

# CELEBRATING EXCELLENCE

IEEE Power &  
Energy Society  
**Awards 2022**



**IEEE PES  
AWARDS**

“

Sustainable development requires human ingenuity. People are the most important resource.”

— DAN SHECHTMAN



# **Power & Energy Society Awards and Recognition**

Many of our recipients have  
donated their honoraria to the  
  
IEEE PES Endowment Fund,  
IEEE PES Scholarship Plus Fund,  
or one of our many other funds  
solicited and managed by the IEEE Foundation

**We Offer Our Profound Gratitude to These  
Award Recipients  
for Their Generosity and Support**

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IEEE Foundation Development Office

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# PES Awards & Recognition

Jaime Cepeda, PES Awards & Recognition Chair

Julio Romero Agüero, PES V. P. of Membership and Image

Jessica J. Bian, PES President

Shanon Nason, PES Awards Staff

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## Award Committee Chairs

John McDonald, PES Rep. and  
Zhou Xiaoxin, CSEE Rep.  
*IEEE PES CSEE Yu-Hsiu Ku Electrical  
Engineering Award*

Chris Brooks  
*IEEE PES LAS A. P. Seethapathy Rural  
Electrification Excellence Award*

John McDaniel  
*IEEE PES Award for Excellence in Power  
Distribution Engineering*

Nicholas Miller  
*IEEE PES Charles Concordia Power System  
Engineering Award*

Oleg Wasynczuk  
*IEEE PES Cyril Veinott Electromechanical  
Energy Conversion Award*

Mohammad Shahidehpour  
*IEEE PES Douglas M. Staszewsky Distribution  
Automation Award*

Veronika Rabl  
*IEEE Power & Energy Society Leadership in  
Power Award*

Mark Lauby  
*IEEE Power & Energy Society Lifetime  
Achievement Award*

John McDonald  
*IEEE PES Patrick P. Ryan Meritorious Service Award*

Rambabu Adapa  
*IEEE PES Nari Hingorani Custom Power Award*

Jingxuan (Joanne) Hu  
*IEEE PES Nari Hingorani FACTS Award*

Antonio Conejo  
*IEEE PES Outstanding Power Engineering  
Educator Award*

Joydeep Mitra  
*IEEE PES Outstanding Young Engineer Award*

Peter W. Sauer  
*IEEE PES Prabha S. Kundur Power System  
Dynamics and Control Award*

Robert Dent  
*IEEE PES Robert Noberini Distinguished  
Contributions to Power Engineering Professionalism Award*

Armando M. Leite da Silva  
*IEEE PES Roy Billinton Power System Reliability Award*

J. Charlie Smith  
*IEEE Power & Energy Society Ramakumar  
Family Renewable Energy Excellence Award*

Abhay Kumar  
*IEEE PES Uno Lamm High Voltage Direct Current  
Award*

Ruomie Li  
*IEEE PES Wanda Reder Pioneer in Power Award*

Joydeep Mitra  
*Fellows Chair*

Jeffrey Nelson  
*IEEE PES Technical Committee and Technical Council  
Awards*

Paul Pabst  
*IEEE PES Chapter Awards*

Open  
*PES Awards & Recognition Vice Chair*

# PES Awards Program

## IEEE TECHNICAL FIELD AWARDS

- ◆ IEEE Charles Proteus Steinmetz Award pp. 8 & 9  
*Kenneth E. Martin*
- ◆ IEEE Herman Halperin Electric Transmission and Distribution Award pp. 10 & 11  
*John Undrill*
- ◆ IEEE Nikola Tesla Award pp. 12 & 13  
*Peter W. Sauer*

## IEEE PES JOINT AWARDS

- ◆ IEEE PES IAS A. P. Seethapathy Rural Electrification Excellence Award pp. 14 & 15  
*Jeremy L. Johnson*

## IEEE POWER & ENERGY SOCIETY AWARDS

- ◆ IEEE PES Award for Excellence in Power Distribution Engineering pp. 16 & 17  
*Mark McGranaghan*
- ◆ IEEE PES Charles Concordia Power Systems Engineering Award pp. 18 & 19  
*Juan J. Sanchez-Gasca*
- ◆ IEEE PES Cyril Veinott Electromechanical Energy Conversion Award pp. 20 & 21  
*Juri Jatskevich*
- ◆ IEEE PES Douglas M. Staszkesy Distribution Automation Award pp. 22 & 23  
*Josep M. Guerrero*
- ◆ IEEE Power & Energy Society Leadership in Power Award pp. 24 & 25  
*Christopher E. Root*
- ◆ IEEE Power & Energy Society Lifetime Achievement Award pp. 26 & 27  
*Chanan Singh*
- ◆ IEEE PES Nari Hingorani Custom Power Award pp. 28 & 29  
*Mojtaba Mohades*
- ◆ IEEE PES Nari Hingorani FACTS Award pp. 30 & 31  
*Taixun Fang*
- ◆ IEEE PES Outstanding Power Engineering Educator Award pp. 32 & 33  
*Joe Hong Chow*
- ◆ Class of 2022 IEEE Fellows Recognition pp. 34—39

# PES Awards Program

- ◆ IEEE PES Outstanding Young Engineer Award pp. 40 & 41  
*Junbo Zhao*
- ◆ IEEE PES Patrick P. Ryan Meritorious Service Award pp. 42 & 43  
*Damir Novosel*
- ◆ IEEE PES Prabha S. Kundur Power System Dynamics and Control Award pp. 44 & 45  
*Thierry Van Cutsem*
- ◆ IEEE Power & Energy Society Ramakumar Family Renewable Energy Excellence Award pp. 46 & 47  
*Miroslav M. Begovic*
- ◆ IEEE PES Robert P. Noberini Distinguished Contributions to Engineering Professionalism Award pp. 48 & 49  
*Simay Akar*
- ◆ IEEE PES Roy Billinton Power System Reliability Award pp. 50 & 51  
*Ali Asraf Chowdhury*
- ◆ IEEE PES Uno Lamm High Voltage Direct Current Award pp. 52 & 53  
*Colin Davidson*
- ◆ IEEE PES Wanda Reder Pioneer in Power Award pp. 54 & 55  
*Dipti Srinivasan*
- IEEE Power & Energy Society Outstanding Student Scholarship pp. 56 & 57  
*Emily Abbate, Liudong Chen, Abigail Ivemeyer, Muhammad Ali Shah Khan, Julie Matarweh, and Dawei Wang*
- ◆ IEEE PES Prize Paper Awards pp. 58 & 59
  - ◆ *“Ground Testing of the World’s First MW-Class Direct-Drive Superconducting Wind Turbine Generator”*  
Authored by: X. Song, C. Bühner, P. Brutsaert, A. Ammar, J. Krause, A. Bergen, T. Winkler, M. Dhalle, J. Hansen, A.V. Rebsdorf, S. Wessel, M.T. Brake, M. Bauer, J. Kellers, J. Wiezoreck, H. Pütz, H. Kyling, H. Boy and E. Seitz
  - ◆ *“Definition and Classification of Power System Stability Revisited & Extended”*  
Authored by: N. Hatziaargyriou, J. V. Milanović, C. Rahmann, V. Ajarapu, C. Cañizares, I. Erlich, D. Hill, I. Hiskens, I. Kamwa, B. Pal, P. Pourbeik, J. J. Sanchez- Gasca, A. Stanković, T. Van Cutsem, V. Vittal, C. Vournas

# PES Awards Program

- ◆ *“A New Fault Location Technique in Smart Distribution Networks Using Synchronized/Nonsynchronized Measurements”*  
Authored by: Mehrdad Majidi & Mehdi Etezadi-Amoli
- ◆ IEEE PES Working Group Recognition Award pp. 60 & 61
  - ◆ Outstanding Technical Report  
*PES-TR71, Microgrid Protection Systems*  
*Prepared by the IEEE PES Power System Relaying and Control Committee*  
Chair: Michael J. Higginson and Vice Chair: Frederic A. Friend
  - ◆ Outstanding Standard or Guide  
IEEE C37.245, IEEE Guide for the Application of Protective Relaying for Phase Shifting Transformers  
*Prepared by the IEEE PES Power System Relaying and Control Committee*  
Chair: Lubomir Sevov and Vice Chair: Brandon Davies
- ◆ IEEE PES Outstanding Chapter Awards pp. 62 & 63
  - ◆ Small Chapter - Western Australia Chapter  
Chapter Chair: Alireza Fereidouni
  - ◆ Large Chapter - Kerala Chapter  
Chapter Chair: A. Suhair

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**Peer Recognition:** Do you know someone deserving recognition?

[www.ieee-pes.org/pes-communities/awards](http://www.ieee-pes.org/pes-communities/awards)



# IEEE Charles Proteus Steinmetz Award



The IEEE Charles Proteus Steinmetz Award was established by the Board of Directors in 1979. This award was established to recognize individuals for exceptional contributions to the development and/or advancement of standards in electrical and electronics engineering.

In the evaluation process, the following criteria are considered: engineering and administrative accomplishment and responsibilities, publications (e.g. books, standards, papers, conference), honors, supporting letters, IEEE Activities, other organizations, and the quality of the nomination.

Recipient selection is administered through the Technical Field Awards Council of the IEEE Awards Board.

The award consists of a bronze medal, cash prize, and a certificate.

**Supporter:** IEEE Standards Association

## **Current Committee Members:**

*Based on available information*

John D. Kulick (Chair)  
Annette D. Reilly  
Enrique A. Tejera  
Howard Li  
Masayuki Ariyoshi  
Rebekka Porath  
Sha Wei

## **Past Recipients:**

*Complete listing is available on website*

2014 Mark McGranaghan  
2015 Steven Mills  
2016 Hermann Koch  
2017 David John Law  
2018 Craig M. Wellman  
2019 Innocent Kamwa  
2020 Solveig M. Ward  
2021 Haran C. Karmaker



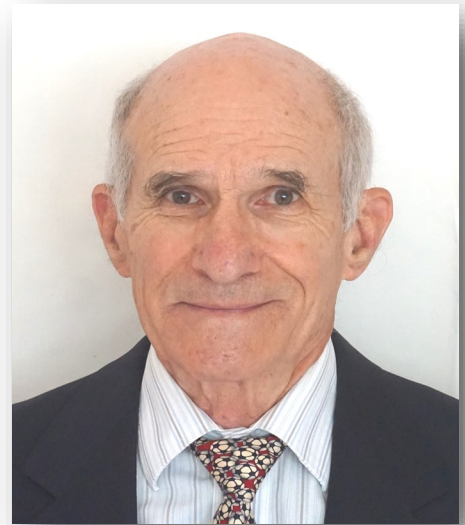
# IEEE Charles Proteus Steinmetz Award

**KENNETH E. MARTIN**

2022 Recipient

*For leadership in and sustained contributions to standards for synchrophasor measurements and communications for power system monitoring, protection, and control*

**KENNETH E. MARTIN** has been at the forefront of developing synchrophasor measurement systems since their creation during the 1980s, and has leveraged this experience to develop standards integral to the widespread use of this technology that is critical to the reliable operation of the electric grid. Synchrophasors provide a wide-area view of the power grid that increases visibility and improves situational awareness, allowing operators to see and resolve problems in real time. Martin helped develop the synchrophasor standard (IEEE P1344). He then initiated IEEE C37.118-2005, which developed methods to assure measurement compatibility and a communications protocol for wide-area systems. This standard serves as the basis for most synchrophasor measurements and system implementations worldwide. He continues leading synchrophasor standard development, most recently chairing the group developing IEEE P2664 STTP Standard, which supports data communication in larger systems. An IEEE Life Fellow, Martin is a senior principal engineer with the Electric Power Group, Pasadena, California, USA.



# IEEE Herman Halperin Electric Transmission and Distribution Award



The IEEE Herman Halperin Electric Transmission and Distribution Award was established in 1986 through an agreement between Herman Halperin and the Board of Directors of the IEEE. Associated funding was contributed by Herman and Edna Halperin and is administered by the IEEE Foundation, Inc.

