

# 2016 IEEE Education Society Awards, 2016 Frontiers in Education Conference Awards, and Selected IEEE Awards

Edwin C. Jones, Jr., *Past Society President and 2016 Awards Policy and Procedures Chair, Life Fellow, IEEE*  
IEEE Education Society

**T**HE IEEE Education Society, the IEEE Computer Society, and the American Society for Engineering Education Educational Research and Methods Division (ASEE ERM) sponsored the 46th Frontiers in Education (FIE) Conference in Erie, PA, USA, held October 12–15, 2016. James Sluss, President of the Society, Russell Meier, President of the ASEE ECE Division, and Elizabeth Eschenbach, Chair, FIE Steering Committee, presented awards sponsored by HP Enterprise, the FIE Conference, the Education Society of IEEE, and the ECE Division of ASEE to the 2016 recipients of these awards.

The conference recognized two IEEE Fellows from the Class of 2016, introduced in this paper. The ASEE Electrical and Computer Engineering Division (ASEE ECE) participated as the sponsor of the HP Enterprises Frederick Emmons Terman Award, which has now been awarded to 48 outstanding educators since its inception by the Hewlett-Packard Company in 1969. Two additional ASEE ECE Awards are also recorded. The IEEE Education Society sponsors the Undergraduate Teaching Award of IEEE, which is administered by the Awards Board.

Here, we continue the tradition, begun in 2003, of publishing the award descriptions and their recipients in the IEEE TRANSACTIONS ON EDUCATION (see the Appendix) in order to present the increasingly important research and development in engineering education.

The 2017 FIE Conference will be held in Indianapolis, IN, USA, on October 18–21, 2017.

## I. IEEE EDUCATION SOCIETY HARRIETT B. RIGAS AWARD

The Harriett B. Rigas Award is presented annually to recognize outstanding faculty women who have made significant contributions to electrical and computer engineering education. The award consists of an honorarium, plaque, certificate, and FIE Conference registration. The recipient must be a tenured or tenure track woman faculty member in an ABET-accredited engineering program in the United States, with teaching and/or research specialization in electrical or computer engineering. The Hewlett-Packard Company instituted and sponsored the award from 1995 through 2015.

Past recipients of the award are:

1995—Denice D. Denton  
1996—Karan L. Watson  
1997—Patricia D. Daniels  
1998—Delores M. Etter  
1999—Sherra E. Kerns  
2000—Leah Jamieson  
2001—Valerie Taylor  
2002—Nan Marie Jokers  
2003—Joanne Bechta Dugan  
2004—Jennifer L. Welch  
2006—Eve A. Riskin  
2007—Bonnie Heck Ferri  
2008—Cheryl B. Schrader  
2009—Cynthia Furse  
2010—Mari Ostendorf  
2011—Karen Panetta  
2012—Tanja Karp  
2013—Nancy Amato  
2014—Noel Schulz  
2015—Sarah Rajala

The 2016 IEEE Education Society Harriett B. Rigas Award was presented to *Kathleen E. Wage*, “for championing active learning, developing an internationally recognized assessment instrument, and cultivating a sustainable and supportive environment for female engineering faculty.”



**Kathleen E. Wage** (S’88–M’90–SM’14) received the B.S. degree in electrical engineering from the University of Tennessee, Knoxville, TN, USA, in 1990, and the S.M., E.E., and Ph.D. degrees in electrical engineering from the Woods Hole Oceanographic Institution Joint Program, Massachusetts Institute of Technology, Cambridge, MA, USA, in 1994, 1996, and 2000, respectively.

In 1999, she joined the faculty of the Electrical and Computer Engineering Department, George Mason University, Fairfax, VA, USA, where she is currently a Tenured Associate Professor. As a part of her research, she participated in a number of deep-water propagation experiments. From 2009 to 2012, she spent 55 days at sea for the deployment and recovery cruises for the Philippine Sea experiments. During the PhilSea experiments, she and her colleague L. Van Uffelen (also known as The Able Sea Chicks) developed a blog and videos to engage young women in ocean acoustics and engineering. She regularly leads activities for Girl Scouts at Acoustical Society of America meetings. In addition to ocean signal processing, she is interested in new pedagogical methods and educational assessment. She incorporates

active learning in all her courses and mentors other faculty interested in using these techniques. In collaboration with J. Buck, she developed the Signals and Systems Concept Inventory (SSCI), a standardized exam designed to measure conceptual understanding of linear systems. Instructors at 28 schools have administered the SSCI to over 2600 students. The exams have been translated into Spanish and Chinese. Her current research interests include array processing, random matrix theory, underwater acoustics, and signal processing education.

Dr. Wage was a recipient of a number of awards for teaching, including the 2008 Mac Van Valkenburg Early Career Teaching Award from the IEEE Education Society, the 2016 Teacher of Distinction Award from George Mason University, the 2004 Outstanding Teaching Award from Mason's Volgenau School of Engineering, and the 1994 Harold L. Hazen Teaching Award from MIT's Electrical Engineering and Computer Science Department, and several awards for research, including the Office of Naval Research (ONR) Young Investigator Award in 2005 and the ONR Ocean Acoustics Entry-Level Faculty Award in 2002. She is an Associate Editor of the IEEE JOURNAL OF OCEANIC ENGINEERING and the Chair of the IEEE Underwater Acoustic Signal Processing Workshop. In 2010, she was an invited participant in the National Academy of Engineering Frontiers of Engineering Education Symposium. She is a member of the Acoustical Society of America, the American Society for Engineering Education, Tau Beta Pi, Eta Kappa Nu, and Sigma Xi.

## II. ASEE ECE DIVISION HP ENTERPRISES FREDERICK EMMONS TERMAN AWARD

The Frederick Emmons Terman Award is presented annually to an outstanding young electrical or computer engineering educator by the Electrical and Computer Engineering Division of the American Society for Engineering Education. The Terman Award, established in 1969 by the Hewlett-Packard Company, consists of an honorarium, an engraved gold-plated medal, a bronze replica of the medal mounted on a walnut plaque, and a certificate. The recipient must be an electrical or computer engineering educator who is no more than 45 years old on June 1 of the year in which the award is presented and must be the principal author of an electrical or computer engineering textbook published before June 1 of the year of his/her 40th birthday. The book must have been judged by his/her peers to be an outstanding original contribution to the field of electrical and computer engineering. The recipient must also have displayed outstanding achievements in teaching, research, guidance of students, and other related activities.

