

# 2020 IEEE Education Society Awards

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IEEE Education Society

**H**ERE, we continue the tradition, begun in 2005, of publishing the award descriptions and their recipients in the IEEE TRANSACTIONS ON EDUCATION [items 1)–16) in the Appendix] in order to present the increasingly important research and development in engineering education.

## I. 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 Frontiers in Education Conference.

The 2020 IEEE Education Society William E. Sayle II Award for Achievement in Education was presented to *Barbara Oakley*, “for visionary outreach in making STEM education more attainable for millions of students worldwide.”



**Barbara Oakley** (Fellow, IEEE) is a Professor of Engineering with Oakland University, Rochester, MI, USA; a Michigan’s Distinguished Professor of the Year; and the Coursera’s inaugural “Innovation Instructor.” Her work focuses on the complex relationship between neuroscience and social behavior. Her research has been described as “revolutionary” in *The Wall Street Journal*. She is a *New York Times* best-selling author who has published in outlets as varied as the *Proceedings of the National Academy of Sciences*, *The Wall Street Journal*, and

*The New York Times*.

Dr. Oakley has won numerous teaching awards, including the American Society of Engineering Education’s Chester F. Carlson Award for technical innovation in engineering education. Together with T. Sejnowski, the Francis Crick Professor with the Salk Institute, she co-teaches Coursera—UC San Diego’s “Learning How to Learn,” one of the world’s most popular massive open online courses with over three million registered students, along with a number of other leading MOOCs. She has adventured widely through her lifetime. She rose from the ranks of Private to Captain in the U.S. Army, during which time she was recognized as a Distinguished Military Scholar. She also worked as a communications expert at the South Pole Station in Antarctica, and has served as a Russian translator on board Soviet trawlers on the Bering Sea. She is an Elected Fellow of the American Institute for Medical and Biological Engineering.

## II. IEEE EDUCATION SOCIETY DISTINGUISHED MEMBER AWARD

The 2020 IEEE Education Society Distinguished Member Award was presented to *Victor K. Schutz*, “for outstanding long-term leadership, dedication, and service to the IEEE Education Society and in significant contributions to the fields of interest to the IEEE.”



**Victor K. Schutz** is an Emeritus Professor of Electrical Engineering with Temple University, Philadelphia, PA, USA.

Dr. Schutz had served as the President of the Education Society from 1997 to 1998. A highlight of his contributions to the Society was his service as the General Chairman of the 1991 Frontiers in Education Conference, held in Austria, that featured a special social event of a cruise on the Blue Danube. Temple University continues to recognize his legacy with a scholarship offered for juniors and seniors with a preference for transfer students.

## III. IEEE EDUCATION SOCIETY MAC 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, and certificate; and paid registration to the Frontiers in Education (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. Nominees for this award must also be members of the IEEE Education Society and members of the IEEE.

The 2020 IEEE Education Society Mac Van Valkenburg Early Career Teaching Award was presented to *Geoffrey L. Herman*, “for his dedication to teaching, for his expertise in bridging research and practice in engineering education, and for his ability to inspire students and colleagues alike.”



**Geoffrey L. Herman** received the Ph.D. degree in electrical and computer engineering from the University of Illinois at Urbana–Champaign, Champaign, IL, USA, in 2011.

He was a Mavis Future Faculty Fellow with the University of Illinois at Urbana–Champaign. He conducted postdoctoral research with the School of Engineering Education, Purdue University, West Lafayette, IN, USA. He is a Teaching Associate Professor with the Department of Computer Science, University of Illinois at Urbana–Champaign. He helps lead the Grainger College of Engineering’s Strategic Instructional Innovations Program and the Teaching Professionals Program. His research focuses on how students learn engineering and computing concepts and studying processes for creating systemic change in how engineering and computer science are taught in college settings.

Dr. Herman’s research on students’ misconceptions in programming was awarded the Best Paper in the first 50 years of the ACM Special Interest Group, Computer Science Education. He is a member of the Computer Research Association Education Committee.

