



**FRONTIERS  
IN EDUCATION  
BOULDER • 2003**

# Frontiers in Education

*Engineering as a Human Endeavor:  
Partnering Community, Academia,  
Government, and Industry*

November 5–8, 2003  
The Westin Hotel • Westminster, Colorado

*33rd Annual*

## **CONFERENCE AWARDS BANQUET**

Sponsored by:



IEEE Education Society



IEEE Computer Society

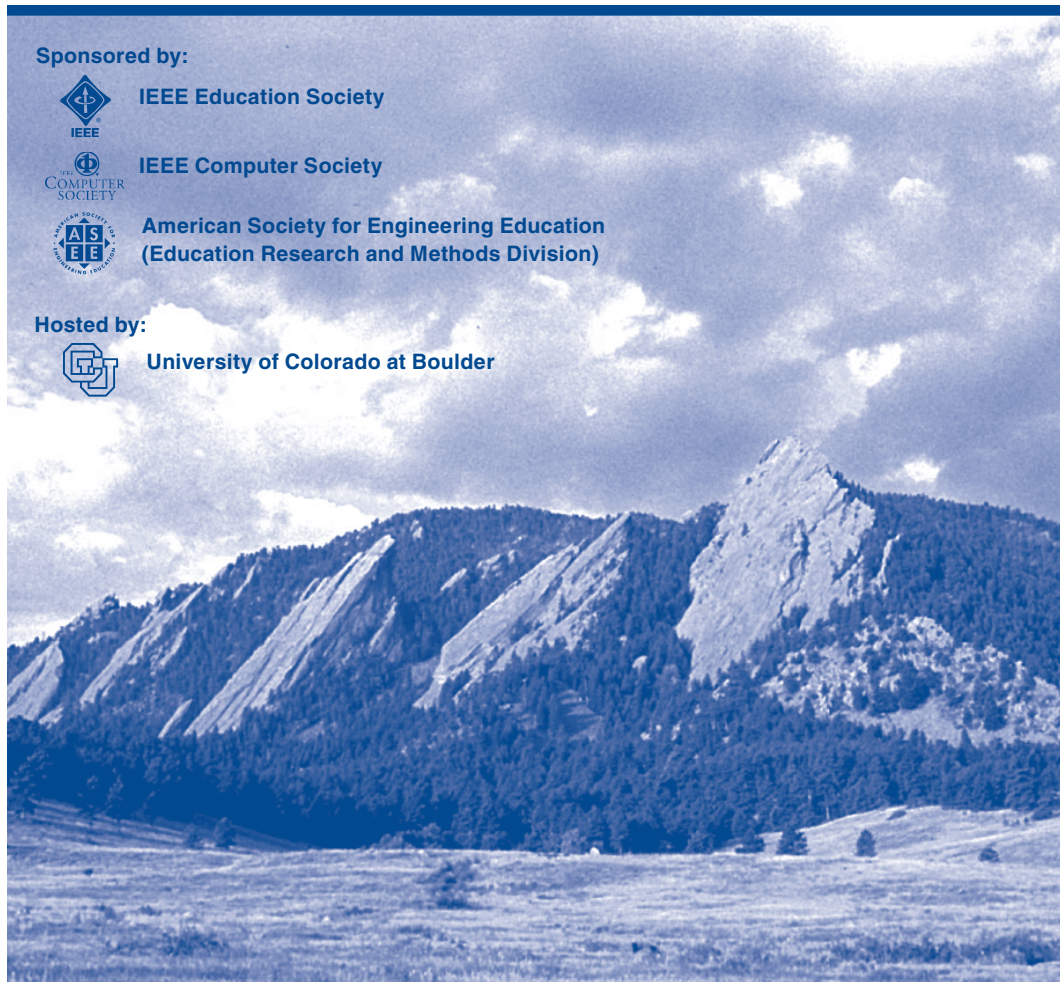


American Society for Engineering Education  
(Education Research and Methods Division)

