

Curriculum Vita

NAME: **Daryl G. Beetner**

Assistant professor of Electrical and Computer Engineering
126 Emerson Electric Co. Hall

University of Missouri-Rolla, Rolla, MO 65409-0040

Phone: (573) 341-6203; FAX: (573) 341-4532

E-mail: daryl@ece.umr.edu URL: <http://www.umn.edu/~daryl>

ACADEMIC EXPERIENCE:

D.Sc. Electrical Engineering, Washington University at St Louis, 1997

Dissertation: *“Inference of Spectral and Temporal Characteristics of Pericardial Potentials Using Individualized Human Heart-Torso Models and the Multipole-Equivalent Method”*

Advisor: Dr. R.M. Arthur

M.S. Electrical Engineering, Washington University at St Louis, 1994

Thesis: *“Efficient Generation of Synthetic-Focus Ultrasonic Images Using Media-Dependent Time-of-Flight”*

Advisor: Dr. R.M. Arthur

B.S. Electrical Engineering, Southern Illinois University at Edwardsville, 1990

WORK EXPERIENCE:

1998-present, Assistant Professor of Electrical and Computer Engineering, University of Missouri - Rolla

1997-1998, Visiting faculty of Electrical Engineering, Southern Illinois University at Edwardsville

1997-1998, Research Associate, Washington University at St Louis

1991-1997, Research Assistant, Washington University at St Louis

1988-1989, Lab Assistant, Southern Illinois University at Edwardsville

1988-1995, Industrial Automation Engineering Consultant, Digi-Gear Systems, Glen Carbon, IL (1988-1991 as a direct employee, 1991-1995 as a consultant)

UNIVERSITY SERVICE

Electrical & Computer Engineering Chair Search Committee (2002-2003)

Electrical & Computer Engineering Lab Development Committee (1999-2001)

Electrical & Computer Engineering Scholarship Committee (1999-2003)

Electrical & Computer Engineering CpE Faculty Search Committee (2000-2002)

Electrical & Computer Engineering CpE ABET Preparation Committee (2000-2002)

School of Engineering Agenda and Nominating Committee (2002)

College of Arts and Sciences Pre-Med Advisory Committee (2000-2003)

Bioinformatics Faculty Search Committee (2000-2002)

Computer Science, Instructor Search Committee (1998)

Freshman Advisor (1998-2001)

PROFESSIONAL ACTIVITIES:

Officer in professional organizations.

IEEE – Rolla sub-section chair (2001-2002), assistant chair (2000-2001), secretary/treasurer (1999-2000), member-at-large (1998-1999).
Toastmasters – UM-Rolla section secretary (1999-2000), VP membership (2001-2002).
Association of Graduate Engineering Students (AGES), secretary (1996-1997).

Faculty advisor to student professional organizations

IEEE Computer Society – Faculty advisor UM-Rolla Students branch (1999-2001)
IEEE – St Louis chapter student paper judge (1998, 2000, 2003)
IEEE – Region 5 student paper judge (2000)
HKN Electrical Engineering Honor Society – Student faculty advisor (2002-2003)
IEEE-EMC Society student paper contest judge (2002-2003)

Reviewer for professional papers and proposals

NSF CCLI-program reviewer, 2001, 2002, 2003 (panel chair).
Reviewer, 2003 ASEE annual conference
Reviewer, Instrumentation and Measurement Society Conference, 2002
Reviewer, University of Missouri Research Board (1998, 2000, 2001, 2002, 2003)

Memberships (past and present)

IEEE, Senior Member
IEEE Engineering in Medicine and Biology Society
IEEE Education Society
ASEE
Sigma Xi
Eta Kappa Nu Electrical Engineering Honor Society
International Society of Electrocardiology
Toastmasters
Association of Graduate Engineering Students (AGES)

Service to professional societies

Session moderator, ASEE Midwest Section Conference

HONORS AND AWARDS:

C. Holmes MacDonald Outstanding Young Electrical Engineering Professor, 2003 (national award).
C. Holmes MacDonald Outstanding Young Electrical Engineering Professor, Honorable Mention, 2002 (national award).
The IEEE St Louis Section Outstanding Faculty Award, 2001 (regional award).
Oak Ridge Associated Universities Ralph E. Powe Award (\$10,000 award), 2000.
Senior Member IEEE, 2003.
Registered Professional Engineer in the state of Missouri, 2002-present.
Doctoral Assistantship, Washington University, 1995.
Four Year Doctoral Fellowship (tuition + stipend), Washington University, 1991-1995.
One Year Graduate Fellowship (full-tuition), Southern Illinois University at Edwardsville, 1990 (*declined for W.U. Fellowship).
Basler Electric Company Award for “best graduating electrical engineer”, Southern Illinois University at Edwardsville, 1990.
SIUE Foundation Academic Excellence Award, runner up, best student in graduating class of 1990, Southern Illinois University at Edwardsville, 1990.
Fellow, Undergraduate Research Academy – an appointed position that included an open research grant, Southern Illinois University at Edwardsville, 1990.

Four-year, full-tuition Presidential Scholarship, Southern Illinois University at Edwardsville, 1986.

RESEARCH INTERESTS

Automotive and chip-level EMC, hardware-software co-design, parallel processing, expert-systems, electrocardiology, skin cancer, humanitarian demining

SPONSORED RESEARCH:

Total Grants: \$3,503,133

Total on which PI: \$891,133

Total value of D.G. Beetner's contribution: \$708,895

D.G. Beetner (PI 64%), T.H. Hubing (Co-PI 20%), R.E. DuBroff (4%), T.P. Van Doren (4%), and J.L. Drewniak (4%), "Vehicle Electrical System EMC Expert System Development," General Motors Corporation, 1/03 – 1/04, \$212,785.

D.G. Beetner (PI 64%), T.H. Hubing (Co-PI 20%), R.E. DuBroff (4%), T.P. Van Doren (4%), and J.L. Drewniak (4%), "Vehicle Electrical System EMC Expert System Development," General Motors Corporation, 10/01 – 9/02, \$238,240.

D.A. Summers (PI 25%), D.G. Beetner (15%), T.J. Herrick (10%), G. Grzegorz (15%), R.J. Stanley (15%) S. Agarwal (15%), "Implementation of New Waterjet Technology for Humanitarian Demining," Science Applications International Corporation (SAIC), 8/01 – 3/02, \$668,000.

O.R. Mitchell (PI 20%), K.T. Erickson (15%), D. Beetner (10%), R.B. Stone (10%), D.A. Summers (15%), S. Kapila (15%), V.S. Rao (15%), "The Development of a Teleoperated System for Humanitarian Demining," US Department of Army, 1/01 – 11/01, \$602,000.

D.G. Beetner (PI 50%) and H.J. Pottinger (Co-Pi 50%), "Hardware-Software Co-Design in an Undergraduate Microcontroller Laboratory," National Science Foundation (NSF), 1/00 – 12/02, \$230,609.

D.G. Beetner (PI 20%), T.H. Hubing (Co-PI 20%), R.E. DuBroff (20%), T.P. Van Doren (20%), and J.L. Drewniak (20%), "Vehicle Electrical System EMC Expert System Development," General Motors Corporation, 10/00 – 9/01, \$165,081.

O.R. Mitchell (PI 25%), D.A. Summers (15%), V.S. Rao (15%), T.J. Herrick (10%), S. Kapila (10%), D.G. Beetner (5%), J.A. Stuller (5%), R.E. DuBroff (5%), V.J. Flanigan (5%), J.L. Drewniak (5%), "Multidisciplinary Research in Mine Detection and Neutralization Systems," US Department of the Army, 12/99 – 1/01, \$602,000.

