Learning across Design Disciplines: Research-based Guidelines for Effective Practice. *American Educational Research Association (AERA) Conference*, New Orleans, LA, April 2011.

- Cennamo, K., Douglas, S., Vernon, M., Reimer, Y. and McGrath, M. Promoting Creativity in the Computer Science Design Studio. *The 42nd ACM Technical Symposium on Computer Science Education (SIGCSE'11)*, March 9–12, 2011, Dallas, TX.
- Vernon, M., Cennamo, K., Brandt, C.B., Douglas, S., McGrath, M. and Reimer, Y. The DIY Ethic of the Design Studio – Past, Present & Future. *Industrial Designers Society of America (IDSA) 2010 Annual Conference*, Portland, OR, August 3-5, 2010.
- Cennamo, K., Brandt, C.B., Douglas, S., Vernon, M., and McGrath, M. A Theoretical Overview of the Studio as a Learning Environment. *American Educational Research Association (AERA) Conference*, Denver, CO, April 2010.
- Cennamo, K., Brandt, C.B., Scott, B., Douglas, S., McGrath, and M. Vernon, M. Habits of the Studio: Identity as Part of Studio Norms and Practices. *American Educational Research Association (AERA) Conference*, Denver, CO, April 2010.
- Brandt, C.B., Scott, B., and Douglas, S. Patterns of Interaction in the Studio Environment: Discursive Production of Identity and Professional Practice. *American Educational Research Association (AERA) Conference*, Denver, CO, April 2010.
- Douglas, S.A., Farley, A., Lo, V., Proskurowski, A. and Young, M. Internationalization of Computer Science Education. *The 41st ACM Technical Symposium on Computer Science Education (SIGCSE'10)*, March 10–13, 2010, Milwaukee, WI.
- Brandt, C.B., Cennamo, K., Douglas, S., Vernon, M., McGrath, M., and Reimer, Y. Capturing the studio method: Using ethnography to understand space, learning, & innovation. *American Educational Research Association (AERA) Conference*, San Diego, CA, April 2009.
- McGrath, M., Reimer, Y, Cennamo, K, Douglas, S., Vernon, M., & Brandt, C. (de)Coding the Studio Method to Teach the Design of Human-Computer Interfaces. *Beginning Design Conference*, Atlanta, GA, March 2008.
- Douglas, S.A. and Willson, S. Haptic comparison of size (relative magnitude) in blind and sighted people. *Ninth International Conference on Computers and Accessibility (ASSETS '07)*, pp. 83-90. Tempe, Arizona, October 14-17, 2007.
- Miller, D., Parecki, A. and Douglas, S. Finger Dance: A sound game for blind people. Short paper. *Ninth International Conference on Computers and Accessibility (ASSETS '07)* , pp. 253-254. Tempe, Arizona, October 14-17, 2007.
- Kirkpatrick, A.E. and Douglas, S.A. Application-based Evaluation of Haptic Interfaces. *Tenth Symposium on haptic interfaces for virtual environment and teleoperator systems*. Orlando, FL, March 24-25, 2002. Part of *IEEE Virtual Reality 2002*, March 24-27, 2002.
- Hundhausen, C. and Douglas, S.A. Communicative dimensions of End-User Environments. *HCC '01 2001 IEEE Symposium on Human-Centric Computing Languages and Environments*, p. 127-134, Stresa Italy, Sept. 5-7 2001.
- Kirkpatrick, A. E., & Douglas, S. A. A shape recognition benchmark for evaluating usability of a haptic environment. In *Lecture notes in computer science*, Brewster, Stephen, & Murray-Smith, Roderick (Eds.), Vol. 2058. pp. 151-156, Berlin: Springer, 2001. From *Haptic human computer interaction: First international workshop*, Glasgow, UK, August 31-September 1, 2000.
- Reimer, Y., Kirkpatrick, A.E., and Douglas, S.A. Supporting Web information gathering tasks. *Proceedings of HCI 2000 Conference*, October 2000.
- Hundhausen, C. and Douglas, S.A. Low fidelity algorithm visualization. *Proceedings of the Visual End User Workshop*, Seattle, WA, September 10, 2000.
- Hundhausen, C. and Douglas, S.A. SALSA and ALVIS: A language and system for constructing and presenting low fidelity algorithm visualizations. *VL2000: IEEE Symposium on Visual Languages*, Seattle, WA, September 11-14, 2000. Published in S. Diehl (ed.), *Software Visualization State-of-the-Art Survey, Lecture Notes in Computer Science 2269*. New York: Springer Verlag (2002).