From 1959 through 1986, the award for outstanding contributions to the field of electric transmission and distribution was named the William M. Habirshaw Award. Herman Halperin was a recipient of the Habirshaw Award in 1962. Halperin had a distinguished career with the Commonwealth Edison Company over a period of 40 years. Subsequently, he spent 15 years as a consulting engineer. Over the course of his career, he was particularly noted for his pioneering contributions to the design and operation of electric plant facilities and power cable systems.

In the evaluation process, the following criteria are considered: technological importance, successful application, originality, leadership, publications, and the quality of the nomination.

This award recognizes outstanding contributions to electric transmission and distribution. The award consists of a bronze medal, cash prize, and certificate.

**Supporters:** Robert and Ruth Halperin Foundation, in memory of the late Herman and Edna Halperin, and the IEEE Power & Energy Society

## **Current Committee Members:**

*Based on available information*

Mariesa L. Crow (Chair)  
D. J. Hill  
Hugh Rudnick  
Innocent Kamwa  
Jovica V. Milanovic  
MariaPia Fanti  
Vijay Vittal

## **Past Recipients:**

*Complete listing is available on website*

2014 Willem Boone  
2015 Wolfram Boeck  
2016 George Anders  
2017 George Dorwart Rockefeller  
2018 Jinliang He  
2019 Steven A. Boggs  
2020 Dusan Povh  
2021 Brian Stott

# IEEE Herman Halperin Electric Transmission and Distribution Award

**JOHN UNDRILL**

2022 Recipient

*For contributions to the development of analytical tools and stability testing methods for electric power systems*

**JOHN UNDRILL** is the architect of the PSS/E power system analysis software that has allowed power engineers to plan, design, and operate their systems safely and efficiently for decades, playing a key role in mitigating major power outages. PSS/E was a quantum leap in usability and detail compared to existing analytical software available at the time. It enabled static and dynamic analysis of generation and transmission systems and higher-voltage distribution systems. He also developed the Positive Sequence Load Flow (PSLF) software package, which models and calculates how power is transmitted from generation resources to points of end use. These packages have become industry standards. Undrill has also advanced techniques for testing stability of power plant components such as turbines and generators.

An IEEE Life Fellow, Undrill is the principal (retired) with John Undrill, LLC., Sedona, AZ, USA.



# IEEE Nikola Tesla Award



The IEEE Nikola Tesla Award was established in 1975 through an agreement between the IEEE Power Engineering Society and the IEEE Board of Directors.

The Award is named in honor of Nikola Tesla, an electrical engineer, a distinguished Yugoslav-American inventor, and a pioneer in many fields, who is most renowned for the development of the coil that bears his name and the a-c induction motor.

This award was created to recognize outstanding contributions to the generation and utilization of electric power.

In the evaluation process, the following criteria are considered: impact on technology, inventive value, breadth of use, leadership, and quality of the nomination.

"Generation" areas may include: automation, instrumentation, control, generation planning, alternative forms (e.g., wind, solar, fuel cells, and space power), conservation, safety, and reliability. "Utilization" areas may include: conservation, biomedical (e.g., MRI, focused ultrasound, etc.), life quality improvement for the handicapped, manufacturing systems, and robotronics.

This award consists of a bronze medal, a certificate and a cash prize.

**Supporters:** Wolong Electric Group Co., Ltd., IEEE Industry Applications Society and the IEEE Power & Energy Society

## **Current Committee Members:**

*Based on available information*

Annette Muetze (Chair)  
Ambrish Chandra  
Edson Da Costa Bortoni  
Innocent Kamwa  
Marco Liserre  
Silva Hiti  
Yen-Shin Lai

## **Past Recipients:**

*Complete listing is available on website*

2014 Hamit A. Toliyat  
2015 Ion Georghe Boldea  
2016 Bruno Lequesne  
2017 Adel Razek  
2018 Longya Xu  
2019 Tomy Sebastian  
2020 Akira Chiba  
2021 Zi-Qiang Zhu

# IEEE Nikola Tesla Award

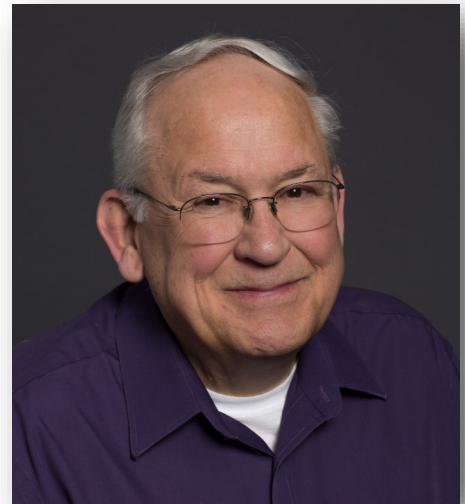
**PETER W. SAUER**

2022 Recipient

*For contributions to dynamic modeling and simulation of synchronous generators  
and for leadership in power engineering education*

**PETER W. SAUER** developed the modeling, simulation, and control methods for power system generators that paved the way for today's smart-grid advancements and are essential to keeping the U.S. energy system reliable and secure. His work on modeling of synchronous machines and large-scale electric grids using the integral manifolds concept for systematic reduced-order modeling improved accuracy and efficiency. He also developed fast methods to enforce transient stability constraints on the calculation of interchange capability, which improved the understanding of maximum power transfer and voltage collapse issues. He has also revised electrical machinery courses and laboratories to emphasize energy conversion fundamentals and industrial applications and worked with the Grainger Foundation to fund and develop new electric machinery facilities and establish endowments for student research in machines.

An IEEE Life Fellow, Sauer is the Grainger Chair Emeritus Professor of Electrical Engineering at the University of Illinois, Urbana, IL, USA.



# IEEE PES IAS A. P. Seethapathy Rural Electrification Excellence Award



This award was created to recognize exceptional power engineers who have worked, implemented or innovated better and cheaper electrification technologies for the rural sector. Selection of candidates will be based on the evaluation of accomplishments as revealed by published works, documented testimonials from industry colleagues, or other objective demonstrations of accomplishments over an extended period of time. Of particular importance is evidence of the candidate's innovative content and societal impact; lower cost solution; originality and practicality; and evidence of implementation.

This award consists of \$500 USD, sculpture and a travel reimbursement of up to \$1,500 USD for the recipient to attend the presentation ceremony.

**Supporters:** A.P. Seethapathy's Family in partnership with IEEE Power & Energy Society and Industry Application Society

## **Current Committee Members:**

*Based on available information*

Chris Brooks (Chair)  
Nikos Hatziargyriou  
Tom Castle

## **Past Recipients:**

*Complete listing is available on website*

2011 Bob Dew  
2012 Wayne Carr  
2013 P.K. Sen  
2014 Gregory Wolven  
2015 Russ Dantzler  
2016 Gerald E. Hagar  
2020 Louis Toth  
2021 Satish Chaparala

# IEEE PES IAS A. P. Seethapathy Rural Electrification Excellence Award

**JEREMY L. JOHNSON**  
2022 Recipient

*For his significant and critical power engineering leadership in substation and transmission planning, design, and protection of a rural power utility that improved substantially its reliability and service provision*

**JEREMY L. JOHNSON** received a B.S. of Electrical Engineering from Southern Illinois University at Edwardsville (SIUE) in 2008. After graduating from SIUE, Jeremy worked at Nestlé before joining the Prairie Power, Inc. (PPI) team. Jeremy has been with PPI over 13 years and has worked his way up from a project engineer to be the VP of Engineering and Operations. While at PPI, Jeremy has lead many projects and initiatives for the organization. These include developing and implementing plans to replace substation transformers, voltage regulators, phasing out PCB contaminated equipment, and developing standards for stations and overhead lines. These standards included specifications for three phase power transformers and fiber optic equipment.



While working as a project engineer, Jeremy completed projects to replace all electro-mechanical relays on the PPI system with microprocessor based relays and all oil filled breakers with SF6 gas breakers. Jeremy has led projects to construct or rebuild multiple substations and has lead projects to construct or rebuild hundreds of miles of 69 kV and 138 kV transmission lines on the PPI system. Working with the local investor owned utility, Jeremy has also been able to identify and address PPI system needs that have lead to the construction of multiple new tie lines that will greatly increase reliability for PPI member consumers. Jeremy is currently leading an initiative to nearly double the size of the PPI transmission system over the next 5 years. Jeremy has also participated in or helped to lead three successful NERC audits at PPI and is PPI's NERC compliance officer. Jeremy earned his P.E. in 2013 and his MBA from SIUE in 2021.

# IEEE PES Award for Excellence in Power Distribution Engineering

Distribution represents a major utility investment for the transportation of electrical power. It is critical to the quality, reliability, and economy of the product. This award was established to recognize those individuals who have contributed to the growth and value of the technology.

This award is was established to recognize individuals who have made remarkable engineering contributions to the field of distribution technology. The selection committee considers all candidates brought to its attention whose work has resulted in substantial improvements to the effectiveness and utilization of power distribution.

This award consists of a plaque, a cash prize of \$1,000 USD, and a travel subsidy to attend the PES Awards Ceremony.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

J. S. McDaniel (Chair)  
R. C. Dugan  
L. Taylor  
P. Barker  
D. Ward  
T. Short

## **Past Recipients:**

*Complete listing is available on website*

2014 Thomas J. Tobin  
2015 Elisabeth A. Tobin  
2016 John J. Grainger  
2017 James D. Bouford  
2018 Daniel Sabin  
2019 Charles DeNardo  
2020 Thomas R. Beckwith  
2021 Thomas E. McDermott



# IEEE PES Award for Excellence in Power Distribution Engineering

**MARK MCGRANAGHAN**

2022 Recipient

*For technical leadership in standards related to electric distribution, power quality,  
and distributed energy resources*

**MARK MCGRANAGHAN** is a Fellow at the Electric Power Research Institute (EPRI). He provides technical and strategic input and guidance across the organization and for the electric utility industry around the world, working from the EPRI Europe office in Dublin, Ireland. He coordinates with research sectors at EPRI as well as the Technology Innovation function.

He has authored more than 70 technical papers and articles on topics ranging from power quality to insulation coordination of extra high-voltage (EHV) systems. He has been a leader in the development of smart grids for the last 25 years. He is an IEEE Fellow and in 2014 received the Charles Proteus Steinmetz Award for his expertise and dedication to power engineering standards development.

He is a co-author of the book, *Electrical Power Systems Quality*, now in its third edition, the premier textbook on power quality and compatibility since its initial release in 1996.

Mark has been with EPRI since 2003. He led EPRI transmission and distribution research with particular focus on advanced distribution and the smart grid. He coordinated closely with government smart grid demonstrations and other efforts around the world. He has been a strong contributor to IEEE distribution, power quality and smart grid committees and standards development and has supported international coordination of these efforts. Prior to joining EPRI, Mark was Vice President at Electrotek Concepts (1988-2003) and a Manager at McGraw-Edison/Cooper Power in Canonsburg, Pennsylvania (1978-1988).

Mark has Bachelor of Science and Master of Science degrees in electrical engineering from the University of Toledo. He also has a Master of Business Administration degree from the University of Pittsburgh.



# IEEE PES Charles Concordia Power Systems Engineering Award



To recognize outstanding contributions in the high-voltage electric power system-engineering field. This field encompasses Operations, Planning, Control, Modeling, and Analysis of high-voltage power systems and includes the system's interaction with turbine generators. This award is named for Charles Concordia, the most prestigious power system engineer, who received the Power Life Award in 1992 and the IEEE Medal of Honor in 1999 for "outstanding contributions in the area of power system dynamics."

