

Curriculum Vita

Margaret S. Elliott, Ph.D.

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ACADEMIC BACKGROUND

Ph.D.: University of California, Irvine (2000)

Information and Computer Science

Computing, Organizations, Policy, and Society Group (CORPS)

M.S.: University of California, Irvine

Information and Computer Science

M.S.: Villanova University

Computer Science

M.S.: West Chester University

Education

B.S.: Millersville University

Elementary Education (Concentration in Math and Music)

PROFESSIONAL INTERESTS

Free/Open source software development communities and practices

Information technology integration with organizational culture

Diffusion of information technology in the public sector

Court technology

Computerization movements

Requirements gathering in large-scale institutional settings

Success and failure of large-scale software development projects

Computer-supported cooperative work (CSCW)

Software developers as an occupational community

ACADEMIC WORK EXPERIENCE

- 2004-current **Research Specialist**, Center for Research on Information Technology and Organizations (CRITO), The Paul Merage School of Business, University of California, Irvine
Co-organizer of the Social Informatics Workshop to honor Professor Rob Kling, March 10-11, 2005 (www.crito.uci.edu/si/). Co-editor with Professor Ken Kraemer, CRITO, of book, *Computerization Movements and Technology Diffusion: From Mainframes to Ubiquitous Computing*, 2008, Medford, N. J.: Information Today, Inc., and co-editor of special issue of the journal, *The Information Society*, both with invited papers from the Social Informatics Workshop.
- 2001-current **Research Specialist**, Institute for Software Research, Donald Bren School of Information and Computer Sciences, University of California, Irvine, California. Research involves study of free/open source software development practices focusing on socio-technical aspects of work. Conducted ethnography of free software community developing an Enterprise Resource Planning (ERP) system. Study of Free Software Movement as a computerization movement and occupational community.
- 1997-1999 **Co-Principal Investigator**, Center for Research on Information Technology and Organizations (CRITO), University of California, Irvine. Grant from State Justice Institute for a Case Management Evaluation study of Los Angeles County Criminal Courts under technical assistance grant SJI-980T-007.
- 1995 -1996 **Graduate Student Research Fellowships and Teaching Assistant**, Information and Computer Science Department, University of California, Irvine.
- 1993 -1994 **Graduate Student Research Associate**, Advanced Integrated Manufacturing Environments (AIME) project funded by the National Science Foundation, CRITO, University of California, Irvine. The AIME project was a multiyear study of coordination changes in U.S. manufacturing firms implementing new information technologies.
- 1992-1993 **Student Ambassador and Executive Co-editor of Graduate Voice**, the graduate student newsletter. Wrote articles for the technology column and edited the newsletter.

1990 -1992 ***Graduate Student Research Associate***, Artificial Intelligence group, Information and Computer Science Department, University of California, Irvine. Conducted research in qualitative reasoning using Bayesian decision theory, explanation-based machine learning techniques in PROLOG for decision making and planning.

DISSERTATION RESEARCH

Organizational Culture and Computer-Supported Cooperative Work in a Common Information Space: Case Processing in the Criminal Courts.

Committee: John L. King (Chair), Mark Ackerman, Ken Kraemer.

My dissertation was the culmination of a five-year ethnography of the work culture of the Los Angeles County Criminal Justice system and their use of technology. An organizational culture perspective was used to characterize the groups of district attorneys, public defenders, and judges as occupational communities. This study focused on how the work practices of the three groups are influenced by technology innovation and how the technology reinforces or modifies the work culture of each group. The technology studied included case management, legal research, word processing, and jury instructions.

INDUSTRY AND TEACHING EXPERIENCE

1985 -1990 *Principal Investigator* for Independent Research and Development project, “Knowledge-based Systems in Design for Logistics” in the Automation Laboratory, Northrop’s Research and Technology Center, Palos Verdes Peninsula, CA. Completed a reliability expert system in the KEE and Lisp languages which performed a reliability analysis on the graphical entry of a functional block diagram yielding a graphical fault tree, minimal cut sets, and redesign suggestions, later expanded to include entry of CAD data. Also worked on blackboard architecture for aircraft battle management simulation and dynamic recovery scheduler for factory automation.

1982 - 1985 *Software Development Lead Engineer and Manager*, Rockwell International Corporation, Lakewood, CA. Lead Engineer for B1-B Central Integrated Test System (CITS) software design, implementation, and test, responsible for 10 programmers. Manager of Advanced Avionics Software Systems Group, wrote proposal for and helped design initial system for a CITS Expert Parameter System (CEPS) intended for enhancement of B-1B diagnostics and maintenance procedures.

1978 - 1982 *Computer Programmer/Analyst* at various organizations. Responsibilities included: Design and implementation of a critical equipment monitoring system (CEPS) at Peach Bottom Nuclear Reactor as a consultant for Energy Data

Systems, Wayne, PA; Updates to the Landsat-D computer simulation with control systems algorithms and implementation of statistical package for simulation data at General Electric, King of Prussia, PA; Supported econometric forecasters with Fortran software updates to supporting statistical analysis packages at Wharton Econometric Forecasting Associates, Inc., Philadelphia, PA.