- Hundhausen, C. and Douglas, S.A. Using Visualizations to learn algorithms: Should students construct their own, or view an expert's? *VL2000 Proceedings of the IEEE Symposium on Visual Languages*, Seattle, WA, September 10-14, 2000.
- Hundhausen, C. and Douglas, S.A. Shifting from "High Fidelity" to "Low Fidelity" algorithm visualization technology. *CHI 00 Summary of the ACM Conference on Human Factors in Computing Systems*, Amsterdam, NL, April 4-6, 2000.
- Douglas, S.A., Kirkpatrick, A.E., and MacKenzie, I.S. Testing pointing device performance and user assessment with the ISO 9241, Part 9 Standard. *CHI '99 Proceedings of the ACM Conference on Human Factors in Computing Systems*, Pittsburgh, PA, April 24-28, 1999.
- Doerry, E., Douglas, S.A., Kirkpatrick, A.E., and Westerfield, M. Task-centered navigation in a Web-accessible data space. *Proceedings of WebNet97*, Nov. 3-6, 1997, Toronto, Canada.
- Doerry, E., Douglas, S.A., Kirkpatrick, A.E., and Westerfield, M. User-centered design for widely-distributed scientific communities. *Proceedings Third Conference on Human Factors and the Web*. June 12, 1997, Denver, CO.
- Douglas, S.A. and Kirkpatrick, A.E. The effect of feedback on a color selection interface. *Proceedings Graphic Interface '96*. Toronto, Canada, May 22-24, 1996.
- Douglas, S.A., McKeown, D., and Hundhausen, C.D. Exploring human visualization of algorithms. *Proceedings Graphic Interface '96*. Toronto, Canada, May 22-24, 1996.
- Mithal, A.K. and Douglas, S.A. Differences in Movement Microstructure of the Mouse and the Finger-Controlled Isometric Joystick. *CHI '96 Proceedings of the ACM Conference on Human Factors in Computing Systems*, Vancouver, BC, April 24-28, 1996.
- Douglas, S.A. and Kirkpatrick, A.E. Do color models really make a difference? *CHI '96 Proceedings of the ACM Conference on Human Factors in Computing Systems*, Vancouver, BC, April 24-28, 1996.
- Douglas, S.A., Hundhausen, C. and McKeown, D. Toward Empirically-Based Software Visualization Languages. *Proceedings of the IEEE Symposium on Visual Languages*, August 1995.
- Douglas, S.A. and Mithal, A.K. The Effect of Reducing Homing Time on the Speed of a Finger-Controlled Isometric Pointing Device. *CHI '94 Proceedings of the ACM Conference on Human Factors in Computing Systems*, Boston, MA, April 24-28, 1994.
- Douglas, S.A. Using Conversation Analysis to Discover Breakdown in the Design of User Interfaces. *Proceedings of the Workshop on Ethnography and CSCW System Design*. Toronto, Canada, October 31-November 4, 1992.
- Douglas, S.A. and Novick, D. QUID: A Quick User-Interface Design Method Using Prototyping Tools. *Proceedings of the 25th Hawaii International Conference on Systems Science*, 1992, pp 709-718.
- Douglas, S.A. The Rain in Spain Lies Mainly on the Planes. *Proceedings of the National Center for Geographic Information and Analysis Specialist Meeting on "User Interfaces for GIS"*. Buffalo, New York, June 23-26, 1991.
- Douglas, S.A., Doerry, E. and Novick, D. QUICK: Exploring the Middle Ground in User Interface Design Tools. *Proceedings of the 24th Hawaii International Conference on Systems Science*. Kailua-Kona, Hawaii, Jan. 8-11, 1991.
- Douglas, S.A., Doerry, E. & Novick, D.G. QUICK: A User Interface Design Kit for Non-Programmers. *Proceedings of the 1990 SIGGRAPH Symposium on User Interface Software and Technology*, Snowbird, Utah, Oct. 3-5, 1990.
- Douglas, S.A. & Meyer, G. Interactive Systems Group, *CHI '90 Proceedings of the ACM Conference on Human Factors in Computing Systems*, Seattle, WA, April 1-5, 1990.
- Douglas, S.A. and Liu, Z-Y. Qualitative Simulation and Causal Explanation in an Intelligent Tutor. *Proceedings of the International Conference on Artificial Intelligence*, Detroit, MI, August, 1989.