Nominees for the award must have been an IEEE PES member for at least 10 years with tangible and visible achievements in one or more of the following areas of high-voltage bulk power system engineering: operations, planning, control, modeling, analysis, and interaction with turbine-generators. Selection factors include:

- ◆ Technical accomplishments relating to high-voltage bulk power system engineering
- ◆ Impact of the contributions on high-voltage bulk power systems
- ◆ Originality or innovative nature of the contributions
- ◆ Achievements in other fields
- ◆ Professional leadership

This award consists of a plaque and a cash prize of \$5,000 USD.

**Supporter:** GE Energy Connections

## **Current Committee Members:**

*Based on available information*

Oleg Wasynczuk, (Chair)  
James Edmonds  
Jim Michalec  
Kay Chen

## **Past Recipients:**

*Complete listing is available on website*

2014 Joe Hong Chow  
2017 Olgun Alsac and Brian Stott  
2018 Carson W. Taylor  
2019 Innocent Kamwa  
2020 Kenneth E. Martin

# IEEE PES Charles Concordia Power Systems Engineering Award

**JUAN J. SANCHEZ-GASCA**  
2022 Recipient

*For contributions to analysis and modeling of transient and small-signal stability  
of power systems*

**JUAN J. SANCHEZ-GASCA** joined the General Electric Company in 1983 following the completion of his Ph. D. in Electrical Engineering at the University of Wisconsin-Madison. At General Electric, he has worked extensively in the areas of dynamic simulation and control of power systems as a member of the engineering staff of GE Power Systems Energy Consulting. His work has covered a wide variety of subjects, which have ranged from small-signal and transient stability analyses to the implementation of specialized numerical techniques for power system simulation and control.

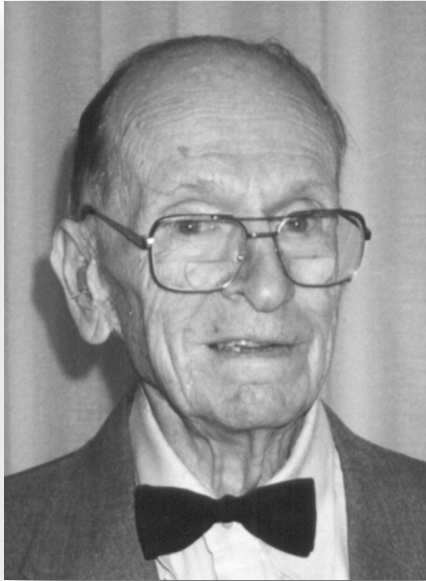
Early in his career he was involved in the development of system-wide centralized controllers for power system damping. Subsequent work involved implementation of variable time step simulation algorithms for performing long-term stability analyses, and the application of modal identification algorithms to time domain data.

In more recent years, he has been involved in the development and implementation of dynamic models for GE's production grade software. In this capacity, he has been a contributor to the development of GE wind turbine generator models and associated controls for application in transient stability simulations. He is currently involved in the development of generic models for the representation of renewable resources in transient stability programs. He is currently responsible for the development, implementation, and testing of dynamic models in GE's transient stability program, PSLF.

Dr. Sanchez-Gasca is an IEEE Fellow and for many years has been an active member of the Power System Dynamic Performance Committee where he has served in multiple roles.



# IEEE PES Cyril Veinott Electromechanical Energy Conversion Award



This award recognizes outstanding contributions in the field of electromechanical energy conversion. Research and developments on electric motors continued throughout the 20th century and into the 21st to the point that such devices have now become an integral part of our lives. The current ubiquitous presence of the electric motor in everything we do has resulted from the work of dedicated engineers throughout the world.

The award is named for the man responsible for numerous practical improvements in the design and application of electric motors over 50 years: Dr. Cyril Veinott.

Veinott made seminal contributions to the development of poly-phase induction motors, 400 Hz aircraft motors, and was a pioneer in the application of digital computers to the design of electric motors; was responsible for the early measurements and mitigation of electric motor noise; helped write many IEEE and NEMA standards for electric motors; and was the first person to be inducted into the Hall of Fame created by the Small Motor Manufacturers Association in 1985.

This award consists of a plaque and a cash prize of \$5,000 USD.

**Supporter:** Dr. Cyril Veinott

## **Current Committee Members:**

*Based on available information*

Oleg Wasynczuk, (Chair)  
James Edmonds  
Jim Michalec  
Kay Chen

## **Past Recipients:**

*Complete listing is available on website*

2014 James S. Edmonds  
2015 Babak Fahimi  
2016 William R. McCown  
2017 Gérard-André Capolino  
2018 Steve Pekarek  
2019 Kiruba Sivasubramaniam Haran  
2020 Dan M. Ionel  
2021 Bulent Sarlioglu

# IEEE PES Cyril Veinott Electromechanical Energy Conversion Award

**JURI JATSKEVICH**  
2022 Recipient

*For contributions to electrical machine models for transient simulations of electromechanical energy conversion in power systems*

**JURI JATSKEVICH** (Fellow, IEEE) received the Electrical Engineering Degree (B.S.E.E.), with Honors, from the Ukrainian National Agricultural University, Kyiv, in 1994. He received M.S.E.E. and Ph.D. degrees in Electrical Engineering from Purdue University, West Lafayette IN, USA, in 1997 and 1999, respectively. Since 2002, he has been at The University of British Columbia, Vancouver, BC, Canada, where he is a Professor in the Department of Electrical and Computer Engineering. His research interests include electromechanical energy conversion, electrical machines and drives, power electronic systems, and modeling and simulation of electromagnetic transients. Dr. Jatskevich chaired the IEEE CAS Power Systems and Power Electronic Circuits Technical Committee (2009–2010), and had served as an Associate Editor for the IEEE Transactions on Power Electronics (2008–2013), the Editor-in-Chief of the IEEE Transactions on Energy Conversion (2013–2019), and the Editor-in-Chief At-Large for the IEEE PES journals (2019–2020). He was the General Chair for the 2015 IEEE Control and Modeling for Power Electronics (COMPEL) conference. He is also chairing the IEEE Task Force on Dynamic Average Modeling, under Working Group on Modeling and Analysis of System Transients Using Digital Programs. Dr. Jatskevich is a registered Professional Engineer in British Columbia.



# IEEE PES Douglas M. Staszsky Distribution Automation Award



The IEEE PES Douglas M. Staszsky Distribution Automation Award was established to recognize those in the industry who have made a significant contribution to making the automation of electric utility distribution systems a practical reality. Doug Staszsky worked with a great deal of energy and passion to bring new technologies and new concepts to the field of distribution automation and to promote the value of investments in such systems to electric utility decision makers. This award was established to recognize people in the industry who have displayed that same energy and passion to the field of distribution automation and who have demonstrated success in the implementation of systems that provide real benefits for electric utilities and their customers.

The award consists of a sculpture, \$2,000 USD cash prize, and a travel stipend of up to \$2,000 USD.

**Supporters:** S&C Electric

## **Current Committee Members:**

*Based on available information*

Mohammad Shahidehpour (Chair)  
Jason Lombardo  
Aleksi Paaso  
Anil Pahwa  
Kevin Schneider  
S. S. Mani Venkata

## **Past Recipients:**

*Complete listing is available on website*

2014 George Larry Clark  
2015 S. S. Mani Venkata  
2016 Mohammad Shahidehpour  
2017 David Wade  
2018 Michael Simms

# IEEE PES Douglas M. Staszeky Distribution Automation Award

**JOSEP M. GUERRERO**

2022 Recipient

*For contributions to making the hierarchical control of microgrid systems a practical reality*

**JOSEP M. GUERRERO** (S'01-M'04-SM'08-FM'15) received a B.Sc. degree in telecommunications engineering, a M.Sc. degree in Electronics Engineering, and a Ph.D. degree in Power Electronics from the Technical University of Catalonia, Barcelona, in 1997, 2000 and 2003, respectively. Nowadays he is working towards a M.Sc. Degree in Psychobiology and Cognitive Neuroscience at the Autonomous University of Barcelona.

Since 2011, he has been a Full Professor with AAU Energy, Aalborg University, Denmark, where he is responsible for the Microgrid Research Program. From 2019, he became a Villum Investigator by The Villum Fonden, which supports the Center for Research on Microgrids (CROM) at Aalborg University, where Prof. Guerrero is also the founder and director of the same center ([www.crom.et.aau.dk](http://www.crom.et.aau.dk)).

His research interests are oriented to different microgrid frameworks in applications such as microgrid clusters, IoT-based and digital twins, cybersecurity, maritime microgrids for electrical ships, vessels, ferries and seaports, space microgrids applied to nanosatellites and closed bioecological systems, and smart medical systems. Prof. Guerrero is an Associate Editor for a number of IEEE Transactions. He has published more than 800 journal papers in the fields of microgrids and renewable energy systems, which are cited more than 80,000 times. During eight consecutive years, from 2014 to 2021, he was awarded by Clarivate Analytics (former Thomson Reuters) as a Highly Cited Researcher with 55 highly cited papers. In 2021, he received the IEEE Bimal Bose Award for Industrial Electronics Applications in Energy Systems for his pioneering contributions to renewable energy based microgrids.



# IEEE Power & Energy Society Leadership in Power Award

The IEEE PES Leadership in Power Award was established in 2007 to recognize industry leaders for exceptional contributions to the promotion of the electric power engineering profession. The award is particularly intended to highlight actions that have encouraged the development and growth of electric power engineering practitioners and the recognition of the contributions electric power engineers have made to society. In this era, electric utility leaders who recognize the crucial importance of power engineering in the safe, reliable, and economical generation. Transmission and distribution of electricity are rare, and this award is to recognize them for their insight and wisdom.

Recipients must be active in the electric power industry, but do not need to be IEEE members. Selection is based on evaluations of accomplishments as revealed by documented testimonials from industry members. Of particular importance is evidence of the candidate's promotion of the importance of the power engineering profession and the people practicing it. Work in encouraging industry involvement with university power engineering programs, encouraging young engineers through mentoring and career development programs. Recognition programs for power engineers, encouragement of professional activities by practitioners, etc., are also considered.

The award consists of a sculpture, \$2,000 USD cash prize, and a travel stipend of up to \$2,000 USD.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

Veronika Rabl (Chair)  
B. Chalamala  
Lalit Goel  
David Roop  
Joseph Svachula

## **Past Recipients:**

*Complete listing is available on website*

2014 David W. Roop  
2015 John W. Estey  
2016 Gordon van Welie  
2017 Joseph E. Svachula  
2019 Maureen A. Borkowski  
2020 M. Michelle Blaise  
2021 Mark Carpenter



# IEEE Power & Energy Society Leadership in Power Award

**CHRISTOPHER E. ROOT**

2022 Recipient

*For outstanding leadership and service to the power engineering community*

**CHRISTOPHER E. ROOT** recently retired as the Chief Operating Officer at VELCO after eight years. He was a Sr, Vice President at National Grid USA for 17 years in the areas of Operations, Asset Management and Engineering before joining VELCO. He is currently the President of the US National Committee of CIGRE. (USNC) He holds a BSEE in Power Systems from Northeastern University, a MSEE in Power Systems from Rensselaer Polytechnic Institute and attended the Program for Management Development at the Harvard Business School. He is a registered professional engineer in two states in the US and is a member of Eta Kappa Nu and Tau Beta Pi. He was on the Board of Directors for the North American Transmission Forum and was the 2021 recipient of Atwood Associate Award of the USNC. He was awarded the 2021 IEEE PES Meritorious Service Award. He has contributed numerous papers, participated in many conferences and given keynote addresses around the world.



# IEEE Power & Energy Society Lifetime Achievement Award

The IEEE PES Lifetime Achievement Award was established to recognize exceptional power engineers for outstanding career-long contributions to the art and science of electric power engineering. Candidates must have been in IEEE Power & Energy Society member in good standing for at least 10 years. Selection will be based on evaluation of accomplishments as revealed by published works, documented testimonials from industry colleagues, or other objective demonstrations of accomplishments over an extended period of work. Of particular importance is evidence of the candidate's contributions to the knowledge base of power engineering profession, whether in research, teaching, product development, electric system design, or electric utility operations.