Past recipients of the award are:

- 1969—Michael Athans
- 1970—Andrew P. Sage
- 1971—Joseph W. Goodman
- 1972—Taylor L. Booth
- 1973—Sanjit Mitra
- 1974—Leon Ong Chua
- 1975—Michael L. Dertouzos
- 1976—Stephen W. Director
- 1977—J. Leon Shohet
- 1978—Ronald A. Rohrer
- 1979—Martha E. Sloan
- 1980—V. Thomas Rhyne
- 1981—Ben Garland Streetman
- 1982—Toby Berger
- 1983—Daniel P. Siewiorek
- 1984—Mathukumalli Vidyasagar
- 1985—Peter S. Maybeck
- 1986—Lance A. Glasser
- 1987—Kenneth L. Short
- 1988—Adel S. Sedra

- 1989—Frank L. Lewis
- 1990—Jerry D. Gibson
- 1991—Barry W. Johnson
- 1992—H. Vincent Poor
- 1993—Mark S. Lundstrom
- 1994—Supriyo Datta
- 1995—Perinkolam P. Vaidyanathan
- 1996—Prithviraj Banerjee
- 1997—Edward A. Lee
- 1998—Edwin K. P. Chong
- 1999—Randy H. Katz
- 2000—Sergio Verdu
- 2001—Zoya Popovic
- 2002—Theodore S. Rappaport
- 2003—Wayne Wolf
- 2004—Keshab K. Parhi
- 2005—Ali H. Sayed
- 2006—Vijay K. Madiseti
- 2007—Russel Jacob (Jake) Baker
- 2008—Keith M. Chugg
- 2009—David Tse
- 2010—Bhaskar Krishnamachari
- 2011—Tony Givargis
- 2012—Ali Niknejad
- 2013—Mung Chiang
- 2014—Changzhi Li
- 2015—Jeffrey Andrews

The 2016 Terman Award was presented to *Sanjit A. Seshia*, “for writing and other contributions to electrical engineering and computer science education.”



**Sanjit A. Seshia** (S'99–M'05–SM'11) received the B.Tech. degree in computer science and engineering from the Indian Institute of Technology Bombay, Mumbai, India, and the M.S. and Ph.D. degrees in computer science from Carnegie Mellon University, Pittsburgh, PA, USA.

He is a Professor of electrical engineering and computer sciences with the University of California at Berkeley, Berkeley, CA, USA. He has coauthored a widely used textbook on embedded systems, and has led the development of technologies for cyber-physical systems education. His current research interests include dependable computing, formal methods, and computational logic, with a current focus on problems in cyber-physical systems and computer security.

Prof. Seshia was a recipient of several awards and honors, including the Presidential Early Career Award for Scientists and Engineers and the Alfred P. Sloan Research Fellowship.

## III. IEEE EDUCATION SOCIETY WILLIAM E. SAYLE II AWARD FOR ACHIEVEMENT IN EDUCATION

The William E. Sayle II Award is presented to recognize a member of the IEEE Education Society who has made significant contributions over a period of years in a field of interest of the IEEE Education Society. The award consists of a plaque, a certificate, and paid registration to the FIE Conference.

Past recipients of the award are:

- 1979—Lawrence P. Grayson
- 1980—Demetrius T. Paris
- 1981—Lindon E. Saline
- 1982—Anthony B. Giordana
- 1983—Joseph Bordogna

1984—John C. Lindenlaub  
 1985—John D. Ryder  
 1986—James R. Rowland  
 1987—Bruce Eisenstein  
 1988—Mac Van Valkenburg  
 1989—Edward W. Ernst  
 1990—Ernst Weber  
 1991—J. David Irwin  
 1992—Jerrier A. Haddad  
 1993—Chalmers F. Sechrist  
 1994—Eric A. Walker  
 1995—Stephen W. Director  
 1996—William H. Hayt, Jr.  
 1997—Jerry R. Yeargan  
 1998—Ted E. Batchman  
 1999—Lyle D. Feisel  
 2000—Irene C. Peden  
 2001—Donald E. Kirk and Eli Fromm  
 2002—Burks Oakley II  
 2003—Frank Barnes and Delores Etter  
 2004—William E. Sayle II  
 2005—H. Vincent Poor  
 2006—George D. Peterson  
 2007—Sarah A. Rajala and Marwan A. Simaan  
 2008—James A. Roberts  
 2009—Jose B. Cruz, Jr.  
 2010—Rob Reilly  
 2011—Susan E. Conry  
 2012—Theodore Rappaport  
 2013—Karen Panetta  
 2014—Raghunath Shevgaonkar  
 2015—Marco Winzker

The 2016 IEEE Education Society William E. Sayle II Award for Achievement in Education was presented to *Susan M. Lord*, “for contributions to educational pedagogy, diversity, and leadership in engineering education.”



**Susan M. Lord** (S'88–M'93–SM'04–F'15) received the B.S. degree in electrical engineering and materials science and engineering from Cornell University, Ithaca, NY, USA, in 1987, and the M.S. and Ph.D. degrees in electrical engineering from Stanford University, Stanford, CA, USA, in 1993 and 1998, respectively.

She is a Professor and the Chair of Electrical Engineering with the University of San Diego (USD), San Diego, CA, USA. She spent a sabbatical with Southeast University, Nanjing, China, in 2012, teaching and doing research. She is currently on the USD team implementing “Developing Changemaking Engineers,” an NSF-sponsored Revolutionizing Engineering Education project. Her research has been sponsored by the National Science Foundation. She and Dr. M. M. Camacho are among the first to study Latinos in engineering. In reviewing their 2013 book *The Borderlands of Education: Latinas in Engineering*, Dr. D. Riley, Smith College, called it “groundbreaking work...that will challenge your assumptions about women and minorities in engineering.” Dr. S. E. Walden, University of Oklahoma, said, “This book should be high on the must-read list for engineering educators at all levels, from first-year faculty to deans.” Her current research interests include study and promotion of diversity in engineering including student pathways, diverse populations including Latinos and military veterans, and cross-cultural studies with non-U.S. students.

Dr. Lord was a recipient of the 2011 Wickenden Award for the Best Paper in the *Journal of Engineering Education* and the 2011 Best Paper Award for the IEEE TRANSACTIONS ON EDUCATION. She is an Associate Editor of the IEEE TRANSACTIONS ON EDUCATION. She is active in the engineering education community, including serving as the General Co-Chair for the

2006 Frontiers in Education (FIE) Conference, a member of the FIE Steering Committee, and the President of the IEEE Education Society from 2009 to 2010. She is a Fellow of the ASEE.

#### IV. IEEE EDUCATION SOCIETY DISTINGUISHED MEMBER AWARD

Past recipients of the award are:

2005—Marion O. Hagler and Burks Oakley II  
 2006—Ted Batchman and David A. Conner  
 2008—David L. Soldan  
 2010—Manuel Castro  
 2011—Susan M. Lord  
 2012—Matthew Ohland  
 2013—Victor Nelson  
 2015—Jeffrey E. Froyd

The 2016 IEEE Education Society Distinguished Member Award was presented to *Michael E. Auer*, “for contributions to the growth and sustained development of engineering education throughout the world.”



**Michael E. Auer** (M'99–SM'07) is a Vice-Rector and a Professor of electrical engineering with the Carinthia University of Applied Sciences, Villach, Austria, and a Professor of microelectronics with the University of Klagenfurt, Klagenfurt, Austria. He has authored or coauthored over 190 publications and a leading member of numerous national and international organizations in the field of online technologies. His current research interests include technology-enhanced learning and remote working environments especially in engineering.

Dr. Auer is the Founder and the Chair of the Annual International IEEE EDUCON, ICL, and REV conferences, and the Chair or a member of the Program Committees of several international conferences and workshops. He works as an Evaluator and the Coordinator of European Union funded research projects and a member in expert groups of the European Commission as well as the U.S. National Science Foundation. He has been the Founding President and the CEO of the International Association of Online Engineering since 2006, a nongovernmental organization that promotes the vision of new engineering working environments worldwide. In 2009, he was appointed as an Advisory Board Member of the European Learning Industry Group. He is one of the Founders and the Secretary General of the Global Online Laboratory Consortium (GOLC). GOLC is the result of an initiative started in 2009 at the Massachusetts Institute of Technology to coordinate the work on educational online laboratories worldwide. From 2010 to 2016, he served as the President of the International Society of Engineering Education. During the World Engineering Education Forum (WEEF2015), he was elected as the President of the International Federation of Engineering Education Societies from 2016 to 2018.