INVITED TALKS

- 2005 Paper presented at the Social Informatics Workshop, March 10-11, 2005, “*Examining the Success of Computerization Movements in the Ubiquitous Computing Era*”.
- 2003 Paper presented at the Open Source Software Workshop, 25th International Conference on Software Engineering, Portland, Oregon, May 2, 2003, “*The Virtual Organizational Culture of a Free Software Development Community*.”
- 1990 Invited talks at UCLA and UCI on “*Knowledge-based Systems for Reliability Analysis*”.

SELECTED PUBLICATIONS

- Elliott, M. (2008). Examining the success of computerization movements in the ubiquitous computing era: Free and open source software movements. In M. Elliott & K. Kraemer (Eds.), *Computerization movements and technology diffusion: From mainframes to ubiquitous computing* (pp. 359-380). Medford, New Jersey: Information Today, Inc.
- Elliott, M. (2003). The virtual organizational culture of a free software development community. Paper presented at the *3rd Workshop on Open Source Software*, Portland, Oregon.
- Elliott, M. (2000). *Organizational culture and computer-supported cooperative work in a common information space: Case processing in the criminal courts*. Unpublished Dissertation. Department of Information and Computer Science, University of California, Irvine.
- Elliott, M. (1999). *Final report on case management evaluation SJI-98-T-007*. Irvine, CA: Department of Information and Computer Science, University of California, Irvine.
- Elliott, M. (1997a). Computerization in a public defender’s office: A case study. *Court Technology Bulletin*, 9(3), May/June, p. 3+.
- Elliott, M. (1997b). Moving from paper-based to digital documents: Case study of public defenders using case management and legal research tools. In *Proceedings of Thirtieth Hawaii International Conference on System Sciences*, Maui, Hawaii.
- Elliott, M. (1995a). Empirical study of video conferencing on the MBONE. In *Proceedings of 1995 Pacific Workshop on Distributed Multimedia Systems*, Tokai University at Honolulu, March 31- April 2.
- Elliott, M. (1995b). National information infrastructure research at University of California, Irvine. *Technical Report 9-22*, Center for Research on Information and Technology in Organizations, University of California, Irvine, June 8.

- Elliott, M. (1994). Computer-assisted fault tree construction using a knowledge-based approach. *IEEE Transactions on Reliability*, 43(1), 112-120.
- Elliott, M. (1992). Computer-assisted fault tree construction using a knowledge-based approach. *Technical Report 92-95*, School of Information and Computer Science, University of California, Irvine, October 15.
- Elliott, M. (1990). Knowledge-based systems for reliability analysis. In *1990 Proceedings Annual Reliability and Maintainability Symposium*, Los Angeles, CA, January 22-25.
- Elliott, M. (1990). Reliability analysis expert system in concurrent engineering. In *Proceedings of Second National Symposium on Concurrent Engineering*, Morgantown, West Virginia, February 7-9.
- Elliott, M. (1989). Knowledge-based systems for reliability analysis in concurrent design. In *Proceedings IJCAI-89 Concurrent Engineering Design Workshop*, IJCAI-89, Detroit, Michigan, August.
- Elliott, M. (1988). Automated reliability analysis using knowledge-based systems. In *Proceedings AAAI-88 AI in Design Workshop*, AAAI-88, St. Paul, Minnesota, August.
- Elliott, M. (1978). A linear programming model for optimization of acreage allocation. In *Proceedings Agricultural Meeting of Wharton Econometric Forecasting Associates, Inc.*, Philadelphia, PA., February.
- Elliott, M., Kennamer, N., Stanton, R., & Concha, M. (1996). *Report on long beach laboratory: Assessment of computerization and teaming on work of public defenders*. Los Angeles County Public Defender's Office, Los Angeles, CA, December.
- Elliott, M., & King, J. (2005). A common information space in criminal courts: Computer-supported cooperative work (CSCW) case management systems. In *Proceedings of Hawaii International Conference on System Sciences (HICSS-38)*, Waikoloa Village, Hawaii, January 3-6, 2005.
- Elliott, M., & Kling, R. (1997). Organizational usability of digital libraries: Case study of legal research in civil and criminal courts. *Journal of the American Society for Information Science*, 48(11), 1023-1035.
- Elliott, M., & Kling, R. (1996). Organizational usability of digital libraries in the courts. Paper presented at the *29th Annual Hawaii International Conference on System Sciences*, Maui, Hawaii.
- Elliott, M., & Kling, R. (1994). Digital library design for organizational usability. *SIGOIS Bulletin*, 15(2), 59-70.
- Elliott, M., & Kraemer, K., M. (Eds.). (2008). *Computerization movements and technology diffusion: From mainframes to ubiquitous computing*. Medford, New Jersey: Information Today, Inc.
- Elliott, M. & Kraemer, K. (2008). Computerization movements and the diffusion of technological innovations. In M. Elliott & K. Kraemer (Eds.), *Computerization movements and technology diffusion: From mainframes to ubiquitous computing* (pp. 3-42). Medford,

New Jersey: Information Today, Inc.