This award consists of a \$2,000 USD cash prize, sculpture, and a travel stipend of up to \$2,000 USD for the recipient to attend the presentation ceremony.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

Mark Lauby (Chair)  
Ram Adapa  
Sasa Djokic  
Mark Lauby  
Loi Lei Lai

## **Past Recipients:**

*Complete listing is available on website*

2014 Virginia C. Sulzberger  
2017 Hugh Rudnick  
2019 Roy Billinton  
2020 Peter W. Sauer

# IEEE Power & Energy Society Lifetime Achievement Award

**CHANAN SINGH**  
2022 Recipient

*For sustained contribution to the education, research, and industrial adoption of reliability theory and practice in large power systems*

**CHANAN SINGH** is a University Distinguished Professor, Regents Professor and Irma Runyon Chair Professor in the Department of Electrical and Computer Engineering, Texas A&M University, College Station, Texas, USA. He served as the Department Head of Electrical and Computer Engineering Texas A&M from 1997 to 2005 and then as an Interim Head from 2012 to 2015. He also served as a Program Director at the National Science Foundation of USA and a Guest Professor at Tsinghua University. His research and consulting interests are in the foundational developments and applications of probabilistic methods for planning and operation of the electric power grid. He has authored/co-authored more than 400 technical papers and four books and has contributed to several books. He has also developed and contributed to computer programs for reliability evaluation used by the power industry. He has consulted with many major corporations and given short courses nationally and internationally.



Dr. Singh is a member of the US National Academy of Engineering and a Fellow of Indian National Academy of Engineering. He is a Fellow of the IEEE and Fellow of Chinese Society of Electrical Engineering. He is the recipient of the 1998 Outstanding Power Engineering Educator Award given by the IEEE Power Engineering Society. For his research contributions, he was awarded a D.Sc. degree by the University of Saskatchewan, Saskatoon, SK, Canada, in 1997. He was recognized with the Merit Award by the PMAPS International Society for life-long achievements. He is the inaugural recipient of the IEEE PES Roy Billinton Power System Reliability Award.

# IEEE PES Nari Hingorani Custom Power Award



The award has been named by PES to honor Dr. Narain Hingorani. Power electronics and other static controllers are making a major impact on future power systems through application in transmission, distribution, and small generation. Applications in transmission and distribution include high voltage direct current (HVDC), the Flexible AC transmission System (FACTS), and Custom Power. Since the introduction of FACTS and Custom Power concepts, the technology has been moving ahead at an increasing pace. Very significant near- to-long-term benefits of FACTS and Custom Power technologies are now recognized in the industry. The FACTS and Custom Power Awards are given to individuals who have made a major contribution to FACTS and Custom Power technologies and their applications.

The IEEE definition of Custom Power is:

"The concept of employing power electronic (static) controllers in 1 kV through 38 kV distribution systems for supplying a compatible level of power quality necessary for adequate performance of selected facilities and processes."

This award consists of a plaque, engraved medal, and a cash prize of \$2,000 USD.

**Supporters:** ABB, S&C Electric, Siemens AG, Silicone Power Corporation, The National Grid Company and Narain G. Hingorani

## **Current Committee Members:**

*Based on available information*

Ram Adapa (Chair)  
H. Akagi  
Rik W. De Doncker  
David Langner  
M. Szechtman  
G. F. Tang  
E. Watanabe

## **Past Recipients:**

*Complete listing is available on website*

2014 Harshad Mehta  
2016 Rambabu Adapa  
2017 Bhim Singh  
2021 Ambrish Chandra

# IEEE PES Nari Hingorani Custom Power Award

**MOJTABA MOHADDES**

2022 Recipient

*For contributions to the development of new technologies and study tools for  
Custom Power Applications*

**MOJTABA MOHADDES** received his Ph.D degree in Electrical Engineering from the University of Manitoba in 1997. From 1997 to 2002 he worked as an HVDC and FACTS specialist at Brandt Consultants Inc. in Winnipeg. In 2002 he co-founded TransGrid Solutions (TGS) where he is currently serving as the Chief Operating Officer (COO).

Dr. Mohaddes has spearheaded several key developments in the Custom Power Area. Among them he developed a "Hybrid VSC-Synchronous Condenser" system that uses a back-to-back converter arrangement to interface a synchronous condenser to the grid. This arrangement allows improved inertia and frequency support to the AC grid.

Dr. Mohaddes has also made several contributions to the field, most notably;

- ◆ The development of a new converter topology with a single MMC arm that can be used for DC to 3-phase AC conversion. This topology is thought to be very promising as it minimizes component count and is easy to implement.
- ◆ Innovative control method for flicker control using a STATCOM which achieves several objectives simultaneously, viz., voltage control, minimizing flicker, and the reduction of harmonics.
- ◆ A new design for a DC circuit breaker which has a lower component count over existing designs and hence has a lower cost and higher reliability.
- ◆ A new sub-module topology for MMC converters called "modified half bridge" which enables the converter to clear dc faults
- ◆ A new submodule structure that mimics the behavior of an H bridge submodule, but has only two IGBT switches.
- ◆ Finally, Dr. Mohaddes provided consulting services for power hardware and control system design for several Static VAR Compensators and STATCOMS around the world.

Mojtaba is a senior member of IEEE and a member of Cigre and has contributed to several IEEE and Cigre working groups. He is currently the convener of the working group B4.71 for VSC-HVDC insulation coordination.



# IEEE PES Nari Hingorani FACTS Award



The award has been named by PES to honor Dr. Narain Hingorani. Power electronics and other static controllers are making a major impact on future power systems through application in transmission, distribution, and small generation. Applications in transmission and distribution include high voltage direct current (HVDC), the Flexible AC transmission System (FACTS), and Custom Power. Since the introduction of FACTS and Custom Power concepts, the technology has been moving ahead at an increasing pace. Very significant near- to - long-term benefits of FACTS and Custom Power technologies are now recognized in the industry.

The FACTS and Custom Power Awards are awarded to individuals who have made a major contribution to FACTS and Custom Power technologies and their applications.

The IEEE definition of FACTS is:

"Alternating Current Transmission Systems incorporating power electronics-based and other static controllers to enhance controllability and power transfer capability."

This award consists of a plaque, engraved medal, and a cash prize of \$2,000 USD.

**Supporters:** ABB, S&C Electric, Siemens AG, Silicone Power Corporation, The National Grid Company and Narain G. Hingorani

## **Current Committee Members:**

*Based on available information*

Jingxuan (Joanne) Hu (Chair)  
Bruce Fardanesh  
Ben Mehraban  
Mojtaba Mohaddes  
Georg Pilz  
G. F. Tang  
Edson Watanabe  
Shukai Xu

## **Past Recipients:**

*Complete listing is available on website*

2014 Ned Mohan  
2015 Richard Piwko  
2018 Bruce Fardanesh  
2020 R. P. Sasmal  
2021 Rajiv K. Varma

# IEEE PES Nari Hingorani FACTS Award

**TAIXUN FANG**  
2022 Recipient

*For his contribution to the research and development of high-capacity FACTS equipment and their applications to improve the control and stability of electrical power transmission networks*

**TAIXUN FANG** received his BS degree from Shanghai Jiao Tong University in 1995 and MS degree from Nanjing Automation Research Institute in 1998, respectively. In 2021, he obtained his Doctoral degree from Shanghai Jiao Tong University. Dr. Fang has been in the employ of NR Electric Co., Ltd., since 1998. In a career spanning over 20 years, his contributions cover the research, development, and application of various FACTS technologies. Additionally, he leads the technical innovations of HVDC transmission converters and DC circuit breakers.



Dr. Fang's technical accomplishments related to FACTS include his creativity of technologies on FACTS research and development in various fields such as electrical, electronic, mechanical, thermal, and digital control. His work significantly raised the capacities of FACTS equipment whose applications improved the flexibility and stability of power grids.

In 2013, Dr. Fang led his team to develop the 66kV 360Mvar\*2 Static Var Compensator (SVC) and the 750kV 390Mvar\*2 Controlled Shunt Reactor (CSR) which were successfully applied at Shazhou 750kV substation in the Gansu province of China. Based on the coordinated control of these FACTS devices, it became possible to transmit large-capacity power through a 2000km long distance AC transmission line.

In 2016, Dr. Fang and his team developed the STATCOM with capacity up to 100Mvar so that three 35kV  $\pm 100$ Mvar STATCOMs were successfully utilized to support the HVDC power reception for Jinsha river hydropower corridor in southwest China. In 2018, a similar application was implemented in Suzhou to cooperate with the reception of  $\pm 800$ kV Jin-Su UHVDC project in east China.

At present, Dr. Fang is also academically active in IEEE, CIGRE and IEC. He has published more than 63 papers in journals, conferences, and owns 53 patents authorized by China and nine international patents.

# IEEE PES Outstanding Power Engineering Educator Award

This award recognizes excellence in classroom teaching, course development and the promotion of student, local, transnational and technical activities.

The recipient must provide classroom instruction in electrical engineering at a college or university with an accredited electrical engineering program or equivalent, be a member of PES for at least one year, and be nominated by any PES member and endorsed by the chapter or technical committee of which the individual is a member.

The award consists of a plaque and cash prize of \$1,000 USD.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

Antonio Conejo (Chair)  
Ross Baldick  
Mariesa Crow  
Antonio Gomez Exposito  
M. Illic  
M. Ni  
Shmuel Oren  
Mohammad Shahidehpour

## **Past Recipients:**

*Complete listing is available on website*

2014 Ali Abur  
2015 Ross Baldick  
2016 Mariesa L. Crow  
2017 Claudio Adrian Cañizares  
2018 Antonio J. Conejo  
2019 Antonio Gómez-Expósito  
2020 Marija Ilić  
2021 Shmuel Oren



# IEEE PES Outstanding Power Engineering Educator Award

**JOE HONG CHOW**  
2022 Recipient

*For contributions to mentorship and education on power system stability and control*

**JOE HONG CHOW** is an Institute Professor of Electrical, Computer, and Systems Engineering, at Rensselaer Polytechnic Institute, Troy, New York. He received his BS degrees in Electrical Engineering and Mathematics from the University of Minnesota in 1974, and his MS and PhD degrees from the University of Illinois, Urbana-Champaign, in 1975 and 1977, respectively. He worked in the power systems business at General Electric Company for nine years before joining Rensselaer in 1987. At Rensselaer, he engages in research, teaching, and student mentoring.



In his 36 years of teaching at Rensselaer, he has written and edited seven textbooks and monographs, including two textbooks on power system dynamics and control. He co-developed the Power System Toolbox, the first MATLAB-based power system power flow and dynamic simulation program, which has been downloaded thousands of times. He has graduated 28 PhD students, including four holding full professor positions in universities. From 2012 to 2019, under the support of the NSF/DOE CURENT ERC, he developed and held the annual Smart Grid summer camp for high school students interested in STEM. In addition to many technical publications, he has also published several papers on power system education in PES and other journals.

He is a Life Fellow of IEEE, a member of the US National Academy of Engineering, and a Foreign Fellow of the Chinese Society of Electrical Engineering. He received the Donald Eckman Award from the American Automatic Control Council, the Control Technology Award from the IEEE Control Systems Society, and the Charles Concordia Power System Engineering Award from the IEEE Power and Energy Society. He was recently appointed a Distinguished Visiting Professor at Tsinghua University, Beijing, China.