- Douglas, S.A., Novick, D.G., and Tomlin, R.S. Consistency and Variation in Spatial Reference. *Proceedings of the Ninth International Conference on Cognitive Science*, July 1987, Seattle, Washington.
- Douglas, S.A. Object-oriented Interface Design. *Proceedings of the Second International Conference on Human-Computer Interaction*, August 1987, Honolulu, Hawaii.
- Douglas, S.A. Detecting and Repairing Tutoring Failures. *Proceedings of the Third International AI and Education Conference*, University of Pittsburgh, May 1987.
- Douglas, S.A. Prospects for an ICAI Authoring System: A Review of Computer-Based Design. *Proceedings of the IEEE Conference on Systems, Man and Cybernetics*, October 1986.
- Douglas, S.A. & Moran, T.P. Learning Text Editor Semantics by Analogy. *Proceedings of the ACM Conference on Human Factors in Computing Systems*, Boston, MA, December 12-15, 1983.
- Douglas, S.A. & Moran, T.P. Learning Operator Semantics by Analogy. *Proceedings of the American Association for Artificial Intelligence*, Washington D.C., August 1983.
- Douglas, S.A. What Features Make a Text Editor Easy to Learn. *Proceedings of the AFIPS Conference on Office Automation*, San Francisco, CA, April 1982.
- Douglas, S.A., Junge, M. & Thompson, D.A. Information-Decision Action Charts: A Tool for the Ergonomics Analysis of Computerized Control and Information Systems. *Proceedings of the International Ergonomics Association Conference*, Oslo, Norway, August, 1980.

### **Grants, Contracts and Donations**

- NSF (Douglas PI with collaborators at Virginia Tech and University of Montana), 8/1/07- 7/31/12. “Collaborative Research: Investigating and Refining the Studio Experience as a Method for Teaching Human Computer Interaction”. Science of Design CISE Grant IIS-0725215. Total award \$818,217.
- NSF (Proskurowski PI, Lo Co-PI, Douglas Senior Personnel with collaborators at Portland State Univ.), 7/1/07- 6/30/09. “Collaborative Research: CPATH CB: *i18n*, Internationalization of Computer Science Education: the Pacific Rim Community Model”, Grant CISE CNS-0725290. Total award \$434,793. No-cost extension 7/1/09-6/30/10 approved.
- NIH (Westerfield PI, Douglas, Co-PI), award period 12/02-6/06. ZFIN: The Zebrafish Model Organism Database. #1P41HG02659-01, total award \$6,688,667.
- NSF (Malony PI, Douglas Senior Personnel) “Acquisition of the Oregon ICONIC Grid for Integrated Cognitive Neuroscience Informatics and Computation.” NSF Major Research Instrumentation Program. 3/1/03. \$1,000,000.
- Williams Fund, University of Oregon, (Douglas, PI) 4/13/2000. “Designing software for people: An interdisciplinary, studio-based approach.” \$20,000.
- NIH (Westerfield and Douglas Co-PIs), 10/99-4/2003. National Resource for Zebrafish-Supplemental Application for the ZFIN Database. P40 RR12546-03, \$1,827,425.
- NIH (Westerfield, Driever, Douglas, Kent), 9/98-4/2003. Construction of a National Resource for Zebrafish, P40 RR12546-02S1, \$1,500,000. (This includes approximately \$300,000 for the Zebrafish Database which we are developing.)
- Intel Corp. 8/15/97. Donation of approximately \$20,000 worth of computer equipment and a PHANToM force-feedback system.
- Informix Software, Inc. (Wilson and Douglas, Co-PIs) 2/17/97. Innovation in Education Grant Program. Donation of approximately \$12,000 of software for the Zebrafish database research project, and \$12,000 for database course support.
- Keck Foundation (Westerfield and Douglas Co-PIs with Eisen, Kimmel, and Postlewait). “Zebrafish Stock Center and Database” for 1/97-12/97, total award \$1,000,000 (\$400,000 for the database portion).