- Elliott, M. & Kraemer, K. (2008). Comparative perspective on computerization movements: Implications for ubiquitous computing, in K. Kraemer & M. Elliott (Eds.), *Computerization movements and technology diffusion: From mainframes to ubiquitous computing* (pp. 521-545). Medford, New Jersey: Information Today, Inc.
- Elliott, M. & Scacchi, W. (2008). Mobilization of software developers: The free software movement. *Information, Technology & People*, 21(1), 4-33..
- Elliott, M., & Scacchi, W. (2004a). Free software development: Cooperation and conflict in a virtual organizational culture. In S. Koch (Ed.), *Free/Open Source Software Development* (pp. 152-172). Pittsburgh, PA: Idea Publishing.
- Elliott, M. & Scacchi, W. (2004b). Communicating and mitigating conflict in open source software development projects. *Projects & Profits*, IV(10), 25-41, October 2004.
- Elliott, M. & Scacchi, W. (2003a). Free software: A case study of software development in a virtual organizational culture. Technical Report UCI-ISR-03-6. Irvine, CA: Institute for Software Research, University of California, Irvine. (http://www.ics.uci.edu/tech_reports/UCI-ISR-03-6.pdf)
- Elliott, M., & Scacchi, W. (2003b). Free software developers as an occupational community: Resolving conflicts and fostering collaboration. In *Proceedings of the 2003 International ACM SIGGROUP Conference on Supporting Group Work*, November 9-12, 2003 (pp. 21-30). Sanibel Island, Florida. (<http://www.ics.uci.edu/~melliott/papers/Elliott-Scacchi-GROUP-03.pdf>)
- Elliott, M., Scacchi, W., & Ackerman, M. (2007). Knowledge work artifacts: Kernel cousins for free/open source software development. In *Proceedings of the 2007 International ACM SIGGROUP Conference on Supporting Group Work*, November 2007, (pp. 177-186). Sanibel Island, Florida.
- Kling, R. & Elliott, M. (1994). Digital library design for usability. In Schnase, J., Leggett, J., Furuta, R. K., and Metcalfe, T. (Eds.), *Proceedings of Digital Libraries '94 Conference*. College Station, Texas, June.
- Kling, R., Kraemer, K. L., Allen, J. P., Bakos, Y., Gurbaxani, & Elliott, M. (2001). Transforming coordination: the promise and problems of information technology in coordination. In G. M. Olsen, T. W. Malone, & J. B. Smith (Eds.), *Coordination theory and collaboration technology*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- O'Rourke, P., El Fattah, Y., & Elliott, M. (1993a). Explaining and generalizing diagnostic decisions. In P. E. Utgoff (Ed.), *Machine Learning: Proceedings of the Tenth International Conference*, Amherst, MA: Morgan Kaufman.
- O'Rourke, P., El Fattah, Y., & Elliott, M. (1993b). Explanation-based learning for qualitative decision-making. In N. Piera-Carrete (Ed.), *Proceedings of the Third IMACS International Workshop on Qualitative Reasoning and Decision Technologies*, Barcelona, Spain.

Scacchi, W., Jensen, C., Noll, J. & Elliott, M. (2009). Multi-modal modeling, analysis, and validation of open source development processes. In *International Journal of Internet Technology and Web Engineering*, 1(3), 49-63, 2006. Previous version appeared in *Proceedings of the First International Conference on Open Source Software*, 1-8, Genova, Italy, July 2005. Received *Best Paper Award*. Reprinted in G. Alkhatib and D. Rine, (Eds.), *Integrated Approaches in Information Technology and Web Engineering: Advancing Organizational Knowledge Sharing*, Information Science Reference, Hershey, PA, 51-65, 2009.

SPECIAL AWARDS, HONORS, AND OTHER INFORMATION

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| 1984 | Awarded Engineer of the Month for exemplary work on B-1B program by Rockwell International in 1984. |
| 1990-1991 | Awarded Graduate and Professional Opportunity Program Fellowship, University of California, Irvine. |
| 1991-1992 | Awarded Fisher Fees Fellowship by University of California, Irvine. |
| 1992-1993 | Awarded Graduate and Professional Opportunity Program Fellowship, University of California, Irvine. |
| 1997 | Nominated for Best Paper in the Digital Library section of the Hawaii International Conference on System Sciences, 1997. |
| 2005 | Selected as Best Paper at the First International Conference on Open Source, Geneva, Italy. |

Reviewer for *IEEE Transactions on Reliability Engineering*, *HICSS97 Conference*, *CSCW Journal*, *GROUP05 Conference*.

Member in:

ACM, Association for Computing Machinery – Human-Computer Interaction Special Interest Group.

IEEE, Institute for Electrical and Electronic Engineers – Computer Society, Reliability Society