Hosted by:



University of Colorado at Boulder





# Award Coordinators

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Awards and Recognition Coordinator ..... Daniel M. Litynski

## **Awards Committee Chairs**

### *Frontiers in Education Conference*

FIE Benjamin J. Dasher Best Paper Award ..... James Sluss

FIE Ronald J. Schmitz Award ..... Goranka Bjedov

### *IEEE Education Society*

IEEE ES Hewlett-Packard/Harriett B. Rigas Award ..... Leah H. Jamieson

IEEE ES McGraw-Hill/Jacob Millman Award ..... James R. Rowland

IEEE ES Meritorious Service Award ..... Edwin C. Jones Jr.

IEEE ES Achievement Award ..... Chalmers F. Sechrist

IEEE Transactions on Education Best Paper Award ..... David A. Conner

### *ASEE ERM Division*

ASEE ERM Division Distinguished Service Award ..... Eric Soulsby

### *ASEE ECE Division*

Hewlett-Packard Frederick Emmons Terman Award ..... Edwin C. Jones Jr.

# Sponsoring Organizations

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## **IEEE Education Society**

David V. Kerns Jr., President

Jim Roberts

Ted Batchman

## **ASEE Educational Research and Methods Division**

Eric Soulsby, Division Chair

P.K. Imbrie

Michael Pavelich

Tim Skvarenina

## **IEEE Computer Society (No awards to be presented.)**

Stephen L. Diamond, President

Stephen Seidman

Jane Prey

Ann Gates

# Awards Ceremony Agenda

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*Moderator:* Daniel M. Litynski, Vice President  
IEEE Education Society

**ASEE ECE Division Hewlett-Packard Frederick Emmons Terman Award**

*Presenter:* Wayne C. Johnson  
Hewlett-Packard Corporation

**ASEE ERM Division Distinguished Service Award**

*Presenter:* Daniel J. Moore, Chair  
ASEE ERM Division

**IEEE Education Society Meritorious Service Award**

*Presenter:* David V. Kerns Jr., President  
IEEE Education Society

**IEEE Education Society Achievement Award**

*Presenter:* David V. Kerns Jr., President  
IEEE Education Society

**IEEE Education Society McGraw-Hill/Jacob Millman Award**

*Presenter:* David V. Kerns Jr., President  
IEEE Education Society

**IEEE Education Society Transactions on Education Best Paper Award**

*Presenter:* David V. Kerns Jr., President  
IEEE Education Society

**IEEE Education Society Hewlett-Packard/Harriett B. Rigas Award**

*Presenter:* Wayne C. Johnson  
Hewlett-Packard Corporation

**Frontiers in Education Conference Benjamin J. Dasher Best Paper Award**

*Presenter:* James Sluss  
IEEE Education Society

**Frontiers in Education Conference Ronald J. Schmitz Award**

*Presenter:* Marion Hagler  
IEEE Education Society



## John R. Bourne

Professor  
Electrical and Computer  
Engineering  
Franklin W. Olin College of  
Engineering  
Executive Director  
Sloan Consortium

## IEEE EAB Meritorious Achievement Award

*Presented by Marion O. Hagler*

*“For work in creation of the Sloan Consortium,  
an organization dedicated to making  
education a part of everyday life, accessible and  
affordable for anyone, anywhere, at any time.”*

**John R. Bourne** is professor of electrical and computer engineering at Franklin W. Olin College of Engineering and professor of technology entrepreneurship at Babson College in Needham, Massachusetts. He spent 31 years at Vanderbilt University, teaching electrical and computer engineering, management of technology, and biomedical engineering. He has published more than 100 technical papers, is the author of three books, and edited *Critical Reviews in Biomedical Engineering* for more than 25 years.

Bourne is executive director of the Sloan Consortium (Sloan-C). Sloan-C, created with funding from the Alfred P. Sloan Foundation, is a consortium of institutions and organizations committed to quality online education. Its purpose is to help learning organizations continually improve quality, scale, and breadth according to their own distinctive missions so education will become a part of everyday life, accessible and affordable for anyone, anywhere, at any time, in a variety of disciplines.