D.G. Beetner (PI 100%), "Non-Invasive Detection of Skin Cancer using Electrical Impedance," Oak Ridge Associated Universities Ralph E. Powe Award, 2000, \$10,000 (\$5,000 as part of award, \$5,000 from internal match).

O.R. Mitchell (PI 25%), D.A. Summers (15%), V.S. Rao (15%), T.J. Herrick (10%), S. Kapila (10%), D.G. Beetner (5%), J.A. Stuller (5%), R.E. DuBroff (5%), V.J. Flanigan (5%), J.L. Drewniak (5%), "Multidisciplinary Research in Mine Detection and Neutralization Systems," US Department of the Army, 12/98 – 11/99, \$740,000.

D.G. Beetner (PI 100%), "An Intelligent Electrode Array for Electrocardiology," University of Missouri research Board, 4/99-4/01, \$34,418 (internal grant).

PUBLICATIONS:

Refereed Journal Publications

D. G. Beetner and R. M. Arthur, "Estimation of Heart-Surface Potentials Using Regularized Multipole Sources," *IEEE Transactions on Biomedical Engineering*, *In press*.

R. Dua, D. G. Beetner, W. V. Stoecker, D. C. Wunsch, "Detection of Basal Cell Carcinoma using Electrical Impedance and Neural Networks," *IEEE Transactions on Biomedical Engineering*, *In press*.

D. G. Beetner, S. Kapoor, S. Manjunath, X. Zhou, and W. V. Stoecker, "Differentiation Among Basal Cell Carcinoma, Benign Lesions, and Normal Skin Using Electric Impedance," *IEEE Transactions on Biomedical Engineering*, 50(8): pp 1020-1025, 2003.

D. Sullins, H. Pottinger, and D. G. Beetner, "The WIMP51: A Simple Processor and Visualization Tool to Introduce Undergraduates to Computer Organization," *Computers in Education Journal*, vol. 13, pp 17-23, Jan. 2003.

D.G. Beetner and R.M. Arthur, "Direct Inference of the Spectra of Pericardial Potentials Using the Boundary-Element Method," *Annals of Biomedical Engineering*, Vol. 27, pp. 498-507, 1999.

R.M. Arthur, D.G. Beetner, H.D. Ambos, and M. E. Cain, "Improved Estimation of Pericardial Potentials from Body-Surface Maps Using Individualized Torso Models," *Journal of Electrocardiology*, Vol. 31, pp. 106-113, 1998.

D.G. Beetner and R.M. Arthur, "Generation of Synthetic-Focus Images from Pulse-Echo Ultrasound Using Difference Equations," *IEEE Transactions on Medical Imaging*, vol. 15, pp. 665-672, 1996.

Refereed Journal Publications in Submission

D. G. Beetner, R. Joe Stanley, S. Agarwal, D. R. Somasundaram, K. Nema, B. Mantha, "Landmine Detection and Discrimination Using High-Pressure Waterjets," *Journal of Applied Signal Processing*. *Under review*.

Books

H.J. Pottinger and D.G. Beetner, *CmpE112 Computer Engineering Laboratory Manual*, Barnes and Noble Custom Publishing Series, 1999, 2000, and 2001.

D.G. Beetner and H.J. Pottinger, *CmpE213 Computer Engineering Laboratory Manual*, Barnes and Noble Custom Publishing Series, 2000.

Refereed Conference Proceedings

D. Beetner and H. Pottinger, "Laboratories Introducing Embedded Systems, Hardware-Software Co-Design, and Computer Organization," 38th ASEE Midwest Section Conference and Workshop, Sept. 10-12, 2003. (Refereed paper).

K. Gupta, D. G. Beetner, and W. V. Stoecker, "Diagnosis of Basal Cell Carcinoma Using Electrical Impedance: A Statistical Approach," *World Congress on Medical Physics and Biomedical Engineering*, 2003. (Refereed abstract).