#### V. IEEE EDUCATION SOCIETY EDWIN C. JONES, JR., MERITORIOUS SERVICE AWARD

The Edwin C. Jones Meritorious Service Award is presented to recognize a member of the IEEE Education Society who has made pioneering contributions to the administrative efforts of the IEEE Education Society over a period of years. The award consists of a plaque, a certificate, and registration to the FIE Conference.

Past recipients of the award are:

1978—Warren B. Boast  
 1979—Joseph M. Biedenbach  
 1980—Edwin C. Jones, Jr.  
 1981—Lyle D. Feisel  
 1982—Roy H. Mattson  
 1983—Robert F. Fontana  
 1984—Gerald R. Peterson

1985—Luke H. Noggle  
 1986—James A. Mulligan and Sidney S. Shamis  
 1987—Thomas K. Gaylord  
 1988—Robert F. Cotellessa  
 1989—E. Ben Peterson  
 1990—Darrell L. Vines  
 1991—Victor K. Schutz  
 1992—William K. LeBold  
 1993—Frank S. Barnes  
 1994—Patricia D. Daniels  
 1995—Robert W. Ritchie  
 1996—Marion O. Hagler and Donald E. Kirk  
 1997—Robert Sullivan  
 1998—Burks Oakley II  
 1999—Gerald L. Engel  
 2000—Ted E. Batchman  
 2001—William E. Sayle II  
 2002—James Rowland  
 2003—David A. Conner  
 2004—Trond Clausen  
 2005—J. David Irwin and Rodney J. Soukup  
 2006—Robert A. Reilly  
 2007—David V. Kerns, Jr.  
 2008—James J. Sluss, Jr.  
 2009—Manuel Castro  
 2010—Michael E. Auer  
 2011—Russ Meier  
 2011—Claudio da Rocha Brito and Melany M. Ciampi  
 2012—Susan Lord  
 2013—Charles Fleddermann  
 2014—Danilo G. Zutin  
 2015—Victor P. Nelson

The 2016 IEEE Education Society Edwin C. Jones, Jr., Meritorious Service Award was presented to *Lance C. Pérez*, “for sustained contributions to the IEEE Education Society, including serving as Treasurer.”



**Lance C. Pérez** (S'88–M'95–SM'01) received the B.S. degree from the University of Virginia, Charlottesville, VA, USA, and the M.S. and Ph.D. degrees from the University of Notre Dame, Notre Dame, IN, USA, all in electrical engineering.

He has been a Faculty Member with the Department of Electrical and Computer Engineering, University of Nebraska–Lincoln (UNL), Lincoln, NE, USA, since 1996, where he currently holds the rank of Professor. He is currently the Interim Dean of the College of Engineering, UNL. In 1995, he

was a Post-Doctoral Fellow with the Institute for Signal and Information Processing, Swiss Federal Institute of Technology, Zürich, Switzerland. He has coauthored, with Dr. C. B. Schlegel, the book *Trellis and Turbo Codes* (IEEE Press, 2004). He leads the Perceptual Systems Research Group with funding from the National Science Foundation (NSF), NASA, and other federal agencies. His current research interests include wireless communications, signal and image processing, and engineering education.

Dr. Pérez was a recipient of the NSF CAREER Award and many teaching awards including the University's College Outstanding Teaching Award at UNL. He was a Program Director with the Division of Undergraduate Education, NSF from 2008 to 2010, where he worked on the Federal Cyber Service: Scholarship for Service Program; the Course, Curriculum and Laboratory Improvement Program; the Advanced Technology Education Program; and the Math and Science Partnership Program. He is currently on the Board of Directors of Unizin and WEPAN and serves as a member at large of the IEEE Education Society Board of Governors. He has been the PI or Co-PI on over \$15 million of federally funded grants.

## VI. IEEE EDUCATION SOCIETY MAC E. VAN VALKENBURG EARLY CAREER TEACHING AWARD

This award recognizes members of the IEEE Education Society who have made outstanding contributions to teaching unusually early in their professional careers, as evidenced by teaching performance, development of new teaching methods, and curricular innovation in fields of interest to the IEEE Education Society. Nominations are evaluated on the basis of the candidate's statement of teaching philosophy and practice, letters of support from students and peers, and student evaluations. The award includes an honorarium, plaque, certificate, and paid registration to the FIE Conference. Full-time (or equivalent) faculty who are within the first ten years following receipt of their Ph.D. (or other appropriate terminal degree) and have had a minimum of two academic years of appointment as a faculty member may be nominated. Individuals nominated for this award must be members of the IEEE Education Society and members of the IEEE.

Past recipients of the award are:

2004—Parham Aarabi  
 2005—John R. Buck  
 2006—Lisa G. Huettel  
 2007—Susan C. Hagness  
 2008—Kathleen E. Wage  
 2009—Min Wu  
 2010—Craig Ziles  
 2011—Jonathan Makela  
 2012—Babak Ayazifar  
 2013—Muhammad Zaman  
 2014—Jill Nelson  
 2015—Chengying “Cheryl” Xu

The 2016 IEEE Education Society Mac E. Van Valkenburg Early Career Teaching Award was presented to *Katherine Shu-Min Li*, “for her adoption of creative teaching methodology, interactive learning, and project-based learning techniques, and for attracting students to interdisciplinary programs in design that lead to patentable product development.”



**Katherine Shu-Min Li** (S'04–M'06–SM'13) received the B.S. degree from Rutgers University, New Brunswick, NJ, USA, and the M.S. and Ph.D. degrees from National Chiao Tung University, Hsinchu, Taiwan, in 2001 and 2006, respectively.

She is currently a Professor with the Department of Computer Science and Engineering, National Sun Yat-sen University, Kaohsiung, Taiwan. Her current research interests include the interposer test, the 2.5-D/3-D/SiP IC test, microfluidic chip synthesis and test, hardware Trojans, side channel effect,

design for security, machine learning and big data, crosstalk effects, signal and power integrity, SOC testing, floorplanning and routing for testability and yield enhancement, design for yield, scan reordering, scan routing, low-power scan techniques particularly on oscillation ring test schemes, and interconnect optimization, cross-field exploration in the research field of IC design and test, electronics design automation, computer integrated manufacturing, computer-aided design, and computer-aided engineering, especially high frequency trading in FinTech.

Dr. Li is a member of the IEEE Education and the IEEE Circuits and Systems Societies, the Association for Computing Machinery (ACM), the ACM Special Interest Group on Design Automation, and the IEEE Women in Engineering.

## VII. IEEE EDUCATION SOCIETY STUDENT LEADERSHIP AWARD

Past recipients of the award are:

- 2009—Seiji Isotani
- 2010—Emmanuel Gonzalez and Kai-Pan Mark
- 2011—Dario Schor
- 2012—Elio San Cristobal Ruiz and Sergio Martin
- 2013—Subhamoy Mandal and Xinyou Zha
- 2014—Liang-Bi Chen
- 2015—German Carro

The 2016 IEEE Education Society Student Leadership Award was presented to *S. L. Krishna Priya*, “for emblematic leadership in the execution of programs and continuous improvements of the IEEE Education Society Student Chapter and for tremendous improvement in imparting technical education.”