As executive director, Bourne is leading the effort to expand and grow Sloan-C. The consortium sponsors face-to-face and online conferences, workshops, and discussion groups. Publishing a series of research books and journals, Sloan-C has become a major force for promoting quality methods in online education. Bourne is editor-in-chief of the *Journal of Asynchronous Learning Networks*, which he established in 1997.

Bourne has participated actively in IEEE activities. He was program chair, secretary-treasurer, vice chair, and chair of the Nashville Section of the IEEE. He organized the Nashville Chapter of the Engineering in Medicine and Biology Society (EMBS) and served in all capacities. He also was associate editor of the IEEE Transactions on Biomedical Engineering. He is a fellow of the American Institute of Medical and Biological Engineering. He was elected fellow of the IEEE in 1999 “for contributions to innovation in engineering education and asynchronous learning networks.”

He holds a bachelor’s degree in engineering from Vanderbilt University and MSE and PhD degrees from the University of Florida.



## Michael J. Pavelich

Morse-Alumni Distinguished  
Professor of Civil Engineering  
University of Minnesota and  
Michigan State University

## Past Recipients

- '95 Wallace S. Venable
- '96 James E. Stice
- '98 Billy V. Koen and  
Alisha A. Waller
- '99 John C. Lindenlaub
- '00 Richard S. Culver
- '01 Charles F. Yokomoto
- '02 Karl A. Smith

## ASEE ERM Division Distinguished Service Award

*Presented by Daniel J. Moore*

*“For outstanding service to the ASEE  
Education and Research Methods Division.”*

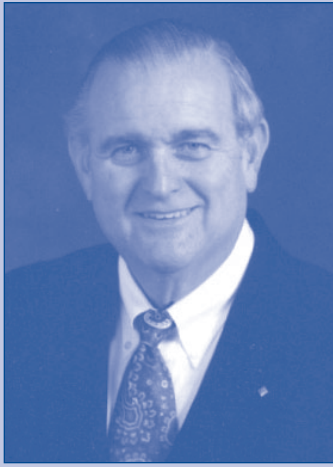
**Michael J. Pavelich** holds a bachelor's degree in chemistry from the University of Notre Dame and a PhD in physical inorganic chemistry from the University of Buffalo. He then researched enzyme kinetics at Cornell University for two years as an NIH postdoctoral fellow.

His first faculty appointment was in the Chemistry Department of the University of Oklahoma. There he became dissatisfied with the normal lecture approach to teaching, seeing how little it affected learning. While searching for answers, he began to work with John W. Renner, a physicist also trained in science education.

Renner mentored him into this field, introducing him to learning theories and their applications, especially that of Jean Piaget. They were able to hire into the Chemistry Department Michael R. Abraham, who was also trained in science education and educational research. Pavelich and Abraham became fast colleagues, creating two teaching lab formats, Guided and Open-ended Inquiry, which get students strongly into analytical (convergent) thinking in general chemistry laboratories. This work was eventually expanded into a commercial lab text still used by schools across the country.

Pavelich joined the Colorado School of Mines in 1977 to do curriculum development and testing leading to teaching methods that promote higher-level thinking. He has implemented chemistry courses centered on convergent thinking practice by students. These include general, physical, and senior inorganic chemistry.

Pavelich was instrumental in designing and getting approved the EPICS Program, in which students practice evaluation and real-world problem-solving. He directed the program from its pilot stages through implementation for all CSM freshmen and sophomores. He helped create and run the CSM Seminar Series on Education, which brings notable engineering educators to campus. He has received two awards for teaching and was promoted to full professor in the Chemistry Department in 1989. He has numerous publications in the chemical education and engineering education literature.



