

BIOGRAPHICAL SKETCH

Diane T. Rover

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Professor, Electrical & Computer Engineering

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Professional Preparation

B.S. in Computer Science, Dept. of Computer Science, Iowa State Univ., Ames, Iowa, 1984

M.S. in Computer Engineering, Iowa State University, 1986

Ph.D. in Computer Engineering, Dept. of Electrical and Computer Engineering, Iowa State Univ., 1989

Postdoctoral Researcher, Scalable Computing Laboratory, Ames Laboratory (US-DOE), 1989-1991

Professional Experience

Professor (8/01 to present), Dept. of Electrical and Computer Engineering, Iowa State Univ.

Associate Dean for Academic and Student Affairs (7/04 to 6/10), College of Engineering, Iowa State Univ.

Associate Chair for Undergraduate Education (5/03 to 8/04), Dept. of Electrical and Computer Eng., Iowa St. Univ.

Interim Chairperson (8/00 to 8/01), Dept. of Electrical and Computer Engineering, Michigan State Univ.

Associate Professor (7/97 to 8/01), Dept. of Electrical and Computer Engineering, Michigan State Univ.

Director of Computer Engineering Program (7/97 to 6/00)

Assistant Professor (9/91 to 6/97), Dept. of Electrical Engineering, Michigan State Univ.

Summer Intern (5/87 to 8/87), Computer Sciences Dept., IBM T.J. Watson Research Center, Hawthorne, NY

Summer Intern (5/86 to 8/86), Digital Computer and Software Eng. Dept., McDonnell Douglas Corp., St. Louis, MO

Funding Record

1. "SEEC: Student Enrollment and Engagement Through Connections," **National Science Foundation** (STEM Talent Expansion Program), Grant No. 0653236, 7/15/07-6/30/12, \$1,499,945, PI (co-PIs: M. Bruning, F. Laanan, S. Mickelson, M. Shelley; collaborative with Des Moines Area Community College, additional \$500,000 to DMACC).
2. "E2020 Scholars: Advancing the NAE Vision," **NSF** (Scholarships in STEM (S-STEM) Program), Grant No. 0807051, 7/15/08-6/30/13, \$600,000, PI (co-PIs: M. Bruning, M. Shelley, S. Mickelson, T. Brumm).
3. "Creating Effective Future Faculty in Engineering," **NSF** (Course, Curriculum, and Laboratory Improvement Program (CCLI)), Grant No. 0837314, 7/1/09-6/30/11, \$150,000, co-PI (lead PI: M. Mina; M. Shelley).
4. "Improving Embedded Systems Education with Software Engineering Methodologies," **NSF** (CCLI), Grant No. 0737029, 3/1/08-2/28/10, \$149,999, co-PI (lead PI: Tien Nyugen; Z. Zhang, M. Shelley).
5. "Engineering Leadership Program," **3M Foundation**, 10/05-5/10, \$1,000,000, co-PI (with M. Kushner, L. Zachary, C. Wiedmier, K. Athreya)
6. "VIE: Vertical Integration of Computer, Electrical, and Mechanical Engineering Education (Planning Grant)," **NSF** (Department Level Reform Program), Grant No. 0431924, 8/04-7/06, \$99,986, PI (co-PIs: Mina, Dickerson, Shelley, Flugrad).
7. "Collaborative Research: The Women Engineering Faculty Leadership Network," **NSF**, Grant No. 0245084, 7/03-7/06, \$218,961, co-PI (lead PI: J. Vance; other institutions: Louisiana State Univ., Univ. of Conn., Syracuse Univ., Univ. of Central Florida, Univ. of Utah; total: \$700,000).
8. "Electronic System-Level Design Education," **Rockwell Collins Univ. Grant Program**, \$15,000. 7/04-7/05.
9. "Acquisition of a Cluster for Experimental Parallel Computing Research in Scientific Computing and Computational Biology," **NSF** (CISE Research Resources), Grant No. 0130861, 9/01-9/04, \$166,518, co-PI (lead PI: S. Aluru; V. Brendel, S. Kothari, D. Rover).
10. "Wireless Multimedia for Virtual Environments," **NSF**, (Combined Research- Curriculum Development (CRCD) Program), Grant No. EEC-0088071, 1/01-12/04, \$499,891, co-PI (lead PI: J. Dickerson; R. Weber, C.

BIOGRAPHICAL SKETCH

Cruz-Neira, D. Rover).