## IEEE Fellows Class of 2022 (PES)



**Anurag K. Srivastava**

*for contributions to electric grid resiliency*

**Bulent Sarlioglu**

*for applications of electrical drives in the  
aerospace industry*



**Chul-hwan Kim**

*for contribution to protective relaying  
methods to reduce power system outages*

**Donald G. Dunn**

*for contributions to process control systems*



**Gianmario Pellegrino**

*for contributions to Synchronous Reluctance  
machines identification and control*

## IEEE Fellows Class of 2022 (PES)

**João P. S. Catalão**

*for contributions to power system operations  
and demand response*



**King-Jet Tseng**

*for contributions to permanent magnet  
machines and distributed energy resources*



**Kiyohisa Terai**

*for contribution to optical fiber sensors and  
electrical discharge applications*



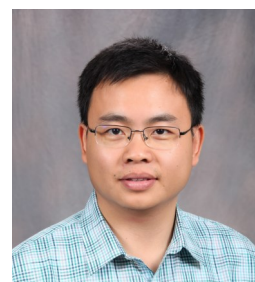
**Lei Wu**

*for contributions to stochastic modeling and  
optimization of power systems and large  
interdependent infrastructures*



**Le Xie**

*for contributions to economic and secure operations of power  
systems and big data analytics*



## IEEE Fellows Class of 2022 (PES)



**Liangzhong Yao**

*for leadership in HVDC grid supporting integration of large wind farms*

**Marjan Popov**

*for contributions to high-frequency transformer and circuit breaker modeling*



**Maryam Saeedifard**

*for contributions to modulation, control and protection of multilevel converters for high-voltage DC transmission*



**Mladen Sasic**

*for contributions to development of diagnostics testing of motor and generator windings*



**Mukesh Nagpal**

*for contributions to economic and safe integration of distributed renewables in electric utility networks*



## IEEE Fellows Class of 2022 (PES)

**Qi Huang**

*for leadership in informatics for smart electric energy system*



**Rajapandian Ayyanar**

*for contributions to power conversion and grid integration of renewable resources*

**Satish J. Ranade**

*for contributions to integration of renewable and distributed energy resources into power systems*



**Trevor Maguire**

*for leadership in the development of Large Scale Real-Time Power Systems Simulators*

## IEEE Fellows Class of 2022 (PES)

*Also elevated to Fellow in 2022, pictures not provided*

### **Abdolhosein Nasiri**

*for contributions to high power converters for energy storage systems and microgrids*

### **Babak Nahid-mobarakeh**

*for contributions to service continuity of electric motor drive systems*

### **Lingling Fan**

*for contributions to stability analysis and control of inverter-based resources*

### **Mario Paolone**

*for contributions to situational-awareness and control of power distribution systems*

### **Mikhail Vaiman**

*for contributions to methods and software for real-time analysis and control of electric power systems*

### **Richard Tabors**

*for development of technologies for real-time locational pricing of electricity for efficient electric power markets*

### **Subhashish Bhattacharya**

*for contributions to power conversion systems and active power filters*

# IEEE Fellows Class of 2022 (PES)

**Tianshu Bi**

*for contributions to synchrophasor technology and  
protective relay applications*

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## 2022 PES Fellow Committee Members:

Joydeep Mitra (Chair, Region 4)  
Iqbal Husain (Vice Chair, Region 3)  
Mark Lauby (Vice Chair, Region 3)  
Eric Udren (Vice Chair, Region 2)

**Members:**

Richard E. Brown, Region 5  
Chandan Chakraborty, Region 10  
Mahmud Fotuhi-Firuzabad, Region 8  
Aniruddha M. Gole, Region 7

Jinghan He, Region 10  
Ian Hiskens, Region 4  
Gary Hoffman, Region 1  
Hideki Motoyama, Region 10  
Vicenzo Piuri, Region 8  
Paulo F. Ribeiro, Region 9  
Kevin Schneider, Region 6  
Noel Schulz, Region 6

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## 2022 PES Fellow Nomination Resource Committee Members:

Sakis Meliopoulos, Chair

**Members:**

Chanan Singh  
Costas Vournas

Murty Yalla  
Branislav Djokic  
Chongqing Kang  
Mani Venkata

Email: [Fellow\\_Nomination@ieee.org](mailto:Fellow_Nomination@ieee.org)

<https://www.ieee-pes.org/professional-development/fellow-nomination>

# IEEE PES Outstanding Young Engineer Award

This award recognizes outstanding contributions in the leadership of technical society activities including local and/or transnational PES and other technical societies, leadership in community and humanitarian activities, and evidence of technical competence through significant engineering achievements.

The recipient of the IEEE PES Outstanding Young Engineer Award must be 35 years of age or under on January 1 of the year the award is presented, be a member of PES for at least one year, and have a minimum of a B.S. in Electrical Engineering from an accredited electrical engineering program or equivalent. He or she can be nominated by any PES member and must be endorsed by the chapter or technical committee of which the individual is a member.

This award consists of a plaque and the recipient will designate a college or university with an accredited program in electrical engineering or equivalent to receive a \$2,000 USD scholarship for an electrical engineering undergraduate.

(Through 2007, the recipient received the Walter Fee Outstanding Young Engineer Award)

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

Joydeep Mitra (Chair)  
Ali Chowdhury  
Wenzhong (David) Gao  
Alejandro Dominguez-Garcia  
Mario Paolone  
Dagmar Neibur

## **Past Recipients:**

*Complete listing is available on website*

2014 Shay Bahramirad  
2015 Siddharth Suryanarayanan  
2016 Kory W. Hedman  
2017 Le Xie  
2018 Ali Mehrizi-Sani  
2019 Sairaj Dhople  
2020 Zhaoyu Wang  
2021 Daniel Kenneth Molzahn



# IEEE PES Outstanding Young Engineer Award

**JUNBO ZHAO**

2022 Recipient

*For developments in robust dynamic state and parameter estimation, physics-informed learning and uncertainty quantification, and cybersecurity for power systems*

**JUNBO ZHAO** is an Associate Director of the Eversource Energy Center for Grid Modernization and Strategic Partnerships and an assistant professor in the Department of Electrical and Computer Engineering at the University of Connecticut. He received the Ph.D. degree from the Bradley Department of Electrical and Computer Engineering at Virginia Tech, in 2018. He did the summer internship at Pacific Northwest National Laboratory from May to August 2017. He is currently the Chair and Officer of multiple IEEE PES Task Forces, Working Groups, and subcommittees. He has published three book chapters and more than 140 peer-reviewed journal and conference papers, where more than 70 appear in IEEE Transactions. Six of his papers have been listed as Highly Cited Papers that reflect the top 1% (one hot paper with Top 0.1%) of papers by field according to Web of Science. His research interests are cyber-physical power system modeling, estimation, security, dynamics and stability, uncertainty quantification, renewable energy integration and control, robust statistical signal processing, and machine learning. He serves as the associate editor of more than six international journals, including the *IEEE Transactions on Power Systems* and *IEEE Transactions on Smart Grid*. Nine of his conference papers won the best paper awards, such as the 2020-2022 IEEE PES General Meeting and 2021 IEEE Sustainable Power and Energy Conference. He received the 2022 IEEE PES Outstanding Young Engineer Award, 2021 IEEE PES Outstanding Volunteer Award, 2021 IEEE Transactions on Power Systems Best Paper Award, the 2021 IEEE PES Technical Committee Working Group Recognition Award for Outstanding Technical Report and the 2020 IEEE PES Chapter Outstanding Engineer Award. He has been listed as the 2020 and 2021 World's Top 2% Scientists released by Stanford University in both Single-Year and Career tracks.



# IEEE PES Patrick P. Ryan Meritorious Service Award



The IEEE PES Meritorious Service Award was originally created to recognize a PES Member who has made outstanding contributions in leadership, technical activities, and educational activities of the IEEE Power & Energy Society.

After the passing of Patrick P. Ryan, who served as PES Executive Director from 2007 to 2020, it only seemed fitting to rename this award in his memory. The scope of the award was expanded to include recognizing a Senior PES Member or higher grade member who not only met the qualifications already mentioned, but also made outstanding contributions in global inclusion and membership growth of the IEEE Power & Energy Society. These were all areas Pat Ryan concentrated on during his time with PES.

This award consists of a plaque and a travel reimbursement of \$2,000 USD for a recipient in the U.S.A or \$2,500 USD for a recipient residing outside the U.S.A to attend the presentation ceremony.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

John D. McDonald (Chair)  
Miroslav Begovic  
John J. Paserba  
B. Don Russell  
Christopher E. Root

## **Past Recipients:**

*Complete listing is available on website*

2014 Hans Weinrich  
2015 John D. McDonald  
2017 Murty P. Bhavaraju  
2018 John J. Paserba  
2019 Miroslav M. Begovic  
2020 Christopher E. Root

# IEEE PES Patrick P. Ryan Meritorious Service Award

**DAMIR NOVOSEL**

2022 Recipient

*For leadership and service to the IEEE Power & Energy Society*

**DAMIR NOVOSEL**, President and Founder of Quanta Technology, has served IEEE PES in many leadership roles that include President of the society (reaching the goal of 40,000 members), Chair of the Technical Council and Vice President of Technical Activities, in addition to serving on several Technical Committees, particularly the Power System Relaying Committee. In his role as Chair of the Technical Council, he initiated the process to reorganize technical committees and followed up with establishing a new structure as PES President-Elect. Additionally, Damir facilitated industry engagement at global conferences, including global workshops focused on chapter volunteers and championing the expansion of ISGT series in Latin America.



He formed the IEEE PES Industry Technical Support Leadership Committee, which has published, numerous, well-received publications on “fast-track”, and established the successful PES Corporate Engagement Program. He was also engaged in the establishment of Executive Advisory Council that includes senior leadership of major power companies. These organizations expanded PES global outreach to industry, government, and regulatory bodies. Notable achievements also include his leadership role in the IEEE Joint Task Force that documented extensive feedback review of the US DOE 2014 Quadrennial Energy Review, his expert testimony to FERC commissioners in 2018, and presentation to US Secretary of Energy Steven Chiu.

As part of collaborative engagements with sister societies, he played an important role in the eGrid conference series in collaboration with PELS. He also served the broader IEEE mission through a number of leadership roles, including chairing IEEE Smart Cities and providing various service to the Standards Association Standards Board and Nominations & Appointments Committee. Damir has also played an important role in leadership development and mentoring, including serving as Adjunct Professor at North Carolina State University. Throughout his career, he has developed and mentored technical experts and business leaders. He has been a champion of gender, global, and technical diversity, and of cooperation between academia and industry. Damir has been deeply involved with the Women in Power and Young Professional organizations, including significant number of panels and presentations to foster mentorship and collaboration.

# IEEE PES Prabha S. Kundur Power System Dynamics and Control Award



As the development of the complex system known as the interconnected bulk power system unfolded around the world, it became critical to understand its nonlinear behavior as well as develop and deploy system controls vital to manage dynamic system behavior to ensure reliability. Even today, as the bulk power system evolves to accommodate an unprecedented change in resource mix and technology innovation, it is critical to manage integration of new and emergent technologies. Without this ability to model the general dynamic behavior of the bulk power system and devise suitable coordinated systems controls, the modernization of the bulk power system would be inhibited. These developments come from the work of dedicated engineers who devote their careers to the deep understanding of bulk power system dynamic behavior, including transient, small-signal, voltage, and frequency stability, along with the development of controls vital to support bulk power system

security and quality of power supply.

Recipients must have been an IEEE PES member for at least 10 years with tangible and visible achievements in this area.

This award consists of a plaque and a cash prize of \$3,000 USD.