## David Conner

Professor Emeritus and Chair Emeritus  
Electrical and Computer  
Engineering  
University of Alabama–  
Birmingham

## Past Recipients

- '78 Warren B. Boast
- '79 Joseph M. Biedenbach
- '80 Edwin C. Jones Jr.
- '81 Lyle D. Feisel
- '82 Roy H. Mattson
- '83 Robert F. Fontana
- '84 Gerald R. Peterson
- '85 Luke H. Noggle
- '86 James A. Mulligan and  
Sidney S. Shamis
- '87 Thomas K. Gaylord
- '88 Robert F. Cotelllessa
- '89 E. Ben Peterson
- '90 Darrell L. Vines
- '91 Victor K. Schutz
- '92 William K. LeBold
- '93 Frank S. Barnes
- '94 Patricia D. Daniels
- '95 Robert W. Ritchie
- '96 Marion O. Hagler and  
Donald E. Kirk
- '97 Robert Sullivan
- '98 Burks Oakley II
- '99 Gerald L. Engel
- '00 Ted E. Batchman
- '01 Bill Sayle
- '02 James Rowland

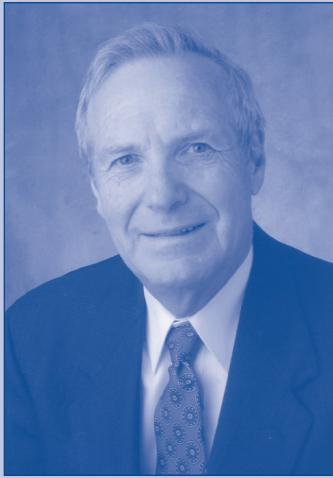
# IEEE Education Society Meritorious Service Award

*Presented by David V. Kerns Jr.*

*“For contributions to the Education Society through service to the Frontiers in Education Conference and to the IEEE Transactions on Education, and for inspiring leadership in engineering education.”*

**David A. Conner** is professor emeritus and chair emeritus of electrical and computer engineering at the University of Alabama–Birmingham, with faculty experience at Auburn University, the Georgia Institute of Technology, the University of Tennessee–Chattanooga, and the University of Louisville, and industrial employment with IBM’s Federal Systems Division. He is editor-in-chief of the IEEE Transactions on Education and a member and treasurer of the IEEE Foundation Board of Directors. Previously, Conner served on the IEEE board as treasurer and Region 3 delegate/director and was a member of the Educational Activities, Region Activities, and IEEE-USA boards. He is a licensed professional engineer in Alabama, Georgia, Kentucky, and Tennessee.

Conner has received the U.S. Activities Board Certificate of Appreciation for Professional Service, the Alabama Section Engineer-of-the-Year Award, the FIE Benjamin J. Dasher Award, the Educational Activities Board Meritorious Achievement Award for Major Educational Innovation, the Regional Activities Board Innovation Award, the IEEE Millennium Medal, the Region 3 Outstanding Engineer Award, the Region 3 Outstanding Educator Award, and the Region 3 Outstanding Service Award. (He is the only person to win all three of the major Region 3 awards.)



## Frank Barnes

Distinguished Professor  
Electrical and Computer  
Engineering  
University of Colorado

## IEEE Education Society Achievement Award

*Presented by David V. Kerns Jr.*

*“For outstanding and sustained contributions to electromagnetics and telecommunications education.”*

**Frank Barnes** received a bachelor’s degree from Princeton University in electrical engineering and master’s and doctoral degrees from Stanford University. He joined the University of Colorado in 1959 after taking a Fulbright Fellowship to Iraq, and worked for the Colorado Research Corporation. He chaired the Department of Electrical and Computer Engineering from 1964 to 1980, was acting dean of the College of Engineering and Applied Science in 1981, and was named a distinguished professor in 1997.

His interests include the effects of electric and magnetic fields on biology, lasers, optical fibers, electron devices, and the interdisciplinary aspects of telecommunications. In 1971, with George Coddling, he co-founded the MS Interdisciplinary Telecommunications Program (ITP), which includes work in law, public policy, business, and electrical engineering. The program includes students with undergraduate degrees from many disciplines and has graduated more than 2,000 students.