**S. L. Krishna Priya** received the Bachelor of Engineering degree from the Department of Electronics and Communication, St. Xavier’s Catholic College of Engineering, Nagercoil, India.

She is among the active volunteers of the IEEE Madras Section. She is an Immediate Past Chairperson of the IEEE Education Society Student Branch Chapter (STB62851). She has volunteered in organizing all activities of IEEE STB62851 and other IEEE activities. She is a member of the IEEE WIE Affinity Group, the IEEE Education Society,

the IEEE Computer Society, the IEEE SSIT, and the IET. She has over two years experience of volunteering in the IEEE, and played an active role in making the IEEE Education Society Student Branch Chapter vibrant in St. Xavier’s Catholic College of Engineering.

Ms. Priya was a recipient of the prestigious Richard. E. Merwin Scholarship Award in 2016 given by the IEEE Computer Society for her exemplary work for IEEE, the University Partnership Program Mini Project funding for their proposal on Improvement of Education in the Kanyakumari District in 2015, the Toppers Award for three consecutive years for academic work and for maintaining an excellent CGPA, the Best Outgoing Student Award from the Department of Electronics and Communication Engineering, and the Women’s Cell of St. Xavier’s Catholic College of Engineering in recognition of her achievements in academic, co-curricular, and extracurricular activities. She is also serving as the active volunteer of the IEEE Education Society Madras Section and the IEEE Nagercoil Hub Congress.

## VIII. IEEE EDUCATION SOCIETY CHAPTER ACHIEVEMENT AWARD

Past recipients of the award are:

- 2006—Nordic Chapter
- 2007—Spanish Chapter
- 2008—Gulf Chapter
- 2009—Santa Clara Valley Chapter
- 2009—Portugal Chapter
- 2010—Austria Chapter
- 2011—Spain Chapter
- 2012—Hong Kong Chapter
- 2013—India Council

The 2016 IEEE Education Society Chapter Achievement Award was presented to the New South Wales Chapter, “for achieving an 80% increase in membership in two years through holding frequent innovative technical meetings, supporting women in engineering education, and providing development opportunities to teaching assistants.” The Chapter officer recognized individually was *Sasha Nikolic* (Chair).



**Sasha Nikolic** (M’14–SM’15) is a Lecturer in engineering education with the University of Wollongong, Wollongong, NSW, Australia, where he is also a Fellow of the Wollongong Academy of Tertiary Teaching and Learning Excellence, and was a Laboratory Manager. He was researching in operations analysis and telecommunications support in the banking and financial services industry.

Dr. Nikolic was a recipient of the University Outstanding Contribution to Teaching and Learning Award in 2011 and the Citation for Outstanding Contributions to Student Learning as part of the Australian Awards for University Teaching, in 2012. He is the Chair of the New South Wales Chapter of the IEEE Education Society.

## IX. IEEE DISTINGUISHED CHAPTER LEADERSHIP AWARD

Past recipients of the award are:

- 2006—Michael E. Auer and Manuel Castro
- 2007—Carlos Rueda Artunduaga and Oliver K. Ban
- 2008—Bakr Hassan and Edmunco Tovar
- 2009—Emmanuel A. Gonzalez
- 2010—Martin Llamas-Nistal
- 2011—Russell Meier
- 2012—German Cabuya
- 2015—Rosanna Yuen-Yan Chan

The 2016 IEEE Education Society Distinguished Chapter Leadership Award was presented to *Francisco J. Arcega*, “for innovative and dedicated leadership of professional activities.”



**Francisco J. Arcega** (M’80–SM’05) was born in Caspe, Spain. He received the M.Sc. and Ph.D. degrees in physics from the University of Zaragoza, Zaragoza, Spain, in 1976 and 1981, respectively.

In 1976, he joined the Electronics Department, University of Zaragoza, and has been with the Electrical Engineering Department since 1982, where he is currently a Professor. He was the Director of the Department of Electrical Engineering and later the Dean of the Faculty of Engineering, University of Zaragoza, from 2004 to 2009. He has

published about 100 papers in education and in electrical engineering, mainly in aspects related with quality and measurements. He has published a book on sensors and one on metrology. Since 1997, he has been the Director of the Laboratory of Electrical Measurements, accredited by the Spanish National Accreditation Body for calibration in electricity and for testing electrical parameters of power plants. He is the Co-Director of the research group EduQTech devoted to research and use the quality in education and in technology. His current research interests include electrical measurements and their applications in the industry field, as well as being involved with quality in education and in laboratory activities.

Dr Arcega is a member of the Directive of the Spanish Chapter of the IEEE Education Society, and has been the Chair of the Chapter from 2014 to 2015. He is also a Technical Expert for the accreditation of testing laboratories in electrical safety and electromagnetic compatibility, acting for the Spanish, French, and Italian accreditation bodies. He audited engineering university faculties for their Diplomas (degree and master’s) and their Doctorate level for the Spanish National Agency for Accreditation. He is a Reviewer of several technical journals and conferences. He is a Program Evaluator for ABET.

## X. IEEE TRANSACTIONS ON EDUCATION THEODORE E. BATCHMAN BEST PAPER AWARDS

Past recipients of the award are:

- 1999—J. A. Buck, H. Owen, J. P. Uyemura, C. M. Verber, and D. J. Blumenthal
- 2000—David J. Russomanno and Ronald D. Bonnell
- 2001—Christopher W. Trueman
- 2002—Mohan Krishnan and Mark J. Paulik

- 2003—Tyson S. Hall, James O. Hamblen, and Kimberly E. Newman  
 2004—M. Brian Blake  
 2004—Russell L. Pimmel  
 2005—Antonio J. Lopez-Martin  
 2006—Euan Lindsay and Malcolm C. Good  
 2007—Jason A. Day and James D. Foley  
 2008—France Bélanger, Tracy L. Lewis, George M. Kasper, Wanda J. Smith and K. Vernard Harrington  
 2009—Kenneth Ricks, Jeff Jackson, and William A. Stapleton  
 2010—Keith Holbert and George G. Karady  
 2011—Julie A. Rursch, Andy Luse, and Doug Jacobson  
 2012—Susan Lord, Richard Layton, and Matthew Ohland  
 2013—Benjamin Hazen, Yun Wu and Chetan Sankar  
 2014—James McLurkin, Joshua B. Rykowski, Meagan John, Quillan Kaseman, and Andrew J Lynch  
 2015—Raghu Raman, Prema Nedungadi, Krishnashree Achuthan, Shyam Diwakar, and Ranjan Bose

The 2016 IEEE TRANSACTIONS ON EDUCATION Theodore E. Batchman Best Paper Award was presented to three papers that were selected from papers published in Volume 58, 2015.

- 1) Susan M. Lord, Richard A. Layton, and Matthew W. Ohland, “Multi-Institution Study of Student Demographics and Outcomes in Electrical and Computer Engineering in the USA,” *IEEE Trans. Educ.*, vol. 58, no. 3, pp. 141–150, Aug. 2015.

**Susan M. Lord**, biography appears in Section III for the IEEE Education Society William E. Sayle II Award for Achievement in Education.