**Supporters:** Friends and colleagues of Prabha S. Kundur

## **Current Committee Members:**

*Based on available information*

Pete Sauer (Chair)  
Göran Andersson  
Nikos Hatziargyriou  
Federico Milano  
Costas Vournas

## **Past Recipients:**

*Complete listing is available on website*

2014 Peter W. Sauer  
2015 Nelson Martins  
2016 Göran Anderson  
2017 Nikolaos Hatziargyriou  
2018 Vijay Vittal  
2019 Constantine Vournas  
2020 Michael J. Gibbard  
2021 David J. Hill

# IEEE PES Prabha S. Kundur Power System Dynamics and Control Award

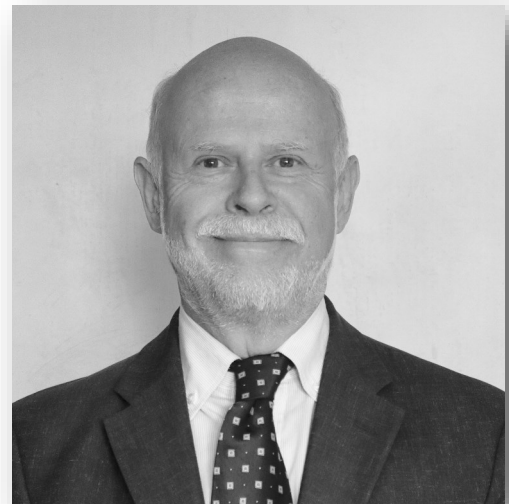
**THIERRY VAN CUTSEM**

2022 Recipient

*For fundamental contributions to voltage security analysis, protection and control*

**THIERRY VAN CUTSEM** received M.Sc. and Ph.D. degrees from the University of Liège, Belgium.

At his retirement in 2021 he was a Research Director of the Fund for Scientific Research (FNRS) and an Adjunct Professor at the Department of Electrical Engineering and Computer Science of the University of Liège. He is now a consultant for industry and academia. He has 42 years of research activities in several areas of power system dynamics including monitoring, control, time-domain simulation and security assessment. His best-known contributions have been in the field of power system voltage stability, in particular voltage security analysis, protection and control.

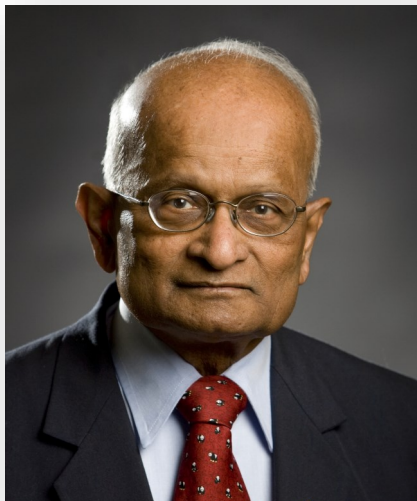


He started working on this topic in the late 80's, at a time when power system voltage instability was not well understood. His early contributions were devoted to assessing the mechanisms of instability. Subsequently, he developed simulation tools with applications in planning, operational planning, real-time and operator training. This software has grown in the context of tight collaborations with transmission system operators such as RTE in France, Hydro-Québec in Canada, ELIA in Belgium, HTSO in Greece and Amprion in Germany.

Through his career, Thierry has been working on various topics of power engineering such as transient angle stability analysis, large-scale state estimation, network state tracking, early detection and emergency control of voltage instability, the development of efficient solvers for time-domain simulations, short-term voltage stability, dynamic modelling and control of active distribution networks hosting inverter-based resources, and HVDC grid control.

He was elevated Fellow of the IEEE in 2005. Besides being active in IEEE and CIGRE working groups and Task Forces, he served the Power System Dynamic Performance Committee as Secretary, Vice-Chair and Chair, from 2009 to 2014.

# IEEE Power & Energy Society Ramakumar Family Renewable Energy Excellence Award



This award, established in 2011, recognizes outstanding contributions in the field of developing, utilizing and integrating renewable energy resources, particularly those that have minimal carbon footprints, in the national and global energy scenarios. Feeding the electrical energy generated from innovative conversion technologies into conventional utility grids and operating the combined system satisfactorily, plus the effective use of locally available renewable energy resources in remote and rural areas to improve the human living environment are major components in this mix. The need to stimulate and encourage activity towards these goals is the primary objective of this award.

Recipients must be members of IEEE and PES with clearly identifiable and valuable contributions in the field of renewable

energy.

This award consists of a plaque and cash prize of \$1,000 USD.

**Supporter:** The Ramakumar Family

## **Current Committee Members:**

*Based on available information*

Charles Smith (Chair)  
Ben Kroposki  
Nick Miller  
Antje Orths  
Hannele Holttinen  
Mohammad Shahidehpour

## **Past Recipients:**

*Complete listing is available on website*

2014 J. Charles Smith  
2015 Ziyad M. Salameh  
2016 M. Hashem Nehrir  
2017 Thomas S. Key  
2018 Nicholas W. Miller  
2019 Mohammad Shahidehpour  
2020 Benjamin Kroposki  
2021 Mukesh Nagpal

# IEEE Power & Energy Society Ramakumar Family Renewable Energy Excellence Award

**MIROSLAV M. BEGOVIC**

2022 Recipient

*For leadership in education and development of tools and protection techniques for integration of renewable generation in electric power systems*

**MIROSLAV M. BEGOVIC** is a Moore Professor and Head of Department of Electrical and Computer Engineering at Texas A&M University, and Director of Division of Electrical and Computer Engineering, Texas A&M Engineering Experiment Station, Texas A&M University. Prior to that, Dr. Begovic was a faculty member (1989-2015) and Professor and Chair of Electric Energy Research Group (2010-2015) at the School of Electrical and Computer Engineering at Georgia Institute of Technology. He received a Ph.D.E.E. from Virginia Tech. Dr. Begovic's work on renewable energy systems (especially PV systems) and monitoring, analysis, and control of power systems, as well as applications of asset management, wide area monitoring and protection technologies in solving power system problems, has resulted in a number of projects for government and industrial sponsors, and over 250 publications. Dr. Begovic is a Life Fellow of IEEE, and laureate of 2019 IEEE PES Meritorious Service Award and 2022 Ramakumar Family Renewable Energy Excellence Award recipient. He is also a member of Sigma Xi, Tau Beta Pi, Phi Kappa Phi and Eta Kappa Nu. Professor Begovic has served as Member and Chair of the IEEE PES Governing Board (2007-2017), as well as President-Elect, President and past President of the Power and Energy Society of the Institute of Electrical and Electronics Engineers (IEEE PES), the second largest IEEE Society (currently over 40,000 members).



# IEEE PES Robert P. Noberini Distinguished Contributions to Engineering Professionalism Award



The IEEE PES Robert P. Noberini Distinguished Contributions to Power Engineering Professionalism Award was established in 2006 to honor members of the power engineering profession for long term dedicated effort and outstanding accomplishments in advancing the aims of IEEE professional activities in the IEEE Power & Energy Society (PES). The award is named for Robert Noberini in recognition of his many years of service to IEEE and PES.

To be eligible, recipients should be at least IEEE Senior Members and professionals of engineering. Selection for the award is based on the dedication, effort, quality and most particularly on clearly successful accomplishment and achievement in advancing the social, economic, legal and ethical aims of the IEEE professional activities. In particular, factors to be considered include time as IEEE volunteer, contributions to Power Engineering activities, contributions to IEEE activities, IEEE member grade and PES membership.

This award consists of a plaque, and a travel stipend of up to \$1,500 USD.

**Supporters:** Donors to the PES Award Endowment Fund

## **Current Committee Members:**

*Based on available information*

Robert Dent (Chair)  
W. Perlman  
Roger Sullivan

## **Past Recipients:**

*Complete listing is available on website*

2015 John J. Paserba  
2018 Elizabeth T. B. Johnston



# IEEE PES Robert P. Noberini Distinguished Contributions to Engineering Professionalism Award

**SIMAY AKAR**

2022 Recipient

*For contributions and leadership to IEEE and PES professional activities in support of Student Members, Young Professionals, and Women in Engineering*

**SIMAY AKAR** is an entrepreneur with a reputable corporate industrial background and experience in the energy industry. She specialized in photovoltaic manufacturing, battery storage for electric vehicles and renewable energy technologies and clean energy market development. Akar is currently the Chief Commercial Officer & Co-Founder at Innoses.

Her past roles include Sales & Marketing Director of EkoRE – Eko Renewable Energy and Head of Overseas Marketing at Talesun Solar. Akar has worked in China and Turkey where she focused on international commercial activities and has been employed by CSUN Eurasia, Schneider Electric, Arcelik (BEKO), and Lucida Solar.

In addition to her professional acclimates, she is an IEEE Senior Member, acknowledged volunteer since 2007. Simay is a graduate of Middle East Technical University, Ankara, Turkey and she participated in the Energy Innovation and Emerging Technologies Program at Stanford University.

Simay has been a Certified Soft Skills Trainer since 2008. Additionally, she is a METU Alumni Association Energy Commission Member, Turkish Women in Renewables North America Liaison & Sailing Team Member, KYSKD (Female Sailors Sports Club Association) member. Additionally, she is Licensed Sailor Athlete at the Turkish Sailing Federation and also a swimmer.

An IEEE VOLT Graduate and IEEE EA TISP Champion. She has been serving several volunteer membership and leadership positions in different IEEE Organizational Units since 2007 and recently she is Chair of IEEE PES Young Professionals.

She has received several awards from IEEE and other corporations including:

- ◆ WINE (Women in New Energy) Entrepreneur of The Year 2022 Award
- ◆ IEEE WIE Inspiring Member of The Year 2020 (Honorable Mention)
- ◆ IEEE Global Young Professionals Hall of the Fame Award 2018 (PES YP Team)
- ◆ IEEE MGA (Global) Young Professionals Achievement Award 2017
- ◆ IEEE MGA (Global) Achievement Award 2014 (as IEEE Day Team Lead)
- ◆ IEEE Day Leadership Award 2013
- ◆ CSUN Outstanding Staff Award 2014



# IEEE PES Roy Billinton Power System Reliability Award



This award was created in honor of Roy Billinton, professor emeritus at the University of Saskatchewan, Canada. Billinton is an IEEE Life Fellow, foreign associate of the U.S. National Academy of Engineering, fellow of the Royal Society of Canada, and fellow of the Canadian Academy of Engineering. He has published over 850 papers and eight books; has given tutorials, presentations, and seminars in over thirty countries; delivered over 100 short courses on system reliability; and served on IEEE PES committees and other industry committees. He has also supervised more than 120 Ph.D. and master's degree candidates who are spread throughout the United States, Canada, and other countries.

Areas covered by the award include modeling, analysis, and data development to quantify power system reliability, and assessments to plan and operate reliable electric utility generation, transmission, distribution systems, or interconnected power system grids.

The recipient of the IEEE PES Roy Billinton Power System Reliability Award receives a plaque and a cash prize of \$3,000 USD.

**Supporter:** Past students, other associates of Dr. Roy Billinton and selected organizations

## **Current Committee Members:**

*Based on available information*

A. M. Leite da Silva (Chair)  
Ron Allan  
George J. Anders  
Mark Lauby  
Peng Wang

## **Past Recipients:**

*Complete listing is available on website*

2014 Mark G. Lauby  
2015 Murty P. Bhavaraju  
2016 Robert James Ringlee  
2017 Alton DeWitt (Dee) Patton  
2018 George J. Anders  
2019 Joydeep Mitra  
2020 Milorad Papic  
2021 Chongqing Kang

# IEEE PES Roy Billinton Power System Reliability Award

**ALI ASRAF CHOWDHURY**

2022 Recipient

*For contributions to the development and practical applications of power system reliability methods*

**ALI ASRAF CHOWDHURY** is currently the Vice President of Transmission at 8minute Solar Energy, El Dorado Hills, CA. He has about three decades of electric utility industry experience in system reliability planning, operating, renewable energy integration and asset management. Before joining 8minute Solar Energy, Dr. Chowdhury was the Director of Regional Transmission South at the California Independent System Operator (CAISO), Folsom, CA.

He has authored/co-authored over 150 technical papers on power system reliability planning and operating published in peer reviewed journals and transactions, and a book on Power Distribution System Reliability- Practical Methods and Applications published by John Wiley & Sons.

Dr. Chowdhury received his MSc and PhD degrees in electrical engineering with specialization in power systems reliability from the University of Saskatchewan, Saskatoon, Canada, and his MBA from the St. Ambrose University, Davenport, Iowa. He has received numerous technical awards from national and international engineering organizations for his contributions to the science of electrical engineering. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), a Fellow of the British Institution of Engineering and Technology (IET), a Chartered Engineer in the United Kingdom, a Registered Professional Engineer in the USA and Canada.