Barnes has been head of the EE Department Heads Association, member of the ABET board of directors, editor of the IEEE Student Journal and IEEE Transactions on Education, vice president of publications for IEEE, chair of the Electron Device Society, and president of the Bioelectromagnetics Society. He chairs the NRC Committee to Assess Potential Health Effects from Exposures to PAVE PAW Low-Level Phased Array Radio Frequency Energy. He was elected to the National Academy of Engineering in 2001. He is a fellow of IEEE, AAAS, and the ICF.





## Delores Etter

Office of Naval Research  
Distinguished Chair in Science  
and Technology  
United States Naval Academy

## Past Recipients

- '79 Lawrence P. Grayson
- '80 Demetrius T. Paris
- '81 Lindon E. Saline
- '82 Anthony B. Giordana
- '83 Joseph Bordogna
- '84 John C. Lindenlaub
- '85 John D. Ryder
- '86 James R. Rowland
- '87 Bruce Eisenstein
- '88 Mac Van Valkenburg
- '89 Edward W. Ernst
- '90 Ernst Weber
- '91 J. David Irwin
- '92 Jerrier A. Haddad
- '93 Chalmers F. Sechrist
- '94 Eric A. Walker
- '95 Stephen W. Director
- '96 William H. Hayt Jr.
- '97 Jerry R. Yeargan
- '98 Ted E. Batchman
- '99 Lyle D. Feisel
- '00 Irene C. Peden
- '01 Donald E. Kirk and  
Eli Fromm
- '02 Burks Oakley II

# IEEE Education Society Achievement Award (Cont'd.)

*Presented by David V. Kerns Jr.*

*“For leadership in advancing excellence in engineering education.”*

**Delores Etter** joined the electrical engineering faculty at the U.S. Naval Academy in 2001 as the first Office of Naval Research Distinguished Chair in Science and Technology. From June 1998 through July 2001 she was deputy undersecretary of defense for science and technology. From 1990 to 1998 she was a professor of electrical and computer engineering at the University of Colorado–Boulder. During 1979–89 she was a faculty member in the Department of Electrical and Computer Engineering at the University of New Mexico. She was associate chair of the department from 1987 to 1989. During 1989 she also was associate vice president for academic affairs. From 1983 to 1984 she was a National Science Foundation visiting professor in the Electrical Engineering Department at Stanford University.

Etter's research interests are in biometric signal processing, adaptive signal processing, digital filter design, and software engineering. She has also written textbooks on computer languages and software engineering. Her educational interests include the development of collaborative experiments in virtual teaming of students using the Internet.

Etter is a member of the National Academy of Engineering and a fellow of the Institute of Electrical and Electronic Engineers (IEEE), the American Association for the Advancement of Science, and the American Society for Engineering Education. She is also a member of the National Science Board. She has received the Department of Defense Medal for Distinguished Public Service, the IEEE Harriett B. Rigas Award, and the IEEE Signal Processing Society Meritorious Service Award.



### **James H. McClellan**

Byers Professor in Signal Processing  
School of Electrical and Computer  
Engineering  
Georgia Institute of Technology



### **Ronald W. Schafer**

Regents Professor and the John and  
Marilyn McCarty Chair Professor  
School of Electrical and Computer  
Engineering  
Georgia Institute of Technology



### **Mark A. Yoder**

Professor  
Electrical and Computer Engineering  
Rose-Hulman Institute of Technology

### **Past Recipients**

- '93 J. David Irwin
- '94 Bruce Carlson
- '95 James W. Nilsson
- '96 Simon Haykin
- '97 Donald E. Kirk and  
Robert D. Strum
- '98 Richard C. Jaeger
- '99 Jon B. Peatman
- '00 Matthew N.O. Sadiku
- '01 Sanjit K. Mitra
- '02 John G. Proakis