11. "VESL: Visions for Embedded Systems Laboratories," **NSF** (CRCD Program), Grant No. EEC-9700732, 6/1/97-5/31/02, \$406,657, PI (MSU; M. Mutka, B.Cheng, C.-L. Wey).
12. "Integration of System Performance: Tools & Technologies in Research and Education," **NSF** (Faculty Early Career Development (CAREER) Program), Grant No. ACI-9624149/ACR-0234252, 6/1/96-5/31/03, \$220,000.
13. "Instrumentation and Visualization for Design and Test of Real-Time Embedded Systems (PGRT)," **Defense Advanced Research Projects Agency** (DOD), 7/16/95–7/15/98, \$496,344, PI (MSU; M. Mutka).

Selected Publications

1. R. Mercado, Z. Cao, and D. T. Rover, "Mixture Models for System-Level Communication Analysis at Higher Levels of Abstraction," *Proc. 2010 IEEE Int'l Conf. on Electro/Information Technology*, May 2010.
2. M. Kalkhoff, K. S. Athreya, D. Rover, S. Mickelson and A. Joines, "Work in Progress - Highlights and Challenges of a Student Driven Co-Curricular Leadership Program," *Proc. 39th ASEE/IEEE Frontiers in Education Conf.*, session T4F, October 2009.
3. D. T. Rover, "Reflective Essay: Reflections on Teaching and Learning in an Advanced Undergraduate Course in Embedded Systems," *Annals of Research on Engineering Education*, 4, no. 2, Winter 2009.
4. D. T. Rover, "Attention Engineering Educators," Academic Bookshelf, *ASEE Journal of Engineering Education*, vol. 97, no. 4, October 2008, pp. 531-534.
5. D. T. Rover, R. Mercado, Z. Zhang, M. Shelley, and D. Helvick, "Reflections on Teaching and Learning in an Advanced Undergraduate Course in Embedded Systems," *IEEE Transactions on Education*, 51, no. 3, August 2008: 400-412. Originated from *Proc. 2007 IEEE Computer Society Int'l Conference on Microelectronic Systems Education*, June 2007 (best paper award).
6. D. T. Rover, "Engineering Identity," Academic Bookshelf, *ASEE Journal of Engineering Education*, vol. 97, no. 3, July 2008, pp. 389-392.
7. N.G. Santiago, D. T. Rover, D. Rodriguez, "A Statistical Approach for the Analysis of the Relation Between Low-Level Performance Information, the Code, and the Environment," special issue of *Journal of Information*, L. Yang, Ed., 9(2), 2006.
8. M. Mina, A. Somani, A. Tyagi, D. Rover, M. Feldmann, M. Shelley, "Learning Streams: A Case Study in Curriculum Integration," *Proc. 35th ASEE/IEEE Frontiers in Education Conference*, October 2005.
9. K. Lee, D. Rover, "A Web Services and Ontology-based Performance Visualization Framework for Grid Environments," *Proc. 2005 IEEE Intl. Conf. on Cluster Computing*, September 2005.

Synergistic Activities

Various activities involving educational innovation, research, and practice; mentoring of students, including undergraduate design teams and graduate students in GAANN and PFF programs; professional service to conferences and organizations, including ABET, ASEE, and IEEE; and international activities related to academic partnerships, international engineering education, and joint workshops.

Graduate Students Advised

Yung-Kang Chu (Ph.D. 1995), AT&T; Abdul Waheed (Ph.D. 1997), NASA Ames; David Pierce (Ph.D. 2001), Smiths Industries; Nayda Santiago (Ph.D. 2003), Univ. PR–Mayaguez; Kuk-Jin Lee (Ph.D. 2005), Microsoft; Ramon Mercado (Ph.D., 2010); Robert Walstrom (M.S., 2005), Seagate Technology; Brian Smith (M.S., 2005), IBM; Ziyu Zhang (M.S., 2006), Garmin; Joseph Schneider (M.S. 2007), John Deere; Andrew Riha (M.S. 2008), Boeing; Daniel Helvick (M.E.), Garmin; Jerry Cao (Ph.D.). Summary: 20+ graduate student theses (M.S., Ph.D.), 30+ Ph.D. advisory committees.

Graduate and Postdoctoral Advisors

Paul Basore (M.S.), Iowa State Univ.; Charles Wright (Ph.D.), ISU; John Gustafson (Postdoc), Ames Lab