L. Verma, H. J. Pottinger, and D. G. Beetner, "A Software Debugger Interface for an 8051 Hardware Model," *2003 Conference on Microelectronic Systems Education*, June 2003. (Refereed paper).

Q. Yao, D. Beetner and D. C. Wunsch II, "A RAM-Based Neural Network for Collision Avoidance in a Mobile Robot", *2003 International Joint Conference on Neural Networks (IJCNN)*, pp 3157-3160, 2003. (Refereed paper).

L. Verma, D. Beetner, H. Pottinger, "A Tcl/Tk Debugging Interface for a VHDL 8051 Microcontroller Model," Mentor Users Group 2003 conference proceedings, 2003. (Refereed paper).

D. Sullins, D. Beetner, H. Pottinger, "Development of a Simple Processor and Simulator for Use in Undergraduate Coursework," *Proceedings of the 4th European Workshop on Microelectronics Education – EWME*, 2002. (Refereed paper).

D. Sullins, H. Pottinger, D. Beetner, "The WIMP51: A Simple Processor and Visualization Tool to Introduce Undergraduates to Computer Organization," ASEE, 2002, p 2232. (Refereed paper).

V. Eller, D. Beetner, J. White, H. Pottinger, "Development and Delivery of a Web-Based Seminar," ASEE, 2002, p 2236. (Refereed paper).

D. Beetner and H. Pottinger, "Laboratories Teaching Hardware-Software Co-Design: New Additions and Dissemination Via Web-Seminar," ASEE, 2002. (Invited and refereed abstract)

S. Ranganathan, D. Beetner, R. Wiese, and T. Hubing, "An Expert System Architecture to Detect System-Level Automotive EMC Problems," *Proceedings of the 2002 IEEE EMC Symposium, Minneapolis*, pp 976-981, August 2002. (Refereed paper).

D. Beetner, S. Ranganathan, R. Wiese, T. Hubing, "Design of An Expert System to Detect Electromagnetic Compatibility Problems in the Automobile," *2002 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting*, June 16-21, 2002. (Refereed paper).

D.G. Beetner and H.J. Pottinger, "An Assessment of Laboratories and Materials Teaching Hardware-Software Co-Design," 2001 ASEE Annual Conference and Exposition, 2001. (Refereed abstract).

D.G. Beetner, H.J. Pottinger, and K. Mitchel, "Laboratories Teaching Concepts in Microcontrollers and Hardware-Software Co-Design," *30th ASEE/IEEE Frontiers in Education Conference*, pp. S1C/1-5, 2000. (Refereed paper).

D.G. Beetner, R.M. Arthur, H.D. Ambos, and M.E. Cain, "Characterization of Spectral Features in Inferred Pericardial Potentials that Distinguish Healed Myocardial Infarct," Proceeding of the 22nd Annual International Conference of the IEEE-EMBS, July, 2000. (Invited and refereed abstract)

D.G. Beetner and R.M. Arthur, "Noninvasive Imaging of Pericardial Spectra," Invited paper, Proceeding of the 22nd Annual International Conference of the IEEE-EMBS, July, 2000. (Invited and refereed abstract)

R. M. Arthur and D. G. Beetner, "Improved Inference of Heart Potentials with the Multipole-Equiv Method," *International Society of Computerized Electrocardiology 25th Annual Conference*, 2000. (Refereed abstract).

H.J. Pottinger and D.G. Beetner, "Hardware-software Co-verification in an Undergraduate Laboratory," *Proceedings 1999 IEEE Computer Society International Conference on Microelectronic Systems Education*, pp. 41-42, 1999. (Refereed paper).