## **IEEE Education Society McGraw-Hill/Jacob Millman Award**

*Presented by David V. Kerns Jr.*

*“For outstanding contributions to electrical engineering education through textbooks, research, and mentoring of students.”*

**James H. McClellan** holds the Byers professorship in signal processing in the School of Electrical and Computer Engineering at the Georgia Institute of Technology. He is co-author of 12 books, has 50 refereed publications, and has supervised 16 doctoral students. He is a recipient of the IEEE Signal Processing Society’s Education Award, Society Award, and Technical Achievement Award. He was elected fellow of the IEEE for contributions to digital filter design and digital signal processing. He is a recipient of an IEEE Millennium Medal.

**Ronald W. Schafer** is a regents professor and the John and Marilyn McCarty chair professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology. He is co-author of nine books and nine book chapters. He has eight patents, 74 journal publications, and 16 doctoral students completed. He has received an IEEE Centennial Medal, an IEEE Millennium Medal, an IEEE Field Award, and the IEEE Education Medal. He is a fellow of the Acoustical Society of America, a fellow of the IEEE, and a member of the National Academy of Engineering.

**Mark A. Yoder** is professor of electrical and computer engineering at the Rose-Hulman Institute of Technology. He has been ERM Division of ASEE executive board member, FIE co-program member, and IEEE Education Society Administrative Committee member. He is a rare two-time recipient of the Helen Plants Award for the best nontraditional workshop at FIE and a co-recipient of the IEEE Signal Processing Society’s Education Award. He is a co-author of six textbooks and has been especially prolific in offering short courses and workshops on digital signal processing.



### **Tyson S. Hall**

PhD Candidate  
Electrical and Computer Engineering  
Georgia Institute of Technology



### **James O. Hamblen**

Professor  
Electrical and Computer Engineering  
Georgia Institute of Technology



### **Kimberly E. Newman**

Researcher

### **Past Recipients**

- '99 J.A. Buck, H. Owen, J.P. Uyemura, C.M. Verber, and D.J. Blumenthal
- '00 David J. Russomanno and Ronald D. Bonnell
- '01 Christopher W. Trueman
- '02 Mohan Krishnan and Mark J. Paulik

## **IEEE Education Society Transactions on Education Best Paper Award**

*Presented by David V. Kerns Jr.*

*“An Introductory Digital Design Course Using  
a Low-Cost Autonomous Robot,” pp. 289–29*

**Tyson S. Hall** is a PhD candidate in electrical and computer engineering at the Georgia Institute of Technology. His research interests include field-programmable analog arrays, rapid prototyping of mixed-signal systems, cooperative analog/digital signal processing, reconfigurable computing, and embedded systems. Hall has been a teaching assistant for the digital design laboratory at Georgia Tech, adjunct instructor of digital design at Southern Adventist University, and co-author of the Digital Design Hardware Manual. He holds an MSEE and a BSCMPE from Georgia Tech.

**James O. Hamblen** is a professor in electrical and computer engineering at the Georgia Institute of Technology. His research interests include rapid prototyping, embedded computer systems, computer-aided design, and reconfigurable computing. He holds a PhD in electrical engineering from Georgia Tech, an MSEE from Purdue University, and a BEE from Georgia Tech. Before earning his doctorate, he was a systems analyst for Texas Instruments in Austin, Texas, and a senior engineer for Martin Marietta in Denver, Colorado.

**Kimberly E. Newman** holds a doctorate in electrical and computer engineering from the Georgia Institute of Technology. While she was enrolled as a student at Georgia Tech, she studied abroad in Metz, France, received a U.S. patent for her research through the Manufacturing Research Center, was selected a research fellow in the Packaging Research Center, and served in the Olympic Village. She is developing her research and educational interests in microprocessor systems, system on a package (SoP) development and test, and biosensor systems.