**Richard A. Layton** (M'14) is a Professor of mechanical engineering with the Rose-Hulman Institute of Technology, Terre Haute, IN, USA. His areas of scholarship include student teaming, longitudinal studies of engineering undergraduates, and data visualization. His teaching practice includes formal cooperative learning and integrating communications, ethics, and teaming across the curriculum. He is a Founding Developer of the CATME system, a free, Web-based system that helps faculty assign students to teams and conduct self- and peer evaluations.

He has coauthored the book *Engineering Communication Manual*, a recent technical communication text designed specifically for engineering students.

Mr. Layton was a recipient of the Best Paper in the *Journal of Engineering Education* in 2008 and 2011 and the IEEE TRANSACTIONS ON EDUCATION in 2011, with his collaborators.



**Matthew W. Ohland** (M'06–SM'09–F'14) is a Professor of engineering education with Purdue University, West Lafayette, IN, USA. His research on the longitudinal study of engineering student development, team formation, peer evaluation, and extending the use of active and cooperative learning has been supported by the National Science Foundation and the Sloan Foundation.

Dr. Ohland was a recipient of the Best Paper in the *Journal of Engineering Education* in 2008 and 2011 and the IEEE TRANSACTIONS ON EDUCATION in 2011 with his collaborators in addition to multiple conference best paper awards. He has served on the IEEE Education Society Board of Governors from 2007 to 2013, as an Associate Editor of the IEEE TRANSACTIONS ON EDUCATION, as the Chair of the Educational Research and Methods Division of the American Society of Engineering Education (ASEE) from 2009 to 2011, as a Program Evaluator for ABET, and as the President of Tau Beta Pi from 2002 to 2006. He is a Fellow of the ASEE.

- 2) Kayode P. Ayodele, Isaac A. Inyang, and Lawrence O. Kehinde, “An iLab for Teaching Advanced Logic Concepts With Hardware Descriptive Languages,” *IEEE Trans. Educ.*, vol. 58, no. 4, pp. 262–268, Nov. 2015.



**Kayode P. Ayodele** (A'11–M'13) is a Senior Lecturer and the Head of the Department of Electronic and Electrical Engineering, Obafemi Awolowo University, Ile-Ife, Nigeria. His current research interests include acquisition and processing of neurophysiological signals for brain-machine interfaces and the development of remote laboratories and other pedagogical tools for engineering education.

Dr. Ayodele was a recipient of the MIT iLab Junior Research Fellowship and the MIT-Total Empowering the Teachers Fellowship in 2010 and 2013, respectively. He is a member of the Society for Neuroscience. He serves as a Reviewer for many journals.



**Isaac A. Inyang** (S'09–M'13) is a Co-Founder and the CEO of Ansys Software Engineering Ltd., Ile-Ife, Nigeria. He is also a member of the Intelligent Systems and Advanced Telecommunication Research Group, University of the Western Cape, Cape Town, South Africa. He has coauthored journal articles in reputable journals. His current research interests include telemedicine, data science, and virtual instrumentation.

Dr. Inyang is a Corporate Member of the Nigerian Society of Engineers and a Registered Engineer with the Council for the Regulation of Engineering in Nigeria.



**Lawrence O. Kehinde** (M'07) received the B.Sc. (First Class Hons.) degree in electronics from Obafemi Awolowo University (OAU), Ile-Ife, Nigeria, in 1971, and the D.Phil. degree in control engineering from the University of Sussex, Brighton, U.K., in 1975.

He was a Post-Doctoral Researcher in nuclear instrumentation with the University of California at Berkeley, Berkeley, CA, USA, where he was an IAEA Fellow from 1977 to 1978. He was a Professor of instrumentation engineering with OAU for many years. He was the Rector of the first private polytechnic, Nigeria. He was a Visiting Professor with the Texas Southern University, Houston, TX, USA, for three-years. He has worked in a techno-managerial position as the Director of ICT, OAU for several years. He is a former Engineering Dean and the University Deputy Vice Chancellor. His current research interests include instrumentation design, and two of his equipment designs received British patents. He has published over 90 academic publications. He was the Founding Principal Investigator of the University's iLab research, where he currently designs remote and virtual experiments for remote experimentation.

Prof. Kehinde is a Chartered Engineer, a Fellow of the Computer Professionals of Nigeria, and a member of the ASEE.

- 3) Jana Reisslein, Amy M. Johnson, Martin Reisslein, “Color Coding of Circuit Quantities in Introductory Circuit Analysis Instruction,” *IEEE Trans. Educ.*, vol. 58, no. 1, pp. 7–14, Feb. 2015.



**Jana Reisslein** received the M.A. degree in psychology from Palacky University, Olomouc, Czech Republic, in 2000, and the Ph.D. degree in educational technology from Arizona State University (ASU), Tempe, AZ, USA, in 2005.

She was an Instructional Designer with Information Technology, Intel Corporation, Santa Clara, CA, USA, from 2005 to 2007, and an Instructional Technologist with Business Information Technology, ASU, from 2007 to 2008. Since 2012, she has been an Educational Consultant and the Evaluator with the Fulton Schools of Engineering, ASU.



**Amy M. Johnson** received the Ph.D. degree in cognitive psychology from the University of Memphis, Memphis, TN, USA, in 2011.

She is an Assistant Research Professor with the Science of Learning and Educational Technology Laboratory, Learning Sciences Institute, Arizona State University (ASU), Tempe, AZ, USA. She joined ASU as an Assistant Research Scientist with the School of Electrical, Computer, and Energy Engineering. Her current research interests include learners' knowledge construction

through integration of textual and pictorial information within multimedia and hypermedia environments, the use of multiple representations of information during regulating one's learning, and the use of animated pedagogical agents during learning.

Dr. Johnson is a member of the American Educational Research Association, Cognitive Science Society, International Artificial Intelligence in Education Society, American Society for Engineering Education, and Research in Engineering Education Network.



**Martin Reisslein** (A'96-S'97-M'98-SM'03-F'14) received the Ph.D. degree in systems engineering from the University of Pennsylvania, Philadelphia, PA, USA, in 1998.

He is a Professor with the School of Electrical, Computer, and Energy Engineering, Arizona State University, Tempe, AZ, USA.

Prof. Reisslein was a recipient of the U.S. National Science Foundation Career Award in 2002 and the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt

Foundation in 2015. He served as the Editor-in-Chief for the IEEE COMMUNICATIONS SURVEYS AND TUTORIALS from 2003 to 2007 and an Associate Editor for the IEEE/ACM TRANSACTIONS ON NETWORKING from 2009 to 2013. He currently serves as an Associate Editor for the IEEE TRANSACTIONS ON EDUCATION as well as *Computer Networks* and *Optical Switching and Networking*.

## XI. FRONTIERS IN EDUCATION CONFERENCE HELEN PLANTS AWARD

The Helen Plants Award is given for the best special (non-traditional) session at the FIE conference, as demonstrated by originality, session content, and presentation including the use of written materials and visual aids, and participation of session attendees.