#### IV. 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 Frontiers in Education Conference.

The 2020 IEEE Education Society Edwin C. Jones, Jr., Meritorious Service Award was presented to *Oscar M. Bonastre*, “for promoting pioneering contributions and high-level activities for the members of the IEEE Education Society.”



**Oscar M. Bonastre** (Senior Member, IEEE) received the B.S. and M.S. degrees in computer engineering from the University of Alicante, San Vicente del Raspeig, Spain, and the Ph.D. degree in telecommunications engineering from the University Politécnica de Valencia, Valencia, Spain in 2007.

He has more than 23 years of background in academia and industry. He has been with Miguel Hernández University, Elche, Spain, since 1997. He was appointed as the Vice Dean for International Relations in the College of Engineering from 2012 to

2015. He is active in the International Engineering Education Community and his teaching interests include the advanced distributed systems. His research has focused on the areas of development of the Internet.

Dr. Bonastre is a Senior Member of IEEE-HKN, the IEEE Communications Society, the IEEE Education Society, and the IEEE Standards Association. He is the 2020–2021 Chair of IEEE Spain Section and Education Chapter. He was an Associate Editor of IEEE TRANSACTIONS ON EDUCATION from 2010 to 2012. He has served for the steering committees of IEEE TRANSACTIONS ON EDUCATION and *IEEE Revista Iberoamericana Tecnologías del Aprendizaje* and the Co-Editor-in-Chief of TICAL, journal supported by the IEEE Education Chapter of Portugal and Spain. He was a member of the IEEE Region 8 Educational Activities Subcommittee from 2015 to 2016. In 2017, he participated as a Developer and an Instructor for the First MOOC of the IEEE Education Society delivered through IEEEEx (using edX platform) to more than 2000 worldwide students. From 2018 to 2019, he was the Vice President of the Chapter of the IEEE Education Society in the Spain Section of the IEEE Region 8. His contributions to the chapter helped it earn the Outstanding Chapter Achievement Award from the IEEE Education Society in 2018. He is the Counselor (Founder) of Student Branch (SB) Miguel Hernández University created in 2012. Under his leadership, the SB received the recognitions IEEE Region 8 Exemplary Student Branch Award in 2018 and the Exemplary Student Branch Award IEEE Spain in 2014, 2015, and 2017. He has given keynotes for promoting engineering and research to the next generation of scientists. He was one of the first starters of Doctoral Consortiums in several conferences inside IEEE Education Society as well as inside IEEE Computer Society, such as the Chair of the International Conference on Remote Engineering and Virtual Instrumentation in 2016 in Madrid, Spain, as well as the IEEE International Conferences on Advanced Learning Technologies—ICALT 2009 (Riga, Latvia) and ICALT 2010 (Sousse, Tunisia). For volunteer working on those Doctoral activities, he received the award recognition of Best Organizer at Doctoral Consortium ICALT 2009. More Activities on Awards, Offices Held, and Committee Memberships are online available at <https://ieeer8.org/people/oscar>.

#### V. IEEE TRANSACTIONS ON EDUCATION THEODORE E. BATCHMAN BEST PAPER AWARD

This award recognizes the best paper published each year in the IEEE TRANSACTIONS ON EDUCATION, as evaluated on originality, quality, advancement of the art, and effectiveness of presentation in terms of the clarity of exposition and coherence.

The 2020 IEEE TRANSACTIONS ON EDUCATION Theodore E. Batchman Best Paper Award was presented to the paper that was selected from papers published in Volume 62, 2019.

Concha Batanero, Luis de-Marcos, Jaana Holvikivi, José Ramón Hilera, and Salvador Otón Tortosa, “Effects of New Supportive Technologies for Blind and Deaf Engineering Students in Online Learning,” *IEEE Trans. Educ.*, vol. 62, no. 4, pp. 270–277, Nov. 2019.



**Concha Batanero** received the Official Master's degree in computers (speciality: electronic teaching and learning) from Alcalá University, Alcalá de Henares, Spain, in 2009, and the master's degree in neuroscience and behavior biology from the Pablo de Olavide University, Sevilla, Spain, in 2011.