## **Joanne Bechta Dugan**

Professor  
Electrical and Computer  
Engineering  
University of Virginia

### **Past Recipients**

- '95 Denice D. Denton
- '96 Karan L. Watson
- '97 Patricia D. Daniels
- '98 Delores M. Etter
- '99 Sherra E. Kerns
- '00 Leah Jamieson
- '01 Valerie Taylor
- '02 Nan Marie Jokerst

## **IEEE Education Society Hewlett-Packard/Harriett B. Rigas Award**

*Presented by David V. Kerns Jr.*

*“Outstanding woman engineering educator  
in recognition of her contribution to the  
profession.”*

**Joanne Bechta Dugan** holds a bachelor's degree in mathematics and computer science from La Salle University and master's and doctoral degrees in electrical engineering from Duke University. She is professor of electrical and computer engineering at the University of Virginia. She has performed and directed research on the development and application of techniques for the analysis of computer systems designed to tolerate hardware and software faults. Her research interests include hardware and software reliability engineering, fault-tolerant computing, and mathematical modeling using dynamic fault trees, Markov models, Petri nets, and simulation.

Dugan is a member of Phi Beta Kappa, Eta Kappa Nu, Tau Beta Pi, ASEE and IEEE; is an IEEE fellow; was Associate Editor of the IEEE Transactions on Reliability for 10 years; and is associate editor of the IEEE Transactions on Software Engineering. She was co-general chair of ISSRE, the International Symposium on Software Reliability Engineering, in 2002. She has been an ABET program evaluator for electrical and computer engineering since 1995.



## Larry Richards

Associate Professor  
Mechanical and Aerospace  
Engineering  
University of Virginia

## Past Recipients

- '84 Carol Schmitz
- '85 Lawrence P. Grayson
- '86 John C. Lindenlaub
- '87 George Burnett
- '88 James R. Rowland
- '89 Lyle D. Feisel
- '90 Edwin C. Jones Jr.
- '92 Karl A. Smith
- '92 Victor K. Schutz
- '93 Bruce A. Einstein
- '94 David V. Kerns Jr.
- '95 David R. Voltmer
- '96 William E. Sayle II
- '97 Richard S. Culver
- '98 Dan Budny
- '99 Robert J. Herrick
- '00 Larry J. Shuman
- '01 David L. Soldan
- '02 Goranka Bjedov

## Frontiers in Education Conference Ronald J. Schmitz Award

*Presented by Marion O. Hagler*

*“For outstanding service to the Frontiers in  
Education Conference.”*

**Larry G. Richards** is an associate professor in the Department of Mechanical and Aerospace Engineering at the University of Virginia. He holds an undergraduate degree from Michigan State University and a doctorate from the University of Illinois, both in psychology. He joined the School of Engineering and Applied Science at UVA in 1976, and moved into mechanical engineering in 1985 to develop and administer a new Manufacturing Systems Engineering Program. He also directed the Center for Computer-Aided Engineering and is associate editor of the *Journal of Engineering Design*.

Richards' research includes developing and assessing innovative methods to improve engineering education, including directed inquiry, computer-based techniques, case methods, and distance learning. He has an NSF grant to develop engineering teaching kits to introduce engineering design into middle-school science and math classes. His other interests are computer-aided engineering, invention and design, creativity and entrepreneurship, and manufacturing systems.

Richards is the UVA campus representative to the American Society of Engineering Education and is active in the Education Research and Methods Division and Frontiers in Education. He was ERM program chair for the 1999 FIE conference in San Juan and for ASEE 2002 in Montreal.