Past recipients of the award are:

- 1980—Helen Plants
- 1981—Jim Russell and John C. Lindenlaub
- 1982—Karl A. Smith and Harold Goldstein
- 1983—E. Dendy Sloan and Charles F. Yokomoto
- 1984—David W. Johnson and Karl A. Smith
- 1985—Billy V. Koen
- 1986—Martha A. Nord and Patricia H. Whiting
- 1987—John C. Lindenlaub
- 1989—Karl A. Smith
- 1991—Troy E. Kostek
- 1992—Barbara M. Olds and Ronald L. Miller
- 1993—John C. Lindenlaub and Alisha A. Waller
- 1994—Billy V. Koen
- 1995—Burks Oakley II and Mark Yoder
- 1996—Alisha A. Waller, Edward R. Doering, and Mark A. Yoder
- 1997—Karl A. Smith, James D. Jones, and Elizabeth Eschenbach
- 1998—Alice Agogino

- 1999—Melinda Piket-May and Julie L. Chang
- 2003—William C. Oakes
- 2004—Susan M. Lord, Elizabeth A. Eschenbach, Alisha A. Waller, Eileen M. Cashman, and Monica J. Bruning
- 2005—Ruth A. Streveler
- 2006—Ruth A. Streveler, Karl A. Smith, and Ronald L. Miller
- 2008—Maura Borrego, Lynita Newswander, and Lisa McNair
- 2009—Lisa C. Benson, Sherrill B. Biggers, William F. Moss, Matthew Ohland, Marisa K. Orr, and Scott D. Schiff
- 2010—Russell Korte and Karl A. Smith
- 2011—Mark Somerville, Dave Goldberg, Sherra E. Kerns, and Russell Korte
- 2012—Şenay Purzer and Jonathan C. Hilpert
- 2013—Lynn Andrea Stein and Caitrin Lynch
- 2014—Stephanie Cutler, James J. Pembridge, Matthew Verleger, and Lauren D. Thomas
- 2015—Rebecca Bates, Lisa Benson, Alan Cheville, Cynthia Finelli, Jennifer Karlin, and Susan Lord

The 2016 FIE Conference Helen Plants Award was presented to *James L. Huff, Joachim Walther, Brent K. Jesiek, Carla B. Zoltowski, and William C. Oakes* for their Special Session "Qualitative Research on Psychological Experience: A Starting Point for Using Interpretive Phenomenological Analysis," 2015 Frontiers in Education Conference.



**James L. Huff** (S'07-M'09) received the bachelor's degree in computer engineering from Harding University, Searcy, AR, USA, and the M.S. degree in electrical and computer engineering and the Ph.D. degree in engineering education from Purdue University, West Lafayette, IN, USA.

He is an Assistant Professor of engineering and the Director of Engineering Assessment with Harding University, where he primarily teaches multidisciplinary engineering design in service-learning contexts. He conducts research using interpretative

phenomenological analysis to investigate the experienced phenomena of career identity and emotions in engineering education.



**Joachim Walther** is an Associate Professor of engineering education research with the University of Georgia, Athens, GA, USA. He leads a dynamic interdisciplinary research group that brings together professors, graduate students, and undergraduate students from engineering, art, educational psychology, and social work. His interdisciplinary research program focuses on broader aspects of engineering professional formation, such as the role of empathy in engineering learning. His work draws on a wide range of qualitative approaches, and he has developed

and championed the Research Quality Framework (Q3 framework) as a way to foster research quality across the many interpretive research methods adopted in the engineering education community.

Dr. Walther is a recipient of numerous university-level, national, and international awards for contributions to the field such as the Presidential Early Career Award for Scientists and Engineers, the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers.



**Brent Jesiek** (S'06–M'07) received the B.S. degree in electrical engineering from Michigan Technological University, Houghton, MI, USA, and the M.S. and Ph.D. degrees in science and technology studies from Virginia Polytechnic Institute and State University, Blacksburg, VA, USA.

He is an Associate Professor with the Schools of Engineering Education and Electrical and Computer Engineering, Purdue University, West Lafayette, IN, USA. He leads the Global Engineering Education Collaboratory Research Group. His current research

interests include engineering, computing, and the social sciences to advance understanding of geographic, disciplinary, and historical variations in engineering education and practice.

Dr. Jesiek was a recipient of the NSF CAREER Award to study boundary-spanning roles and competencies among early career engineers.



**Carla B. Zoltowski** (S'86–M'92) received the B.S.E.E. and M.S.E.E. degrees and the Ph.D. degree in engineering education from Purdue University, West Lafayette, IN, USA.

She was the Co-Director of the Engineering Projects in Community Service (EPICS) Program with Purdue University, where she was responsible for developing curriculum and assessment tools and overseeing the research efforts within EPICS. She is an Assistant Professor of engineering practice with the School of Electrical and Computer Engineering,

Purdue University. Her current research interests include professional formation of engineers, diversity and inclusion in engineering, human-centered design, engineering ethics, leadership, service-learning, and accessibility and assistive technology.



**William C. Oakes** received the B.S. and M.S. degrees in mechanical engineering from Michigan State University, East Lansing, MI, USA, and the Ph.D. degree in mechanical engineering from Purdue University, West Lafayette, IN, USA.

He is an Instructor with both the Engineering Projects in Community Service (EPICS) and Introducing Diversity through Engagement and Service (IDEAS) learning communities.

## XII. FRONTIERS IN EDUCATION CONFERENCE

### BENJAMIN J. DASHER BEST PAPER AWARD

The Benjamin J. Dasher Best Paper Award is given to the best paper presented at the annual FIE Conference, as demonstrated by technical originality, technical importance and accuracy, quality of oral presentation, and quality of the written paper appearing in the Conference Proceedings. Papers are nominated for the award by reviewers. A committee, with representation from each of the organizing societies (ERM, IEEE Education Society, IEEE Computer Society), is formed to review nominated papers. During the FIE meeting, the committee attends presentations of the nominated papers. The committee then makes a final recommendation to the FIE Planning Committee for the Ben Dasher Award winner based on the overall quality of both the paper and the presentation.

Past recipients of the award are:

- 1973—Walter D. Story
- 1974—Richard Hooper
- 1975—John J. Alan III and J. J. Lagowski
- 1976—John Hipwell and David Blaume
- 1977—John W. Renner
- 1978—Albert J. Morris
- 1979—Donald R. Woods, Cameron M. Crowe, Terrence W. Hoffman, and Joseph D. Wright

- 1980—Marilla D. Svinicki
- 1981—Martha Montgomery
- 1982—A. L. Riemenschneider and Lyle D. Feisel
- 1983—Davood Tashayyod, Banu Onaral, and James M. Trosino
- 1984—Bill V. Koen
- 1985—Bill V. Koen
- 1986—Richard S. Culver
- 1987—David A. Conner, David G. Green, Thomas C. Jannett, James R. Jones, M. G. Rekoff, Jr., Dennis G. Smith, and Gregg L. Vaughn
- 1988—Richard M. Felder
- 1989—Richard C. Compton and Robert York
- 1990—Cindy A. Greenwood
- 1991—Robert Whelchel
- 1992—William LeBold and Dan D. Budny
- 1993—Daniel M Hull and Arthur H. Guenther
- 1994—Burks Oakley II and Roy E. Roper
- 1995—Curtis A. Carver, Jr. and Richard A. Howard
- 1996—Val D. Hawks
- 1997—Edwin Kashy, Michael Thoennessen, Yihjia Tsai, Nancy E. Davis, and Sheryl L. Wolfe
- 1998—A. B. Carlson, W. C. Jennings, and P. M. Schoch
- 1999—Wayne Burleson, Aura Ganz, and Ian Harris
- 2000—David W. Petr
- 2002—Zeynep Dilli, Neil Goldsman, Lee Harper, Steven I. Marcus, and Janet A. Schmidt
- 2003—Glenn W. Ellis, Gail E. Scordilis, and Carla M. Cook
- 2004—Matthew W. Ohland, Guili Zhang, Brian Thorndyke, and Timothy J. Anderson
- 2005—Gregory A. Moses and Michael Litzkow
- 2007—Donna Riley and Gina-Louise Sciarra
- 2008—Eric Hamilton and Andrew Hurford
- 2009—Steve Krause, Robert Culbertson, Michael Oehrtman, Marilyn Carlson, Bill Leonard, C. V. Hollot, and William Gerace
- 2010—Glenda Stump, Jenefer Husman, Wen-Ting Chung, and Aaron Done
- 2011—Jeffrey L. Newcomer
- 2012—Kristi J. Shryock, Arun R. Srinivasa, and Jeffrey E. Froyd
- 2013—Robin Adams, Alice Pawley, and Brent Jesiek
- 2014—Hansi Keijonen, Jaakko Kurhila, and Arto Vihavainen
- 2015—Lecia Barker and Jane Gruning

