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EDUCATION

- Ph.D., Computer Science - Massachusetts Institute of Technology, Cambridge, MA, 1993.
  Thesis advisor: Professor Albert Meyer
- S.M, S.B., Computer Science - Massachusetts Institute of Technology, Cambridge, MA, 1989.

PROFESSIONAL EXPERIENCE

Distinguished Member of Technical Staff **Jan. 2004 – present**
July 2003 – Sep. 2003
July 1999 – July 2000
Member of Technical Staff **Sep. 1993 – July 1999**
Bell Laboratories Research, Lisle, IL
Leading (jointly) the Intelligent Network Applications initiative in Bell Labs. Led the Bell Labs Research strategy on Intuitive End User/Immersive Communications. Conducting research on automated verification and testing of software, including SIP network assets, with focus on software performance and reliability. Earlier work includes specification and programming of reactive and multi-modal systems. Extensive interaction with Lucent business units to provide next-generation capabilities and improve quality and reliability of Lucent products.

Acting Director, Software Practices Department **Oct. 2003 – Dec. 2003**
Director, Software Practices Department **Aug. 2001 – July 2003**
Software Technology Center, Bell Laboratories, Lisle, IL
As acting director, was responsible for managing a department of approximately 30 technical staff and 6 technical managers. As director, was responsible for managing supervisory groups in Software Realization, Software Configuration Management, Human Factors. Responsibilities included partnering with Lucent product units and Bell Labs Research to introduce leading-edge software technologies and best practices to improve Lucent's products and software development processes. Leadership role in introducing the SEI CMMI process into Lucent; led the Lucent-wide Common SIP Asset Strategy.

Director, Software Production Research Department **July 2000 – Aug. 2001**
Bell Laboratories Research, Naperville, IL
Managed a department of 20 researchers. Created projects in Bell Labs Research on next-generation wireless/converged services, automated testing/verification technologies, visualization technologies.

Bell Laboratories Research, Murray Hill and Holmdel, NJ **1986 - 1988**
Member of Technical Staff (Internships during Undergraduate and Graduate School)
Conducted research in programming language semantics, natural language processing.

PROFESSIONAL ACTIVITIES AND AWARDS

- Senior member of the IEEE, 2004.
- Served on NSF grant review panels in 1999, 2002, 2003.
- Member of the Lucent Systems Architecture Review Board (Nov. 2003 – present)
- Served on program committees for IEEE International Conference on Requirements Engineering (2000), IEEE Workshop on Industrial Strength Formal Specification Techniques (1998), IEEE International Symposium on Requirements Engineering (1995), International Conference on Concurrency Theory (1995)
- Served as a member of the industry taskforce on Security Across the Software Development Life Cycle: Secure Software, sponsored by the U.S. Department of Homeland Security (2004)
- Served on a doctoral thesis committee at the University of Pennsylvania (1996)
- Serving on the academic advisory board for the Electrical and Computer Engineering department at Illinois Institute of Technology (Fall 2002 – present)
- AT&T Bell Laboratories Graduate Research Program for Women (1988-1993)

PATENTS ISSUED

- User Interface For Translating Natural Language Inquiries Into Database Queries And Data Presentations. U.S. Patent Number 6701294, issued March 2004. (With T. Ball, K. Cox, R. Grinter, S. Hibino, D. Mantilla)
- Presence Awareness In Collaborative Systems. U.S. Patent Number 6697840, issued February 2004. (With P. Godefroid, J. Herbsleb, D. Li)
- Method and Apparatus For Providing Interactive Services With Multiple Interfaces. U.S. Patent Number 6609089, issued August 2003. (With T. Ball, P. Danielsen, K. Laufer, P. Mataga, K. Rehor).
- Method and Apparatus For Providing Interactive Services With Multiple Interfaces (filed concurrently with above). U.S. Patent Number 6529863, issued March 2003. (With T. Ball, P. Danielsen, K. Laufer, P. Mataga, K. Rehor).
- Method For Automatically Closing Open Reactive Systems. U.S Patent Number 6102968, issued August 2000. (With C. Colby, P. Godefroid)

PATENTS PENDING

- Apparatus And Method For Use In Collaboration Services, filed June 2001. (with D. Boyer, J. Coplien, R. Grinter, J. Herbsleb, P. Mataga, G. Wills)

SELECTED PUBLICATIONS

- Passive Mid-Stream Monitoring of Real-Time Properties. To appear in the ACM Conference on Embedded Systems and Applications, September 2005. (Joint with R.Viswanathan)
- Characterizing Session Initiation Protocol (SIP) Network Performance and Reliability. International Service Availability Symposium, March 2005. Lecture Notes in Computer Science, Volume 3694. (Joint with V. Gurbani and V. Mendiratta).