D.G. Beetner, H.D. Ambos, M.E. Cain, and R.M. Arthur, "Inference of Epicardial Potentials from Multipole-Equivalent Sources Using Aimed Leads," *Electrocardiology '96*, Proceedings of the 23rd International Congress on Electrocardiology, July 31 – August 4, 1996. (Refereed abstract)

D.G. Beetner, H.D. Ambos, M.E. Cain, and R.M. Arthur, "Determination of Epicardial Potentials Using Aimed Leads," *Journal of Medical and Biological Engineering and Computing*, vol. 34, sup. 1, pp. 97-98, 1996. (Refereed paper)

R.M. Arthur and D.G. Beetner, "Representation of Time-of-Flight Surfaces for Synthetic-Focus, Ultrasonic Imaging in Inhomogeneous Media," *Ultrasonic Imaging*, Vol. 17, pp. 57-58, 1995. (Refereed paper).

Other Publications

D.G. Beetner and H.J. Pottinger, "Hardware-Software Co-Design in an Undergraduate Microcontrollers Laboratory," NSF-CCLI project showcase, *30th ASEE/IEEE Frontiers in Education Conference*, 2000. (Invited talk, poster presentation. Published in program but not archived).

D.G. Beetner, "Biomedical Engineering: Research in Ultrasonic Imaging and Electrocardiology," Invited lecture to IEEE-EMBS St Louis Section. Summary published in *The Mighty Mho*, Nov. 1998, pp 6. (invited)

Presentations

D. Beetner and H. Pottinger, "Hardware Software Co-Design in an Undergraduate Microcontrollers Laboratory," Engineering and Computing Education Grantees Conference, September 22-23, 2002, Washington D.C. (invited abstract)

V. Eller, J. Nolley, R. Hall, R. Davis, D. Beetner, "Development, Assessment, and Support of Advanced Learning Technologies at UMR's Instructional Software Development Center," Higher Education Learning and Information eXchange, 2002.

D. Beetner and H. Pottinger, "Hardware Software Co-Design in an Undergraduate Microcontrollers Laboratory," Engineering and Computing Education Grantees Conference, September 30-October 1, 2002, Washington D.C. (invited)

X. Dong and D. Beetner, "Estimation of Maximum System-Level Crosstalk at High Frequencies," UMR EMC Consortium Meeting, May 6-7, 2003 (Archived for consortium members).

H. Weng and D. Beetner, "PSpice Crosstalk Elements and a MATLAB GUI," UMR EMC Consortium Meeting, May 6-7, 2003 (Archived for consortium members).

X. Dong, S. Ranganathan, and D. Beetner, "Validation of Expert System Algorithms: Common Impedance, Inductive, and Capacitive Coupling," UMR EMC Consortium Meeting, Oct. 24-25, 2002 (Archived for consortium members).

H. Weng and D. Beetner, "Resonances in a Vehicle Passenger Compartment", UMR EMC Consortium meeting, Oct. 24-25, 2002.

S. Ranganathan and D. Beetner, "Wiring Harness Crosstalk Algorithms", UMR EMC Consortium Meeting, May 15-16, 2002 (Archived for consortium members)

X. Dong and D. Beetner, "Field-to-Cable Coupling Model and Measurements", UMR EMC Consortium Meeting, May 15-16, 2002 (Archived for consortium members)

D. Beetner, "System-Level EMC Project Directions", UMR EMC Consortium Meeting, May 15-16, 2002 (Archived for consortium members)

S. Ranganathan and D. Beetner, "Predicting Wire Harness Crosstalk due to Capacitive Coupling", UMR EMC Consortium Meeting, May 15-16, 2002 (Archived for consortium members)

X. Dong and D. Beetner, "Predicting Field-to-Cable Coupling: Models and Measurements", UMR EMC Consortium Meeting, May 15-16, 2002 (Archived for consortium members)

D.G. Beetner, "Acoustic Detection of Buried Landmines," Third Annual Review of the Army research Office sponsored Multidisciplinary University Research Initiative (MURI) on Demining, Aug, 1999, Ft. Belvoir, Virginia.