- NSF (Douglas and Westerfield Co-PIs) “Design and implementation of a database system for identified neurons, development and genetics of Zebrafish.” 7/95- 7/98. Grant BIR 95-07401, total award \$536,000.
- Keck Foundation (Posner PI with Douglas, Freyd, Gernsbacher, Givon and Rothbart). “Focused Research Program in Cognition, Learning and Instruction” for 1/91-12/93, total award \$365,000.
- NSF grant for 1991-92 (Douglas PI with Farley, Fickas, Stevens and Clinger as Co-PIs). “Innovative Introductory Computer Science Curriculum for Liberal Arts Institutions.” Grant USE-9151882, total award \$82,359.
- OACIS grant for 1991 (Douglas PI). “Human Performance Evaluation of an Innovative Pointing Device.”, total award \$40,000.
- Apple Computer Corporation Donation Program (Douglas PI), computer equipment for Fall 1990, total award \$24,000.
- Annenberg CPB Foundation, (Douglas and Udovic Co-PIs). Preparation for publishing “Cardio-Vascular Construction Kit.” 9/90, total award \$10,000.
- U.S. WEST Advanced Technologies (Douglas PI). 1987-1989. “Object-Oriented User Interface Design System”, total award \$178,000.
- Apple Computer Corp (Douglas PI). Macintosh equipment donation, January 1988., total award \$20,000.
- Apple Computer Corp. Finishing Fund, (Douglas and Udovic Co-PIs). “Cardio-Vascular Simulation.” 5/90, total award \$10,000.
- National Science Foundation (Fickas PI, Douglas and Dieterich Co-PIs) “Automating the Specification Process.” Grant CCR-8804085. 7/1/88 - 3/31/92, total award \$304,466.
- Fund for the Improvement of Postsecondary Education, U. S. Department of Education (Douglas PI, Peterson Co-PI). Grant #G008730445. 1987-1989. “Biology Laboratory Construction Kit with Intelligent Tutoring”, total award \$271,515.
- National Science Foundation (Fickas as PI, Douglas Co-PI) “A Knowledge-Based Approach to Specification Acquisition and Construction”. Grant CCR-8312578, 7/1/86 - 12/31/88, total award \$180,000.
- Fund for the Improvement of Postsecondary Education, U. S. Department of Education (Douglas and Tomlin Co-PIs). Grant #84.116C. for three years: 1985-1988. “Computer Based Improvements for Second Language Learning”, total award \$270,000
- National Science Foundation, (Douglas, Luks, Stevens, Fickas, Conery, Lo and Dehn Co-PIs). Computer Science and Computer Engineering Research Equipment Grant #DCR-8514499 for 1986, total award \$134,000.

### **Supervised Ph.D., M.S. and B.S. Dissertations/Theses/Projects**

#### **Awarded Ph.D.**

- Yolanda Reimer, Ph.D. *Information assimilation in the Digital Age: Developing support for Web-based notetaking tasks.* December 2001. Currently Asst. Prof. CS Dept. Univ. of Montana.
- Ted Kirkpatrick, Ph.D. *Force plus graphics is not equal to vision plus haptics: Towards usable haptic environments.* August 2000. Currently Asst. Prof. CS Dept. Simon Fraser University.
- Chris Hundhausen, Ph.D. *ALVIS: a low-fidelity sketching system for algorithm visualization.* June 1999. Currently Asst. Prof. CS Dept. Washington State University.
- Eckehard Doerry, Ph.D. *An empirical comparison of copresent and technologically-mediated interaction based on communicative breakdown..* December 1995. Currently Assoc. Prof. CS Dept. Northern Arizona University.
- Anant Kartik Mithal, Ph.D. *Using psychomotor models of movement in the analysis and design of computer pointing devices* August 1995. Currently Project Manager for Software Development Tools & User Interfaces, SUN Computer.

Keith Downing, Ph.D. *The use of teleology in the qualitative evaluation and explanation of circulatory systems*. June 1990. Currently Prof. CS Dept. Norwegian Institute of Technology.

David Novick, Ph.D. *Control of mixed-initiative discourse through meta-locutionary acts: A computational model*. December 1988. Currently Prof. and Chair, CS Dept. Univ. of Texas, El Paso.

### **Awarded M.S. Theses**

Mark Bailey, M.S. Thesis *Evaluation of a haptic tongue device*. June 2007.

Shasta Willson, M.S. *Improving accessibility with haptics*. June 2003.

Sekhar Putcha, M.S. Project *HyperFrame*. June 2002.

Delel Chaabouni, Diplom Arbeit Thesis (from the University of Karlsruhe). *A user-centered design of a visualization language for sorting algorithms*. March 1996.