The 2016 FIE Conference Benjamin J. Dasher Best Paper Award was presented to *Natasha Nesiba*, *Enrico Pontelli*, and *Timothy Staley* for their paper “DISSECT: Exploring the Relationship Between Computational Thinking and English Literature in K-12 Curricula,” 2015 Frontiers in Education Conference.

**Natasha Nesiba**, photograph and biography not available at the time of publication.

**Enrico Pontelli**, photograph and biography not available at the time of publication.

**Timothy Staley**, photograph and biography not available at the time of publication.



## XIII. FRONTIERS IN EDUCATION CONFERENCE

## RONALD J. SCHMITZ AWARD

The Ronald J. Schmitz Award is given to recognize outstanding and continued service to engineering education through contributions to the FIE Conference.

Past recipients of the award are:

1984—Carol Schmitz  
 1985—Lawrence P. Grayson  
 1986—John C. Lindenlaub  
 1987—George Burnet  
 1988—James R. Rowland  
 1989—Lyle D. Feisel  
 1990—Edwin C. Jones, Jr.  
 1992—Karl A. Smith  
 1992—Victor K. Schutz  
 1993—Bruce A. Einstein  
 1994—David V. Kerns, Jr.  
 1995—David R. Voltmer  
 1996—William E. Sayle II  
 1997—Richard S. Culver  
 1998—Dan Budny  
 1999—Robert J. Herrick  
 2000—Larry J. Shuman  
 2001—David L. Soldan  
 2002—Goranka Bjedov  
 2003—Larry G. Richards  
 2004—James A. Roberts  
 2005—Robert J. Hofinger  
 2006—Jane Chu Prey  
 2007—Joseph L. A. Hughes  
 2008—Ted E. Batchman  
 2009—Russ Meier  
 2010—Dan Moore  
 2011—Susan M. Lord  
 2012—Arnold Pears  
 2013—Jennifer Karlin  
 2014—Cynthia Finelli  
 2015—Robert Hofinger

The 2016 FIE Conference Ronald J. Schmitz Award was presented to *Melany M. Ciampi*, “for outstanding service to the Frontiers in Education Conference.”



**Melany M. Ciampi** is a Professor of electrical and computer engineering. She has also taught courses and lectures in five continents in over 30 different countries. She has over 150 published articles in several conferences and journals.

Ms. Ciampi was a recipient of numerous honors due to her services to Scientific Commonwealth and Technological Cooperation, such as the Award of the International Council on Engineering and Technology Education, the Award from the International Council on Engineering and Computer Education, the Award of Recognition of the International Society for Engineering Education, the Medal of the Brazilian Association of Civil Engineers, and the IEEE Edwin C. Jones, Jr., Meritorious Service Award of 2011. She was the first American woman professor to receive the title of “International Engineering Educator” of Internationale Gesellschaft für Ingenieurpädagogik (IGIP). She has served as the International Chair of the Frontiers in Education Annual Conference since 2003, and is the Secretary of the IEEE Education Society (IEEE EdSoc). She has participated as a member of committees in over 100 international conferences and journals. She is currently the President of the World Council on System Engineering

and Information Technology (WCSEIT), the Safety Health and Environment Research Organization, the World Council on Communication and Arts, and the Vice President of the Sciences and Education Research Council and the Fishing Museum Friends Society. She has also been the Chair of the Intersociety Cooperation Committee of the IEEE EdSoc since 2011, the Co-Chair of the Working Group “Ingenieurpädagogik im Internationalen Kontext” in IGIP since 2002, a member of the Strategic Planning Committee of the IEEE EdSoc since 2009, and a Board Member of the Global Council on Manufacturing and Management since 2004. She has been a member of the Board of Governors of the International Council for Engineering and Technology Education (INTERTECH) since 2000, the Board of Governors of IEEE EdSoc since 2000, and the Board of Governors of the WCSEIT since 2012. She was the Vice President of IGIP, the President of the Brazilian Chapter of the IEEE EdSoc, a member of the Executive Committee of IGIP, the State Councilor of the Brazilian Association for the Advancement of Science, and the Manager of International Relations of the SENAC School of Engineering and Technology, Santos, Brazil. She is a member of IGIP, the European Society for Engineering Education, the American Society for Engineering Education, INTERTECH, and the Cartagena Network of Engineering. She is a Senior Member of the IEEE.

## XIV. IEEE FELLOW AWARD, CLASS OF 2016

The following individuals were recognized at the FIE Conference for receiving their Fellow membership grade in 2016: *John Heywood*, “for contributions to engineering education research,” and *Diane T. Rover*, “for contributions to engineering and computing education and to the professional development of students and faculty.”



**John Heywood** has authored the books *Engineering Education: Research and Development in Curriculum and Instruction* (Wiley-IEEE Press, 2005) and *Instructional and Curriculum Leadership: Toward Inquiry Oriented Schools* (NAPD, 2008). He has published the book *The Assessment of Learning in Engineering Education: Practice and Policy* (Wiley-IEEE Press, 2016). He was a Professor and the Director of teacher education with the University of Dublin, Dublin, Ireland.

Mr. Heywood was a recipient of the 2006 Award for the Best Research Publication from the Division for the Professions of the American Educational Research Association for the book *Engineering Education: Research and Development in Curriculum and Instruction*. He is a Fellow of the American Society for Engineering Education.



**Diane T. Rover** has been a Professor with the Department of Electrical and Computer Engineering, Iowa State University (ISU), Ames, IA, USA, since 2001, and was named University Professor in 2015. She currently serves as the Director for two large-scale, NSF-funded programs: IINspire LSAMP, an alliance of 16 institutions in Iowa, Illinois, and Nebraska to broaden participation in STEM; and SP@ISU, a campus-wide program to support the broader impacts work of faculty. She is a Principal Investigator of an NSF grant with ISU to investigate STEM faculty engagement with broader impacts. She is also a Co-PI for a nationwide grant to establish the National Alliance for Broader Impacts. She has also been the Principal Investigator on NSF STEP and S-STEM grants with ISU that have focused on the recruitment, retention, and success of engineering students.