She is a Lecturer with Alcalá University. She was working ten years in private companies in engineering area. She participated in the ESVI-AL project from 2011 to 2015 funded by the European Union's ALFA III Program and in the WAMDIA Project

from 2017 to 2019 co-funded by the Erasmus+ Programme of the European Union. Her research interests include e-learning, accessibility in education, and cognitive science.



**Luis de-Marcos** received the B.Sc. and M.Sc. degrees in computer science and the Ph.D. degree in information, documentation, and knowledge from the university of Alcalá, Alcalá de Henares, Spain, in 2001, 2005, and 2009, respectively.

He has been an Associate Professor with the University of Alcalá, since 2015. He is a Principal Investigator of the H2020 ProTego Project (Data-Protection Toolkit Reducing Risks in Hospitals, 2019–2021). He participated in the EU IAPP MC Project (Iceberg: 2013–2017), in two Erasmus

Intensive Programs (2009–2013), and two Erasmus+ Strategic Partnership Projects (2014–2017). He was a Principal Investigator in two national research projects (2011–2013). He was a Research Fellow with Lund University, Lund, Sweden, in 2007 and 2009, the University of Reading, Reading, U.K., in 2008, the Monterrey Institute of Technology, Monterrey, Mexico, in 2010, and the University of Zagreb, Zagreb, Croatia, in 2018. He has over 100 refereed publications in conferences and journals. His research interests include gamification, educational technologies, e-learning, and computer science education.



**Jaana Holvikivi** received the Ph.D. degree in information technology from the Helsinki University of Technology, Espoo, Finland in 2009.

Her career has expanded to four continents when working within the United Nations system in various development projects. She was a Principal Lecturer of Software Education with the Metropolia University of Applied Sciences, Helsinki, Finland. Her research interests include software education in a cross-cultural context, student diversity issues, project-based and agile

learning methods, and cognitive science.

Dr. Holvikivi chairs the IFIP Working Group 3.4 for Professional, Higher, and Vocational Education in ICT.



**José Ramón Hilera** received the undergraduation degree from the Polytechnic University of Madrid, Madrid, Spain, and the Ph.D. degree in science from the University of Alcalá, Alcalá de Henares, Spain.

He is a Telecommunication Engineer. He was a Lecturer with the Polytechnic University of Madrid. Then, he became a Full Professor with the Polytechnic School, University of Alcalá. He is the Director of the master's program in Software Engineering for the Web, and the Coordinator of the ESVI-AL Cooperation Network on accessible virtual education, funded by the European Union's ALFA III Program. He has authored or coauthored over 150 scientific works (books, articles, papers, and research projects), some related to learning technology and accessibility.

Since their creation, he has organized several editions of two international conferences on accessibility: the International Conference on Quality and Accessibility in eLearning (CAFVIR) and the International Conference on Application of Information and Communications Technologies to improve Accessibility (ATICAcces).



**Salvador Otón Tortosa** received the Computer Science Engineering degree from the University of Murcia, Murcia, Spain, in 1996 and the Ph.D. degree from the University of Alcalá, Alcalá de Henares, Spain, in 2006.

He is currently an Associate Professor with the Computer Science Department, University of Alcalá. He coordinates the Master on Agile Software Development for the Web. He is the Coordinator of the European Project EduTech about accessible virtual education, granted by the Erasmus+ program of the European Union. He is the author or coauthor of more than 80 scientific works (books, articles, papers, and research projects), the majority of them directly related to learning technology, accessibility, and interoperability. His research interests are focused on learning objects and e-learning standardization and mainly in accessibility, metadata, distributed learning objects repositories, interoperability, and enterprise architectures.

## VI. IEEE EDUCATION SOCIETY CHAPTER ACHIEVEMENT AWARD

The 2020 IEEE Education Society Chapter Achievement Award was presented to the Montreal Chapter, “for sustained contributions of innovative educational and professional activities in the community.”



**Hamadou Saliah-Hassane** received the bachelor's and master's degrees in applied science from École Polytechnique de Montréal, Montreal, QC, Canada, the Technical University degree in electronics from the Institute of Technology, Université de Dakar, Dakar, Senegal, and the Ph.D. degree in electrical and computer engineering from McGill University, Montreal in 2000.