Markus Brandes, Diplom Arbeit Thesis (from University of Stuttgart). *Using Markov models in speech recognition*. June 1994.

Don Hubbard, M.S. *User performance evaluation of color models*. June 1991.

Rune Skarbo, M.S. *Towards a pattern language for user-interface design*. June 1990.

Gary Smithrud, M.S. *Microworld*. March 1990.

Janice Bradford-Wilcox, M.S. *Recognition of hand-printed characters*. June 1989.

Kevin Looney, M.S. *Modeling intention in computer-generated musical performance*. June 1989.

Daniel Udovic, M.S. *Modeling and simulation in biology*. June 1989.

### **Awarded B.S. Honors Theses**

Chuck Theobald, CIS Honors Thesis *Mapping Translation to Rotation: Optimizing for Rotation of 3D Virtual Objects* December 2009. In progress.

Paul Beaudoin, Honors College Thesis *Traditional Design Patterns and AJAX*. June 2007.

Addie Beseda, Honors College Thesis. *Usability and the Evolving Library Website*. June 2006.

Jade Rubick, Honors College Thesis. *Community and group formation on the Internet*. June 1997.

Peter Esbensen, Honors College Thesis. *Multi-media scientific databases*. June 1996.

Clifford Keele, Honors College Thesis. *Neural networks of language learning*. June 1990.

Sylvia Weaver, Honors College Thesis. *A theory of metaphor for natural language processing*.  
December 1986.

Beth Moursund, Honors College Thesis. *Developing a Dungeons and Dragons adventure game*. June 1985.

### **Professional Activities**

Grant Proposal Referee for the National Science Foundation November 2007, May 2006 and since 1983.

Invited participant, NSF Workshop “Integrative Computing Education and Research: Preparing IT Graduates for 2010 and Beyond (ICER)”, Stanford University, January 27-29, 2006.

NSF Principal Instructor, NSF grant (NSF #DUE-0226080) “Incorporating HCI into the Undergraduate CS Curriculum”, College of Charleston, South Carolina, May 27-31, 2003.

Chair of Human-Computer Interaction Knowledge Focus Group for the new ACM-IEEE Curriculum 2001, appointed April 2000.

NSF Women in Engineering Leadership Conference, Oct 11-14, 2000.

U.S. liaison for the British HCI ‘97 conference.

Paper Referee for *ACM Transactions on Accessible Computing (2010)*, *ACM Transactions on Computer-Human Interaction*, *CHI Conference on Human Factors in Computing (2010)*, *UIST: Conference on User Interface Software and Technology*, *IEEE Software*, *IEEE/ASME Transactions on Mechatronics*, *Interacting with Computers*, *International Journal of Human-Computer Interaction*, *The Handbook of Human-Computer Interaction 1987*, *Human Factors*,



*ACM Transactions on Office Information Systems, International Joint Conference on Artificial Intelligence.*

Program Committee member for *CHI '89: Conference on Human Factors in Computing*, *AAAI 1990 Spring Symposium on Knowledge-Based Environments for Learning and Teaching*, *Vienna Conference on Human Computer Interaction 1993*,

Doctoral Consortium, Faculty Member, *CHI '95: Conference on Human Factors in Computing.*

Technical editor for Luger & Stubblefield's text *Artificial Intelligence: Structures and Strategies for Complex Problem Solving* (First and second editions, 1988 & 1993).

Reviewer for textbooks on Artificial Intelligence for Benjamin/Cummings Publishing Co. Reviewer for textbooks on Modeling and Simulation, and Artificial Intelligence for Scott Foresman/Little Brown and McGraw-Hill. Reviewer for textbooks on Human Computer Interaction for Thomson, Cambridge University Press, Prentice-Hall, Addison-Wesley, Morgan-Kaufman.

Editor-In-Chief, *Journal of Educational Data Processing*, August 1972 - September 1980.

Member-at-large, Board of Directors, CHIFOO (Computer-Human Interaction of Oregon) 1990-1993.

Member, Board of Directors, California Educational Computing Consortium, Sept. 1976 - June 1978.

Reviewer for numerous undergraduate and graduate scholarships and fellowships.

### **Selected University Service**

Director, Cognitive and Decision Sciences Institute, July 1995 - June 1998.

Faculty Advisory Council to the University of Oregon President, September 1993 to August 1995.

Elected by University faculty in 1993; Elected Chair of the Council in September 1994.