Dr. Rover has served on the IEEE Committee on Engineering Accreditation Activities and the IEEE Education Society Board of Governors. She represented IEEE on the Engineering Accreditation Commission of ABET from 2009 to 2014, and began a term on the EAC Executive Committee in 2015. She began serving as an IEEE ABET Program Evaluator for computer engineering in 2002. From 1996 to 1998, she was the Director of Technical Activities for the IEEE Southeastern Michigan Section. In 2009, she held officer positions in the ASEE ECE Division. She served as the Program Chair for the ECE Division for the 2010 ASEE Annual Conference. From 2000 to 2008, she led the “Academic Bookshelf” column as a Senior Associate Editor for the *Journal of Engineering Education* (ASEE).

### XV. ASEE ECE DIVISION ECE DISTINGUISHED EDUCATOR AWARD

The ECE Distinguished Educator Award is conferred by the Electrical and Computer Engineering (ECE) Division for significant contributions not only to ASEE, but also to the ECE education profession.

Past recipients of the award are:

- 2000—Sherra E. Kerns
- 2001—J. David Irwin
- 2002—Frank Barnes
- 2006—William Sayle
- 2007—Sara A. Rajala
- 2008—Karan Watson
- 2009—Sally Wood
- 2010—Edward A. Lee
- 2011—John A. Orr
- 2012—Patricia D. Daniels
- 2015—Branislav Notaros

The 2016 ECE Distinguished Educator Award was presented to *Raman M. Unnikrishnan*.



**Raman M. Unnikrishnan** (S'71–M'75–SM'80–F'07–LF'17) has been the Dean of Engineering and Computer Science with California State University, Fullerton, CA, USA, since 2001. He was the Electrical Engineering Department Head, Rochester Institute of Technology (RIT), Rochester, NY, USA.

Dr. Unnikrishnan was a recipient of the Eisenhart Award for Outstanding Teaching at RIT. He has been active in the ASEE, IEEE, ECEDHA, and ABET. He is a member of the ASEE Accreditation Committee and served a five-year term on the EAC of ABET representing ASEE. He is a member of the Fellows Selection Committee of the Education Society and the Chair-Elect of the CEAA of IEEE.

### XVI. ASEE ECE MERITORIOUS SERVICE AWARD

The ECE Meritorious Service Award is conferred by the Electrical and Computer Engineering (ECE) Division to recognize significant and meritorious service to the ASEE ECE Division over an extended period of time.

Past recipients of the award are:

- 2001—William E Sayle
- 2002—Burks Oakley II
- 2007—Hossein Mousavinezhad
- 2008—James Harris
- 2009—David Soldan
- 2010—David Kerns and Victor Nelson
- 2011—Dennis Silage
- 2012—Stephen Goodnick
- 2015—James Roland

The 2016 ECE Meritorious Service Award was presented to *Agnieszka Miguel*.



**Agnieszka Miguel** (S'94–M'02) received the B.S.E.E. and M.S.E.E. degrees from Florida Atlantic University, Boca Raton, FL, USA, in 1994 and 1996, respectively, and the Ph.D. degree in electrical engineering from the University of Washington, Seattle, WA, USA, in 2001.

She is passionate about active learning and strategies to improve electrical and computer engineering education and increasing the number of women in engineering. She is a PI on an NSF S-STEM ECE Scholars grant, providing scholarships and academic

support to needy, academically strong transfer students. Her teaching interests include MATLAB, circuits, linear systems, signal and digital image processing, and data compression. Her current research interests include image processing, pattern recognition, machine learning, wavelets, and image and video compression.

Dr. Miguel is the Pacific Northwest Section Chair from 2015 to 2017, and from 2017, will be the Chair of ASEE Professional Interest Council I and the ASEE Director. She has served as an ASEE Campus Representative, an ECE Division, and the New Engineering Educators Division Chair. She is a member of the ASEE, SWE, and Tau Beta Pi.

### APPENDIX RELATED WORK

- 1) E. C. Jones, Jr., "2015 IEEE Education Society awards, Frontiers in Education Conference awards, and selected IEEE awards," *IEEE Trans. Educ.*, vol. 59, no. 1, pp. 59–68, Feb. 2016.
- 2) E. C. Jones, Jr., "2014 IEEE education society awards, frontiers in education conference awards, and selected IEEE awards," *IEEE Trans. Educ.*, vol. 58, no. 1, pp. 58–66, Feb. 2015.
- 3) E. Tovar, "2013 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 57, no. 2, pp. 122–128, May 2014.
- 4) M. Castro, "2012 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 56, no. 2, pp. 246–251, May 2013.
- 5) M. Castro, "2011 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 55, no. 2, pp. 291–298, May 2012.
- 6) S. M. Lord, "2010 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 54, no. 2, pp. 332–337, May 2011.
- 7) T. Mitchell, "2009 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 53, no. 2, pp. 335–340, May 2010.
- 8) S. M. Lord, "2008 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 52, no. 2, pp. 286–291, May 2009.
- 9) S. M. Lord, "2007 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 51, no. 2, pp. 290–295, May 2008.
- 10) J. L. A. Hughes, "2006 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 50, no. 2, pp. 157–162, May 2007.
- 11) J. L. A. Hughes, "2005 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 49, no. 2, pp. 309–313, May 2006.
- 12) D. M. Litynski, "IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 48, no. 3, pp. 350–358, Aug. 2005.



**Edwin C. Jones, Jr.** (S'53–M'56–SM'66–F'88–LF'97) received the B.S.E.E. degree from West Virginia University, Morgantown, WV, USA, in 1955, the Diploma Imperial College degree from the University of London, London, U.K., in 1956, and the Ph.D. degree in electrical engineering from the University of Illinois at Urbana-Champaign, Urbana, IL, USA, in 1962.

He is a University Professor and Associate Chair, Emeritus, with the Department of Electrical and Computer Engineering, Iowa State University, Ames, IA, USA. He was an Assistant Professor with the University of Illinois from 1962 to 1966. He was an Assistant Professor and became Professor in 1972 and then a University Professor in 1995 with Iowa State University. He was the Director of Engineering Distance Education from 1986 to 2000, an Associate Chair of Electrical and Computer Engineering from 1997 to 2001, and retired in 2001 as a University Professor Emeritus. He has been a 3M Fellow and an Adjunct Professor with the School of Engineering, University of St. Thomas, St. Paul, MN, USA, since 2006. His industrial service includes General

Electric, Westinghouse, and the U.S. Army.

Dr. Jones was a recipient of the IEEE Centennial Medal in 1984, the ASEE Centennial Medal in 1993, the Linton E. Grinter Distinguished Service Award from ABET in 2001, and the Rotary Foundation Fellowship for Advanced International Study. Some of his former undergraduate students at Iowa State University have created a scholarship in his name in the Electrical and Computer Engineering Department. He served as the Editor-in-Chief of the IEEE TRANSACTIONS ON EDUCATION from 1982 to 1984. Since he first became involved in the IEEE Education Society in the late 1960s, he has held virtually every office in the Society. He served as a Society Officer from 1970 to 1976; this service included two years as the President. In the 1970s, he started participating in engineering accreditation, engineering program development and improvement, and program evaluation. He served IEEE as a member of the IEEE Committee on Engineering Accreditation Activities. He served on the Engineering Accreditation Commission, chairing over 20 teams, and also served on the ABET Board of Directors. He is a Fellow of the AAAS, ASEE, and ABET.