He is currently teaching informatics and computer networks and security with TÉLUQ University, Quebec City, QC, Canada. He was the Program Director of a Consortium of three universities in Montreal called École de Technologies de l'Information, including Université du Québec in Montreal, École de Technologie Supérieure, and TÉLUQ University. He is a Senior Researcher with TÉLUQ University, where he is carrying out research on intelligent distributed systems including smart, trusted, and secured networked educational devices for online laboratories and mobile robotics. He was the Chair of the Electrical Engineering Department, African Regional Engineering School of Mine, Industry, and Geology, including seven countries in Niger from 1989 to 1994.

Prof. Saliah-Hassane received the “2005 Achievement Award” from the International Network for Engineering Education for “Research and Innovation on Online laboratories and for the Advancement of International Collaboration.” In 2019, he was granted a Special Award by IEEE Standards Association with appreciation for chairing and contributing to the development of IEEE Standard 1876–2019 on *Networked Smart Learning Objects for Online Laboratories* approved on May 30, 2019. He is one of the founding members of GOLC, the Global Online Laboratory Consortium, that in 2009 merged with the International Association for Online Engineering, where he has been a member of the Executive Committee since 2019. In 2012, he was recognized with the highest academic distinction of “Commander of the Order of Academic Palm” by the Republic of Niger, his home country. He was a member of the Board of Governors of the IEEE Education Society from 2007 to 2013 and from 2014 to 2017 and the Chair of its Standards Committee and the Chair of the IEEE Std. 1876–2019 IEEE Standards Working Group on “Standard on Networked Smart Learning Objects for Online Laboratories.” He is also a member of the IEEE Learning Technology Standards Committee and the IEEE Transactions on Learning Technologies Steering Committee.

## VII. IEEE EDUCATION SOCIETY DISTINGUISHED CHAPTER LEADERSHIP AWARD

The 2020 IEEE Education Society Distinguished Chapter Leadership Award was presented to *Manuel Caeiro-Rodríguez*, “for improving and developing new methods of collaboration and activities inside the Spanish Chapter of the IEEE Education Society.”



**Manuel Caeiro-Rodríguez** (Senior Member, IEEE) received the telecommunications engineering degree and the Ph.D. degree in telecommunications engineering from the University of Vigo, Vigo, Spain, in 1999 and 2007, respectively.

He has been an Associate Teacher with the Department of Telematics Engineering, University of Vigo since 2002. He has participated in several research projects, European, national, and regional calls. He is currently involved in the Erasmus + HERA, Elemend, and Unifors projects on the development of educational innovations based on serious games and microlearning to support soft-skills development. Previously, he has participated in the eCity project, on the development of games about virtual cities for engineering disciplines, LEAP, on agile methodologies and Lean Startup for the development of engineering projects, ADLES about problem-based learning, and Refugees and DiamonDT about design thinking. He has also participated in several national research projects, the last one finished in 2020 was about learning analytics with wearables. From 2012 to 2015, he was the Principal Investigator of the TELGalicia research network supported by Xunta the Galicia. He has been responsible for an educational innovation project at the University of Vigo “Implementation of Learning Self-Regulation Strategies With ICT Help” and has taught several teacher training courses on this topic. He has also participated as a Teacher in several courses about Design Thinking and Open Educational Resources, including the first MOOC of the IEEE Education Society on Open Educational Resources. He has performed research stays in the University of Coimbra, Coimbra, Portugal; IRISA, Rennes, France; MTA-ZSTAKI, Budapest, Hungary; the University of Kumamoto, Kumamoto, Japan; and ISEP, Porto, Portugal, most of them hosted by IEEE members.

Dr. Caeiro-Rodríguez received the Best Doctoral Thesis 2007 Award of the Spanish Chapter of the IEEE Education Society for his work in the field of Educational Modeling Languages. He also received the NAE CASEE New Faculty Fellows Award in FiE 2006. He has served as the President of the Spanish Chapter of the IEEE Education Society from 2018 to 2019.