W.V. Stoecker, D.G. Beetner, B. Shrestha, R.H. Moss, V.A. Samaranayake, S. Kapoor, and M. Shivappa, "Review: Digital Imaging in Dermatology," Invited presentation. Meeting of the International Society for Digital Imaging of the Skin, Washington D.C., March 8, 2001.

D. Beetner and H. Pottinger, "Materials Teaching Hardware-Software Co-Design," a 1-hour seminar conducted over the web to participants from academia and industry and from across the world, Aug. 2001. (Archived on web)

D. Beetner "Development of a Web Seminar with Live Streaming Audio," UMR Instructional Software Development Center seminar, Oct 2001. (invited)

D. Beetner, "Next Steps for Automotive EMC," UMR EMC Consortium meeting, Nov. 2001. (Archived for consortium members)

S. Ranganathan and D. Beetner "A Preliminary Inductive Coupling Algorithm", UMR EMC Consortium meeting, Nov. 2001. (Archived for consortium members).

D. Beetner, "System-Level Automotive EMC Expert System," UMR EMC Consortium meeting, May. 2001. (Archived for consortium members)

Technical Reports

H. Weng and D. Beetner, "Investigation of Cavity Resonances in an Automobile," UMR EMC Consortium report, Oct. 2003.

S. Ranganathan, D. Beetner, and H. Weng, "Experimental Validation of the Intra-Harness Capacitive Coupling Algorithm," UMR EMC Consortium report, Oct. 2003.

H. Weng and D. Beetner, "Coupling Among Circuits in the Engine Compartment: Partial Validation of the Inductive and Capacitive Coupling Algorithms," UMR EMC Consortium report, Oct. 2003.

X. Dong, H. Weng, D. Beetner, "Estimation of Maximum System-Level Crosstalk at High Frequencies," UMR EMC Consortium report, May 2003.

S. Ranganathan, H. Weng, D. Beetner, "A Matlab GUI to Estimate Crosstalk: Brief Explanation of Use and Theory," UMR EMC Consortium report, May 2003.

H. Weng and D. Beetner, "PSpice Models to Simulate Intra-Harness Coupling," UMR EMC Consortium report, May 2003.

S. Ranganathan, X. Dong, and D. Beetner, "A Preliminary System-level Common Impedance Coupling Algorithm," UMR EMC Consortium report, December, 2002.

X. Dong, and D. Beetner, "System-level Automotive EMC Expert System Development: A Preliminary Power-Bus-Noise algorithm," UMR EMC Consortium report, December, 2002.

H. Weng and D. Beetner, "Investigation of Cavity Resonances in an Automobile," UMR EMC Consortium report, Oct. 2002.

S. Ranganathan and D. G. Beetner, "Bench Top Validation of the System-level Common Impedance Coupling Algorithm," UMR EMC Consortium report, Oct., 2002.

S. Ranganathan and D. G. Beetner, "Bench Top Validation of the System-level Inductive Coupling Algorithm," UMR EMC Consortium report, Oct., 2002.

X. Dong and D. G. Beetner, "Bench Top Validation of the System-level Capacitive Coupling Algorithm," UMR EMC Consortium report, Oct., 2002.

S. Ranganathan and D. G. Beetner, "System-Level EMC Expert System: A Preliminary Algorithm to Predict Capacitive Coupling," UMR EMC Consortium report, April, 2002.

X. Dong and D. G. Beetner, "System-Level EMC Expert System: A Preliminary Exploration of field-to-harness Coupling," UMR EMC Consortium report, April, 2002.

S. Ranganathan and D. Beetner, "Vehicle Electrical System EMC Expert System Development," UMR EMC Consortium Report, April 2001.

S. Ranganathan and D. Beetner, "System-Level EMC Expert System: A Preliminary Algorithm to Predict Inductive Coupling," UMR EMC Consortium Report, Oct. 2001.