## Zeynep Dilli

PhD Student  
Electrical Engineering  
University of Maryland



## Neil Goldsman

Professor  
Electrical and Computer  
Engineering Department  
University of Maryland



## Lee Harper

Coordinator  
Education Programs  
University of Maryland

# Frontiers in Education Conference Benjamin J. Dasher Best Paper Award

*Presented by James Sluss*

*IEEE Education Society FIE '02 Paper #1242*

*“A New Pedagogy in Electrical and Computer  
Engineering: An Experiential and Conceptual  
Approach”*

**Zeynep Dilli** was born in Ankara, Turkey. She holds a bachelor's degree in electrical and electronics engineering from Bilkent University in Ankara and a master's in electrical engineering from the University of Maryland—College Park, working under the direction of Neil Goldsman. She is a doctoral student in the same research group. Besides her technical research, which focuses on novel IC fabrication techniques, simulation and analysis of on-chip noise and parasitics, and on-chip device design, she has an interest in education and has been involved in engineering educational projects at the University of Maryland. In 2001 she helped design and implement a pilot program on which the FIE 2002 paper was based. This program taught basic electronics engineering to high school students without requiring extensive mathematics.

**Neil Goldsman** is a professor in the Electrical and Computer Engineering Department at the University of Maryland—College Park. He holds a PhD in electrical engineering from Cornell University. His research interests are nanotechnology, device, material and circuit design, and new approaches to engineering education. He is the recipient of the National Science Foundation's Research Initiation Award, the University of Maryland IEEE Professor-of-the-Year Award, and the George Corcoran Award for Contributions to Education. Goldsman has served on numerous conference committees, including ones for the International Conference on Simulation of Semiconductor Processes and Devices and the International Semiconductor Device Research Symposium. Goldsman was technical director for the Maryland Governor's Institute of Technology program in education. His work has been sponsored by governmental and industrial organizations, including the National Science Foundation, Semiconductor Research Corporation, Laboratory of Physical Sciences, Intel Corporation, and LSI Logic Corporation. He has published approximately 100 technical papers.

**Lee Harper** is coordinator of education programs in the University of Maryland's Institute for Systems Research and directs the institute's REU Site program. Harper holds a degree in history from Bowdoin College and is pursuing an advanced degree in higher education policy at Maryland. Her research focus is equity and access for women and students of color in undergraduate engineering education.



### **Steven I. Marcus**

Professor  
Electrical and Computer  
Engineering Department  
University of Maryland

### **Janet A. Schmidt**

Director  
Engineering Student Research  
University of Maryland

## **Frontiers in Education Conference Benjamin J. Dasher Best Paper Award (Cont'd.)**

**Steven I. Marcus** holds PhD and SM degrees from the Massachusetts Institute of Technology and a bachelor's from Rice University. From 1975 to 1991 he was with the Department of Electrical and Computer Engineering at the University of Texas–Austin, where he was the L.B. (Preach) Meaders professor in engineering. He was associate chair of the department during 1984–89. In 1991 he joined the University of Maryland–College Park, where he directed the Institute for Systems Research until 1996. He is a professor in the Electrical and Computer Engineering Department and the Institute for Systems Research, and chairs the Electrical and Computer Engineering Department. Marcus is a fellow of IEEE and a member of SIAM, AMS, and INFORMS. He is editor-in-chief of the *SIAM Journal on Control and Optimization*. His research interests are in control and systems engineering, analysis and control of stochastic systems, Markov decision processes, stochastic and adaptive control, and discrete event systems, with applications in semiconductor manufacturing, preventive maintenance, and telecommunication networks.

**Janet A. Schmidt** holds a bachelor's degree in English and psychology from Allegheny College, a master's in college student personnel work from Ohio State University, and a doctorate in counseling and educational psychology from the University of Minnesota.

Her career has been largely at the University of Maryland, where she is director of engineering student research in the A.J. Clark School of Engineering and Psychologist and Counseling Center affiliate. From 1995 to 1998 she directed the Office of Institutional Research and from 1983 to 1994 she was assistant to the vice president for research. She is adjunct assistant professor in counseling and personnel services in the College of Education. At Villanova University during 1977–79, she was assistant to the dean of women. She is a licensed psychologist in Maryland.

In 1995 Schmidt became the university's director of institutional research. In addition, she teaches in the Counseling and Personnel Services Department of the College of Education and maintains a private practice as a psychologist. Since joining the Clark School, Schmidt has been active in the American Society of Engineering Educators (ASEE) and Frontiers in Education (FIE).