## VIII. IEEE EDUCATION SOCIETY STUDENT LEADERSHIP AWARD

The 2020 IEEE Education Society Student Leadership Award was presented to *Pedro Plaza*, “for participation in educational projects adding value to allow professional and personal growth.”



**Pedro Plaza** received the M.Sc. degree from the Industrial Engineering School (ETSII), National University of Distance Education (UNED), Madrid, Spain, in 2013, the Industrial Engineering degree from the Carlos III University of Madrid (UC3M), Madrid, in 2010, and the Ph.D. degree in industrial engineering from ETSII, UNED, in 2019.

He is currently a Senior Systems Engineer with Siemens Rail Automation, Madrid. He has authored several publications in prestigious conferences and journals. He has collaborated on several research projects.

Dr. Plaza is a member of the IEEE Robotics and Automation Society, the IEEE Education Society, the IEEE Young Professionals, and the IEEE Women in Engineering (WIE). He is an Editorial Board Member of the *International Journal of Automation and Robotic Technology* (Inderscience). He was also the President and the WIE Chair of the IEEE Student Branch of UNED during his time at the university.

## APPENDIX RELATED WORK

- 1) J. J. Sluss, Jr., “2019 IEEE Education Society awards, 2019 Frontiers in Education Conference awards, and selected IEEE awards,” *IEEE Trans. Educ.*, vol. 63, no. 1, pp. 63–68, Feb. 2020.
- 2) J. J. Sluss, Jr., “2018 IEEE Education Society and Frontiers in Education Conference awards,” *IEEE Trans. Educ.*, vol. 62, no. 1, pp. 57–63, Feb. 2019.

- 3) E. C. Jones, Jr., and J. J. Sluss, Jr., "2017 IEEE Education Society awards, 2017 Frontiers in Education Conference awards, and selected IEEE awards," *IEEE Trans. Educ.*, vol. 61, no. 1, pp. 74–83, Feb. 2018.
- 4) E. C. Jones, Jr., "2016 IEEE Education Society awards, 2016 Frontiers in Education Conference awards, and selected IEEE awards," *IEEE Trans. Educ.*, vol. 60, no. 1, pp. 67–77, Feb. 2017.
- 5) 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.
- 6) 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.
- 7) 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.
- 8) 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.
- 9) 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.
- 10) 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.
- 11) T. L. Mitchell, "2009 IEEE Education Society awards and Frontiers in Education Conference awards," *IEEE Trans. Educ.*, vol. 53, no. 2, pp. 335–340, May 2010.
- 12) 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.
- 13) 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.
- 14) 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.
- 15) 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.
- 16) 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.



**James J. Sluss, Jr.**, (Senior Member, IEEE) received the B.S. degree in physics from Marshall University, Huntington, WV, USA, in 1984, and the M.S. and Ph.D. degrees in electrical engineering from the University of Virginia, Charlottesville, VA, USA, in 1986 and 1989, respectively.

He was the Director of the School of Electrical and Computer Engineering from 2005 to 2014 and a Senior Associate Dean for the Gallogly College of Engineering, Norman, OK, USA, from 2014 to 2016. Since 2016, he has been serving as an Associate Vice President for Academic Affairs and the Dean of the Tulsa Graduate College with the University of Oklahoma (Tulsa Campus), Tulsa, OK, USA.

Dr. Sluss was the recipient of the IEEE Education Society Edwin C. Jones, Jr., Meritorious Service Award in 2008 and the International Engineering Educator *Honoris Causa* "ING. PAED.IGIP h.c." by the International Society for Engineering Education "for outstanding contributions in the field of Engineering Education" in 2015. He has been serving on the Frontiers in

Education (FIE) Steering Committee since 2012, served as the Technical Program Co-Chair for FIE 2007, the General Co-Chair for FIE 2013, and as the FIE Steering Committee Chair from 2018 to 2020. He has served as a member of the Board of Governors of the IEEE Education Society from 2000 to 2020, serving in a number of officer positions including a two-year term as the President from 2015 to 2016. He is a Senior Member of the IEEE Education Society and the IEEE Communications Society. He is a member of the Optical Society of America, the International Society for Engineering Education, and the American Society of Engineering Education.