# IEEE PES Uno Lamm High Voltage Direct Current Award



The IEEE PES Uno Lamm High Voltage Direct Current Award was established in 1980 by the recommendation of the DC Transmission Subcommittee. It provides a means for special recognition of those outstanding engineers and scientists who have contributed to the advancement of high voltage direct current (HVDC) technology.

The award is named for the man most responsible for the research and development that led to the first practical application of an HVDC connection between AC systems. The keys to the solution of this problem were the development of an electric valve which could be used in high capacity, high voltage converters, and a fundamental system technology. This

outstanding engineer and scientist was Dr. Uno Lamm, an IEEE Fellow and the 1965 recipient of the Benjamin Lamme Medal.

Dr. Lamm graduated from the Royal Institute of Technology, Stockholm, in 1927 and acquired his Doctorate of Technology in 1943. He joined ASEA in 1928 with the task of developing mercury arc rectifiers as an early assignment. During his career with ASEA, he received progressively more responsible appointments: head of the Rectifier Department; head of ASEA's Nuclear Department; Electrotechnical Director; and Consultant to the President of ASEA. Dr. Lamm passed away in 1989 at the age of 85.

The IEEE PES Uno Lamm HVDC Award consists of a bronze medal, a plaque and cash prize of \$1,000 USD.

**Supporters:** IEEE Power & Energy Society, Hydro-Quebec, ABB Power Systems and General Electric

## **Current Committee Members:**

*Based on available information*

Abhay Kumar (Chair)  
Carl Barker  
Mike Barnes  
Marcus Haeusler  
Rao Hong  
Vajira Pathirana  
Mohamed Rashwan  
Maryam Salimi

## **Past Recipients:**

*Complete listing is available on website*

2014 Jose Antonio Jardini  
2015 Rainer Marquardt  
2017 Zehong Liu  
2018 Hong Rao  
2019 Abhay Kumar (Jain)  
2020 Hartmut Huang  
2021 Hans Bjorklund

# IEEE PES Uno Lamm High Voltage Direct Current Award

**COLIN DAVIDSON**

2022 Recipient

*For advancements in the field of HVDC power electronic valve development and testing*

**COLIN DAVIDSON** graduated from the University of Cambridge with a degree in Natural Sciences, specializing in physics, in 1987. He started his professional career in January 1989 as a trainee thyristor valve design engineer for the HVDC/FACTS business of GE (then GEC) in Stafford, United Kingdom. He progressed through the positions of valve department manager, Engineering Director and R&D Director to his present position of Consulting Engineer. He was a member of the team that developed the world's first MMC-based STATCOM and led the teams that developed GE's current range of HVDC valves (both LCC and VSC) and installed GE's first HVDC VSC demonstrator. He also devised the innovative main circuit topology used in the world's first HVDC-based transmission line de-icer.



He has been an active contributor to many IEC and CIGRE working groups, including as convenor of the IEC working groups for calculation of power losses in VSC valves and for DC-side equipment in LCC HVDC systems, for which he won the IEC "1906" award twice, in 2012 and 2020 respectively. He also served as convenor or member of the IEC working groups concerned with losses in LCC HVDC converter stations, HVDC terminology, and type testing of HVDC and SVC valves, and was also a member of the CIGRE working group on loss measurement in VSC valves.

He was a major contributor to the CIGRE "Green Book of FACTS" published in 2020, has more than 50 published papers, and is the inventor or co-inventor on more than 50 patents or patent applications. He is a Chartered Engineer and Fellow of the Institution of Engineering and Technology (IET) in the UK.

# IEEE PES Wanda Reder Pioneer in Power Award



The IEEE PES Women in Power Committee was created to foster a more diverse leadership by supporting career advancement, networking, and education of women in the electric power and energy industry. One important way this mission is supported is through the formal recognition of a worthy female member of this community.

The IEEE PES Wanda Reder Pioneer in Power Award seeks to recognize a deserving female in the field of power engineering. The award is intended to provide visibility to the awardee's efforts, accomplishments, and future potential while empowering her to be an inspiration and role model for other women in the industry. The award is in honor of the first female president of IEEE PES, Ms. Wanda Reder.

In addition to recognizing the recipient, the award brings attention to the value of fostering a diverse talent pool. It further empowers the recipient to have a greater influence on the growth and development of others in the industry.

The recipient of this award must be female and at least senior members of the IEEE PES with tangible and visible achievements in one or more of the following:

- Innovation and technology development
- Entrepreneurship and innovative business models
- Education and mentorship
- Related achievements

The awardee will receive a plaque and cash prize of \$1,500 USD.

**Supporter:** S&C Electric

## **Current Committee Members:**

*Based on available information*

Ruomei Li (Chair)  
Laila Beavogul  
M. Michelle Blaise  
Darcy Immerman  
Meliha B. Selak  
Lisien Leon Quillas

## **Past Recipients:**

*Complete listing is available on website*

2014 Jessica J. Bian  
2015 Sandra Cecilia Vega Gomez  
2016 Jennifer T. Sterling  
2017 Meliha B. Selak  
2018 Bhuvanewari Gurumoorthy and  
Marina Modello  
2019 Ruomei Li  
2020 Yilu Liu  
2021 Marianela Herrera Guerrero

# IEEE PES Wanda Reder Pioneer in Power Award

**DIPTI SRINIVASAN**

2022 Recipient

*For her leadership and valuable contributions to the power engineering profession,  
education and excellent volunteerism*

**DIPTI SRINIVASAN** is a Professor in the Department of Electrical & Computer Engineering at the National University of Singapore (NUS), where she also heads the Centre for Green Energy Management & Smart Grid (GEMS). Her current research focuses on the development of novel computational intelligence-based models and methodologies to aid the integration of the new Smart Grid technologies into the existing infrastructure so that power grid can effectively utilize pervasive renewable energy generation and demand-side management programs, while accommodating stochastic load demand. She has extensive industry experience, having worked as a design engineer with an Indian utility for three years, and through several projects with Singapore companies such as Power Seraya, Singapore Power and Power Automation. She has secured over \$24 million in external funding for research projects in these areas.



Dipti is a Fellow of Institute of Electrical & Electronics Engineers, USA. She was awarded the IEEE PES Outstanding Engineer award in 2010 and IEEE Singapore Outstanding Volunteer Award in 2020. Dipti is an Associate Editor of IEEE Transactions on Smart Grid, IEEE Transactions on Sustainable Energy, IEEE Transactions on Evolutionary Computation, IEEE Transaction on Artificial Intelligence, and Solar Energy journal. At the ECE department of National University of Singapore, she teaches courses in the areas of Sustainable Energy systems, Smart Grid, and computational intelligence methods. She is the recipient of NUS Annual Teaching Excellence Award in 2007, 2008, and 2009, and Engineering Educator Award in 2011 and 2012.

# IEEE Power & Energy Society Outstanding Student Scholarship

This scholarship recognizes PES student members from around the world who have chosen an academic path leading to an electric power and energy engineering career. Recipients were chosen based on their academic achievements, contributions to meeting community and humanitarian needs, and leadership in advancing student engagement within PES. All recipients will receive \$10,000 USD cash prize, as well as complimentary housing and conference registration at a corresponding PES Regional Conference.

**Supporter:** IEEE Power & Energy Society

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**EMILY ABBATE** is from Region 3, is attending University of North Carolina at Charlotte, and is pursuing a Master's degree in Electrical Engineering with a Power & Energy Concentration.

**LIUDONG CHEN** is from Region 10, is attending the North China Electric Power University, and is pursuing a masters degree in Electrical Engineering.

**ABIGAIL IVEMEYER** is from Region 3, is attending Georgia Institute of Technology, and is pursuing a masters degree in Electrical Engineering.

**MUHAMMAD ALI SHAH KHAN** is from Region 6, is attending Washington State University, and is pursuing a masters degree in Electrical (Power) Engineering.

**JULIE MATARWEH** is from Region 6, is attending Boise State University, and is pursuing a masters degree in Electrical and Computer Engineering.

**DAWEI WANG** is from Region 10, attending the Tsinghua University, and is pursuing a Master's degree in Electrical Engineering.

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**EMILY ABBATE** was born on May 25, 1998, in Concord, NC. Upon completing high school, she enrolled in the electrical engineering program at the University of North Carolina at Charlotte where she was named a Duke Energy Distinguished EPIC scholar. Throughout her undergraduate studies, she became involved in the Ambassador Program within the Electrical and Computer Engineering Department and earned the Benjamin A. Hood Service award and the Outstanding Student Leadership award for her contributions to that program. In 2021, she received her bachelor's degree with Summa Cum Laude honors and began her graduate studies. Her thesis titled "Applying Energy Justice to Resiliency Studies in Power Systems" discusses the intersection of socioeconomic and power outages during extreme storms. In July, she will graduate Summa Cum Laude with a Master of Science in Electrical Engineering and begin her career as a protection engineer for Schweitzer Engineering Labs.



**LIUDONG CHEN** is currently working toward the Master's degree in Electrical Engineering at the School of Electrical and Electronic Engineering, North China Electric Power University (NCEPU), Beijing, China, under the supervision of Professor Nian Liu. He will study for his Ph.D. in Earth and Environmental Engineering at Columbia University, New York, USA, in 2022. He is the past Vice President of the IEEE NCEPU Student Branch, organizing academic seminars on campus and volunteers' activities for IEEE conferences.

His research interests include renewable energy scheduling, smart grids, optimization theory and its application in the distribution system. He has participated in five Research Projects and published more than 10 papers on the IEEE Trans. Smart Grid, IEEE Trans. Power System, IEEE Trans. Industrial Informatics, Applied Energy, etc. He is also a reviewer of the IEEE Trans. Smart Grid, IEEE Trans. Sustainable Energy, and Journal of Modern Power Systems and Clean Energy (MPCE).





# IEEE Power & Energy Society Outstanding Student Scholarship

**ABIGAIL IVEMEYER** just began her full-time career as a Transmission Planning Engineer for Southern Company in Birmingham, Alabama. A 2021 and 2022 graduate of the Georgia Institute of Technology, where she completed both her undergraduate and graduate studies in Electrical Engineering with a focus in power systems. During college, her intern work experience included two summers at Walton EMC, where she developed variable rate models and implementing field data entry applications as well as two summers working in substation design engineering at Burns & McDonnell. Her research at Tech focused on the outcomes and considerations that may need to be made in power system planning and operation as the penetration of Distributed Energy Resources continues to rise. Her biggest extracurricular involvements on campus, beyond the IEEE-PES student chapter, were spreading joy with Ramblin' Reck Club and mentoring students in extended orientation programs with Wreck Camp.



**MUHAMMAD ALI SHAH KHAN** is a Graduate & Professional student at Washington State University, where he is working with the UI-ASSIST\* Consortium on solving DER integration challenges specifically faced by developing countries, with a focus on evaluation through practical field demonstrations. He also works with the globally acclaimed Schweitzer Engineering Laboratories in Pullman on cutting edge research on future electric power system protections apparatus.

Prior to joining WSU, Ali had a rigorous career as an Operations & Maintenance Engineer in large a Facilities Management set-up, and also had the opportunity to undertake consultancy work under supervision of Professional Engineers in Power System Studies, (Arc-Flash and Device-Coordination). He has contributed voluntarily for the electrical engineering YouTube channel GeneralPAC\*, and also writes on topics ranging from field engineering guides to computer and coding workarounds on his website\*.



He lives with the belief that better governance, placed in the hands of competent engineers will solve the 'energy dilemma' for many developing Asian Countries.

**JULIE MATARWEH** (SM'99) was born in Amman, Jordan, in 1995. She received a B.E. degree in Electrical Power and Energy Engineering from Princess Sumaya University for Technology, Amman, Jordan, in 2018, and a Master's degree in Electrical Engineering from Boise State University, Idaho, United States, in 2022.