Member, Executive Committee, Cognitive and Decision Sciences Institute, July 1993-1995.

Member, Strategic Planning Committee, Center for the Study of Women in Society, 1993-94.

### **Invited Presentations & Addresses**

"Bioinformatics and the Development of the Zebrafish Database" Invited talk, National Science Foundation. CISE Information and Intelligent Systems, May 2006.

"Integrating Haptics into Multi-Sensory Interaction" Invited talk, Computer Science Dept., Univ. of Calif. Berkeley, October 11, 2002.

"New Directions in IS/CS Curricula: Where does Human-Computer Interaction Fit In?" Invited keynote, Southern Africa Computer Lecturers Association (SACLA), June 29, 2001, Johannesburg, South Africa.

"Collaborative Databases" Invited lecture, Computer and Information Science Dept., University of Hawaii, December 4, 2000..

"Bioinformatics and the Human Genome Project" Invited lecture, National Institute for Standards and Technology, Washington, D.C., July 21, 1998.

"Using Psychomotor Models to Analyze Pointing Devices." Invited lecture, Oct 9, 1997. Co-sponsored by Computer Science and Psychology Depts., University of Calgary.

"Incorporating Pointing Performance into Task Analysis." Invited colloquium, Oct. 3, 1997. Input Research Group, Computer Science Dept., University of Toronto.

"WWW On-line Scientific Communities and the Development of Collaborative Databases." Invited lecture, April 28, 1997, Intel Corp., Hillsboro, OR.

"Graduate and Professional Opportunities in Cognitive Science." Invited address, Cognitive Science in the Undergraduate Liberal Arts Curriculum conference, November 9, 1996 at Willamette University.

"Pedagogy and Oppression." Invited plenary panel presentation, Western Humanities Conference on Violence, October 6-8, 1994, University of Oregon.

"Equity and Access for Women on the Information Superhighway." Invited address, Phi Theta Kappa conference for Pacific Northwest region. August 6, 1994 at OSU.

- “User-centered Design.” Invited to give a three-day workshop to Intel Corp. research staff, Portland, OR April 4-6, 1994.
- “The Mind as a Metaphor for Computer Technology.” Invited address, Symposium on the role of metaphors in scientific theories, Institute of Cognitive and Decision Sciences, University of Oregon, May 12-13, 1990.
- “QUICK: Quick User Interface Construction Kit” Invited address, IFIPS Working Group 2.7 on User Interface Management Systems, April 10, 1990, Portland, OR.
- “Object-Oriented User Interface Design System - Final Report” Invited address, US WEST Advanced Technologies, Denver, Colorado, September 22, 1989.
- “Object-Oriented User Interface Design System” Invited address, Applied Science and Technology Institute conference on Software and Interfaces, Portland, Oregon, February 8, 1989.
- “LingWorlds: An Intelligent Object-Oriented Environment for Second-Language Tutoring.” Paper given at the International Workshop on Intelligent Tutoring Systems for Second Language Learning, Trieste, Italy, November 28-29, 1988.
- “The Problem of Point of View” Invited address, University of Oregon Institute of Cognitive and Decision Sciences Workshop on Discourse and Cognition, October 29, 1988.
- “Object-Oriented User Interface Design System” Invited address, US WEST Advanced Technologies, Denver, Colorado, September 13, 1988.
- “Detecting and Repairing Tutoring Failures.” Invited address, Third CERCLE Research Workshop, University of Lancaster, England, April 12-15, 1988.
- “Context and User Models.” Invited address, User Modeling Workshop, Human Factors in Computing Conference, April 5-6, 1987.
- “Protocol Analysis for Knowledge-Based Systems.” Invited address, Tektronix Inc., March 12, 1987.
- “Talking about Flatland.” Invited address, Joint Oregon State University, Oregon Graduate Center and University of Oregon Colloquium, November 21, 1986.
- “State of the Art in Artificial Intelligence”. Invited address. Oregon Computer Consultants. September 30, 1986.
- “Future Directions in Human-Computer Interaction”. Invited address, Annual Conference of the American Society for Information Science. Las Vegas, Nevada. November 1985.
- “Computational Representation of Cognitive Issues in Natural Language Processing”. Speaker and chair, Cognitive Science Program symposium on natural language processing. University of Oregon. February, 1985.
- “Validating a Natural Language Interface”. Invited address, Tektronix Inc. October, 1984.