- A Multi-Modal Natural Language Interface to an Information Visualization Environment. In International Journal of Speech Technology, 4(3): 297-314; Jul 2001. Kluwer Academic Publishers. (With K. Cox, R. Grinter, S. Hibino, D. Mantilla).
- Ensuring Privacy in Presence Awareness Systems: An Automated Verification Approach. In ACM Conference on Computer Supported Cooperative Work, December 2000. (With P. Godefroid, J. Herbsleb, D. Li.)
- Automated Systematic Testing for Constraint-Based Interactive Services. In ACM SIGSOFT International Symposium on the Foundations of Software Engineering, November 2000. (With P. Godefroid , R. Jagadeesan, K. Laufer)
- A Constraint Based Framework for Prototyping Distributed Virtual Applications. International Conference on Principles and Practice of Constraint Programming, September 2000. (With V. Gupta, R. Jagadeesan, X. Jiang and K. Läufer.)
- Sisl: Several Interfaces, Single Logic. In International Journal of Speech Technology, Kluwer Academic Publishers. 3(2): 93-108, June 2000. (With T. Ball, C. Colby, P. Danielsen, R. Jagadeesan, K. Laufer, P.Mataga, K. Rehor.)
- Automatically Closing Open Reactive Programs. In ACM SIGPLAN Conference on Programming Language Design and Implementation, June 1998. (With C. Colby, P. Godefroid.)
- Design and Implementation of Triveni: A Process-Algebraic API for Threads + Events. In IEEE International Conference on Computer Languages (ICCL), May 1998. (With C. Colby, R. Jagadeesan, K. Läufer, and C. Puchol.)
- Objects and Concurrency in Triveni: A Telecommunication Case Study in Java. In USENIX Conference on Object-Oriented Technologies and Systems (COOTS), April 1998. (With C. Colby, R. Jagadeesan, K. Läufer, and C. Puchol.)
- Model Checking Without a Model: An Analysis of the Heart-Beat Monitor of a Telephone Switch using VeriSoft. In ACM SIGSOFT International Symposium on Software Testing and Analysis, March 1998. (With P. Godefroid, R. Hanmer.)
- Model Checking of Real-Time Systems: A Telecommunications Application. In ACM/IEEE International Conference on Software Engineering, May 1997. (With R. Alur, J. Kott, and J. Von Olnhausen.)
- Specification-based Testing of Reactive Software: Tools and Experiments. In ACM/IEEE International Conference on Software Engineering, May 1997. (With A. Porter, C. Puchol, J.C. Ramming, and L. Votta.)
- Auditdraw: Generating Audits the FAST Way. In IEEE International Symposium on Requirements Engineering, January 1997. (With N. Gupta, E. Koutsofios, and D. Weiss.)
- A Framework for Evaluating Specification Methods for Reactive Systems. In IEEE Transactions on Software Engineering, 22(6):378-389, June 1996. An earlier version appeared in the ACM/IEEE International Conference on Software Engineering, April 1995. (With M. Ardis, J. Chaves, P. Mataga, C. Puchol, M. Staskauskas, and J. Von Olnhausen.)
- A Formal Approach to Reactive Systems Software: A Telecommunications Application in ESTEREL. In Formal Methods in System Design, 8(2):123-152, March 1996. Kluwer Academic Publishers. An earlier version appeared in the IEEE Workshop on Industrial-Strength Formal Specification Techniques, April 1995. (With C. Puchol, and J. Von Olnhausen.)
- Deciding True Concurrency Equivalences on Finite Safe Nets. Theoretical Computer Science, 154:107-143, January 1996. Elsevier Publishers. An earlier version appeared in the International Colloquium on Automata, Languages, and Programming, Volume 700 of the Lecture Notes in Computer Science, 1993. (With A.R. Meyer.)
- Safety Property Verification of ESTEREL Programs and Applications to Telecommunications Software. In International Conference on Computer Aided Verification, July 1995. (With C. Puchol, J. Von Olnhausen.)

- Causality and True Concurrency: A Dataflow Analysis of the Pi-Calculus. In International Conference on Algebraic Methodology and Software Technology, Volume 936 of the Lecture Notes in Computer Science, July 1995. (With R. Jagadeesan.)
- Self-Synchronization of Concurrent Processes. In IEEE Symposium on Logic in Computer Science, pages 409-417, July 1993. (With A.R. Meyer.)
- Testing Equivalence for Petri Nets with Action Refinement. In International Conference on Concurrency Theory, Volume 630 of the Lecture Notes in Computer Science, pages 17-31, August 1992. (With A.R. Meyer.)
- Type Inference with Extended Pattern Matching and Subtypes. Fundamenta Informaticae, 19(1,2): 127-166, September/October 1993. IOS Press. An earlier version appeared in the ACM Symposium on Lisp and Functional Programming Languages, 1988. (With J.C. Mitchell.)