REPORTS ON RESEARCH IN POPULAR PRESS

"Water Goes to War," Popular Science, September, 2002. (article on our demining work with waterjets).

Paul Eng, "Drowning Out Hidden Horrors of Past Wars?" ABC News.com, Aug. 16, 2002 (article on our demining work with waterjets)

"Best Inventions of 2002," Time Magazine, November, 2002. (Our waterjet demining apparatus included in list).

KMOX radio report on demining work, January 2003. (including excerpts of interview with D. Beetner).

"Electrical Device Detects Skin Cancer," Cover article for health section of Springfield Newsleader, July 1, 2003.

Results Radio report on skin cancer work, June 2003.

TEACHING

Lecture:

Semester(s)	Course #	Course Title	Student Evaluation ¹	Level	University
W03, F02	CpE311	Intro. to VLSI Design	3.4, 2.9	Senior/ Grad.	UMR
F01	EE/CpE391	Senior Design	3.2	Senior	UMR
W01	CpE318	Digital System Modeling	3.0	Senior/ Grad.	UMR
W02,F01,F00, W00, F99	CpE213	Digital Systems Design	3.7, 3.4, 3.3, 3.3, 2.4	Junior/ Senior	UMR
S00	CpE300	Special Problems	N/A	Sen./ Grad	UMR
S99	CpE400	Special Problems	N/A	Grad.	UMR
W99	CpE111	Intro to Computer Eng.	3.2	Soph.	UMR
W98	EE327	Intro to Elect. Crkts II	N/A	Junior	SIUE
W98, F97	EE326	Intro to Elect. Crkts I	N/A	Junior	SIUE

Lab (Coordinator):

Semester(s)	Course #	Lab Title	Level	University
W02	CpE214	Digital Eng. Lab II	Junior	UMR
F99, W99, F00, W00, W01, F01, F02	CpE112	Computer Eng. Lab I	Soph.	UMR
W98	EE327	Intro to Electronic Crkts II	Junior	SIUE
W98, F97	EE326	Intro to Electronic Crkts I	Junior	SIUE

Activities performed to improve teaching and advising ability

NSF-sponsored National Effective Teacher's Institute 3-day workshop, 1999.
 Workshop: "Learning about Learning Communities: Taking Student Learning Seriously," 1999.
 2-day workshop "ABET Engineering Criteria 2000 faculty workshop," 2000.
 Skillpath Seminar "Managing Multiple Projects, Objectives, and Deadlines", 2000.
 Voluntary assessment of materials I developed to teach hardware-software co-design assessed by an NSF-sponsored reviewer, 2000.
 Preview, Registration, and Orientation workshop, 2001.
 BlackBoard course development tool workshop, 2001.
 Writing-center workshop "Professional Writing: Five Steps to Clearer Prose," 2001.
 Regular participation in Toastmasters, a group dedicated to improving public speaking skills, 1999-present.
 Regular participation in UMR's New Faculty Forum, 1998-2000.

¹ Evaluations at UMR are out of 4.0. Typical UMR average is 2.7-2.9.

Regular participation and attendance of educational conferences (ASEE 1999; FIE 2000, ASEE 2001, ASEE 2002), and NSF educational workshops (2000, 2002, 2003).

Students Supervised

Graduated 8 MS students

Currently supervising 2 MS and 2 PhD students

Financially supported/supervised 5 undergraduates as participants in my research

Courses Developed

- CpE401: Advanced VLSI Design, a course covering advanced topics in the design of large-scale, high-performance, low-power, and mixed-signal integrated circuits.
- Laboratories for CpE214: Digital Systems Design. Developed as part of an NSF grant, these laboratories teach concepts of embedded systems, hardware-software co-design, and computer organization. Efforts included development of several hardware models and software visualization tools.
- Laboratories for CpE112: Introduction to Computer Engineering. Efforts included major modifications to existing laboratory manual, including the addition of several new labs.