During her undergraduate years, she was a member of IEEE for two years before being elected President of the IEEE Student Branch of Women in Engineering in 2015. She was Vice-President of the Junior Chamber International (JCI) in 2016 and Secretary General in 2018 for her university chamber. During her stay at PSUT, Julie hosted many WIE events such 'Pursue your dream' and 'White Ribbon,' where she encouraged young women to prove they can measure up to their male counterparts and excel as engineers in a third-world country. At Boise State University, she is currently an active IEEE PES graduate student who is also earning professional development hours (PDHs) as an intern at Schweitzer Engineering Labs, Inc. Her current research interests include power protection, power electronics and controls, microgrids, smart inverters and power quality.



**DAWEI WANG** is pursuing a Master's degree in Electrical Engineering at Tsinghua University, supervised by Vice Prof. Qixin Chen. His research interests include data-driven methods on probabilistic power flow calculation, applying quantum computing methods on the combinatorial optimization problems in power systems and low-carbon power systems. His publications include:

1. Wang, Dawei, et al. "A data - driven probabilistic power flow method based on convolutional neural networks." International Transactions on Electrical Energy Systems 30.7(2020). (published)
2. Wang, Dawei, et al. "Probabilistic Power Flow Solution with Graph Convolutional Network." 2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe) IEEE, 2020. (published)
3. Wang, Dawei, et al. " Quantum annealing computing for grid partition in large-scale power systems," 2022 IEEE 5th International Electrical and Energy Conference (CIEEC), Nanjing, China, 2022. (Accepted).



# IEEE PES Prize Paper Award

Each year, every Technical Committee of the Technical Council is entitled and encouraged to award the author(s) of an outstanding technical paper with the IEEE PES Technical Committee Prize Paper Award. Each committee is also encouraged to nominate a paper from their committee for the Society-level IEEE PES Prize Paper Award; most committees choose to select the same paper. One (or two) paper(s) is chosen from all the committee nominations for the Society-level IEEE PES Prize Paper Award.

The IEEE PES Prize Paper Award consists of a plaque for each author and \$200 USD cash prize for a single author; \$100 USD cash prize each for two (2) or more authors.

**Supporters:** Donors to the PES Award Endowment Fund

## *"Ground Testing of the World's First MW-Class Direct-Drive Superconducting Wind Turbine Generator"*

IEEE Transactions on Energy Conversion

Vol. 35, no. 2, pp. 757-764, June 2020

**Authors:** X. Song, C. Bühner, P. Brutsaert, A. Ammar, J. Krause, A. Bergen, T. Winkler, M. Dhalle, J. Hansen, A.V. Rebsdorf, S. Wessel, M.T. Brake, M. Bauer, J. Kellers, J. Wiezoreck, H. Pütz, H. Kyling, H. Boy and E. Seitz

## IEEE PES Prize Paper Award

### *"Definition and Classification of Power System Stability Revisited & Extended"*

IEEE Transactions on Power Systems

Vol. 36, no. 4, pp. 3271-3281, July 2021

**Authors:** N. Hatziargyriou, J. V. Milanović, C. Rahmann, V. Ajarapu,  
C. Cañizares, I. Erlich†, D. Hill, I. Hiskens, I. Kamwa, B. Pal, P.  
Pourbeik, J. J. Sanchez- Gasca, A. Stanković, T. Van Cutsem, V. Vittal,  
and C. Vournas

### *"A New Fault Location Technique in Smart Distribution Networks Using Synchronized/Nonsynchronized Measurements"*

IEEE Transactions on Power Delivery

Vol 33, No 3, pp. 1358-1368, June 2018

**Authors:** Mehrdad Majidi & Mehdi Etezadi-Amoli

# IEEE PES Working Group Recognition Awards

Each year, every Technical Committee of the Technical Council is encouraged to nominate their working groups for one of the Society Working Group Awards; IEEE PES Working Group Recognition Awards for either Outstanding Standard or Guide or Technical Report. Two working groups are chosen out of all the nominations and are recognized at the IEEE PES General Meeting. The officers are given a plaque and mounted certificates are given to members.

**Supporters:** Donors to the PES Award Endowment Fund

## Outstanding Technical Report

### PES-TR71, Microgrid Protection Systems

Prepared by the IEEE PES Power System Relaying and Control  
Committee

Published July 2019

**Chair:** Michael Higginson

**Vice Chair:** Fredric A. Friend

**Working Group Members:** Amin Zamani, Athula Rajapakse, Ben Kazimier, Bruce Mackie, Eugene Song, James Deaton, James Niemira, Jean-Nicolas Paquin, Jeff Burnworth, Jim O'Brien, Kamal Garg, Lifeng Yang, Looja Tuladhar, Manish Patel, Mat Garver, Matthew Reno, Michael Bloder, Mukesh Nagpal, Rafael Garcia, Raluca Lascu, Randy Hamilton, Ratan Das, Rob Fowler, S. S. (Mani) Venkata, Sakis Meliopoulos, Sukmar Brahma, Vahid Madani, Wayne Hartmann, Xiangyu Ding and Yuan Liao

# IEEE PES Working Group Recognition Awards

## Outstanding Standard or Guide

**IEEE C37.245, IEEE Guide for the Application of Protective Relaying  
for Phase Shifting Transformers**

**Prepared by the IEEE PES Power System Relaying and Control  
Committee**

**Published October 2018**

**Chair:** Lubomir Sevov

**Vice Chair:** Brandon Davies

**Working Group Members:** Abu Bapary, Stephen Conrad, Randall Crellin, Paul Elkin, Zoran Gajic, Charles Henville, Mahfooz Hilaly, Mohamed Ibrahim, Umar Khan, Dean Miller, Joe Mooney, Eli Pajuelo, Sam Sambasivan, Tony Seegers, Farajollah Soudi, Michael Thompson, Demetrios Tziouvaras, Tom Wiedman, and Abu Zahid

# IEEE PES Outstanding Chapter Award

This award was created to recognize PES Chapters for achieving excellence in providing the best set of overall programs and activities for its members. The award consists of a chapter banner, plaques for the winning chapter officers and \$1,000 USD for the chapter's future activity.

**Supporters:** Donors to the PES Award Endowment Fund

## Small Chapter Category—WESTERN AUSTRALIA CHAPTER

ALIREZA FERREIDOUNI, CHAIR

Despite challenges with COVID-19 restrictions throughout the year, the WA chapter has not only survived 2021, but thrived, holding a number of technical events (including an in-person event), winning a conference bid, solidifying and expanding the chapter's online presence, and showing strong member growth. This coming off the back of a muted 2020 where COVID-19 had ground down chapter activities to a near standstill.

The WA chapter led a consortium, which included Curtin University and the University of Western Australia, to bid for the 4th IEEE Sustainable Power and Energy Conference (iSPEC 2022) conference to be held in Perth on 4-7 December 2022.

The submission was successful and iSPEC 2022 will be held in Perth, the first time the conference has been held outside of China since its inception in 2019. The Memorandum of Understanding (MOU) with IEEE PES was entered into on 25 October 2021.

In lieu of face-to-face educational activities, the WA chapter set up a new YouTube channel to host technical talks, webinars and educational seminars organised by the chapter. This would allow people who were not able to attend the live presentations to watch the videos (on demand).

The main highlights for 2021 included:

- ◆ Holding four (4) technical presentations (3 online webinars and 1 in-person event)
  - ◆ Submitting and winning the bid for the IEEE iSPEC 2022 conference to be held in Perth on 4-7 December 2022
  - ◆ Overhauling and significantly upgrading the chapter website from an old Geocities style site to a modern site using the latest PES templates
  - ◆ Creating a YouTube channel for hosting video content from the WA chapter
- Increasing WA chapter membership growth by 11.9%

**RUNNER-UP**

**MIAMI (R3)**

# IEEE PES Outstanding Chapter Award

## Large Chapter Category—KERALA CHAPTER

A. SUHAIR, CHAIR

On a global front the Calendar year 2021 was launched with an emotional mix of anxiety and hope, trusting for liberation from the grip of deep lockdown. The PES Kerala chapter however with a prudent mix of long experienced Leaders along with a vibrant team of youthful energetic Young Professionals and Students mentored by seasoned Professionals was confident in laying a hefty path forward.

The programs were planned well ahead by the Execom with a variety of technical, social, educational, humanitarian, fun and entertainment segments. The most remarkable event of the year, 13th IEEE PES Asia-Pacific Power and Energy Engineering Conference APPEEC-2021 with the theme 'Power and Energy for a Greener World' though planned to be an excellent opportunity for PES Kerala to proudly host the event in a fabulous manner, extending the warmth of Kerala hospitality to international legends, had to re plan in a virtual mode due to the unyielding second break of the pandemic. Though the conference was hosted virtually, PES Kerala had put in all earnest efforts to ensure no compromise on quality of the event. Exploring the ever utilized dimensions of technological breakthrough gave way for a flawless and highly appreciated technical extravaganza. The three day event judiciously accommodated each divide of PES member a remarkable take home component.

The year witnessed a swing from virtual to contact programs synchronous with onset and withdrawal of the pandemic grip. The student community sandwiched with equally vivacious YPs made the year witness plentiful activities. Technical events, funded events, Education events, social events, humanitarian leads all were organized with added colors which enriched the programs beyond imagination. PES was eager in ensuring not- a- break in the prestigious routine events of remembering legends and technical quiz which was taken up by the several student branches with augmented enthusiasm. The devoted senior Life members added several feathers to the PES profile by organizing get together and memorable associations forgetting age and personal comforts. The year had a incredible ending with the annual All Kerala Power & Energy Society Congress 2021 AKPESSC 2021 which gave way for unprecedented student and young professional gathering. The program was a curtain falling for the chapter year dreaming a more fruitful year ahead with the new Excom team.

**RUNNER-UP IN  
UK AND IRELAND (R8)**



## We Make a Difference Reliable and Sustainable Energy for Humanity



**Kuumba Zed Gemstone Processing, Ndola, Zambia** - This project aims to train 40 women every year and build parts of the upstream and downstream ecosystem to enable women's gem-cutting enterprises. The beneficiaries will learn about gemstones in Zambia and how they can add value to the stones to create jobs. The learning center will have a renewable solar system installed to provide consistent and reliable service. The lapidary equipment will be upgraded through motor replacements.

**Photo Credit:** Kanekwa Kachinga



**The Natoot Farm Upscale Project, Turkana, Kenya** - The project aimed to provide increased Solar PV capacity to ensure sufficient water for crop irrigation and community needs, enhance security through solar powered security lights, improve the productivity of the farm which in turn improves community livelihoods and promote food security. On completion of the upscale, 12,000 individuals from 2,000 families now have access to clean water with approximately 200 smallholder's families depending on subsistence farming for their livelihood.

**Photo Credit:** Juma Allan - Field Officer, Bright Hope International





**SNAP CIRCUITS Play Kits and MENTORSHIP** - The IEEE Smart Village (ISV) experience in India and Africa has revealed how school education prepares children for tests, not for life. Yet, as economies electrify to become more climate smart, an important preparation for life is safe hands-on experience with electrical systems. This is an initiative for children “8 to 10 years of age” to create awareness about making and using electricity. Deployments are already being made in India, Tanzania, Zambia, and Ghana.

ISV wishes to engage with American Tribal organizations to determine together how the initiative may be adapted for the benefit of children in tribal nations. Reach out to Rajan Kapur, SVP, IEEE Smart Village, [rajan.kapur@larankelo.com](mailto:rajan.kapur@larankelo.com) +1-303-588-9273 **Photo Credit:** Rajan Kapur



**IEEE PES T&D** - Field developers from IEEE Smart Village represented at the IEEE PES T&D conference where they presented on the different projects they are working on in their communities. **Photo Credit:** Mercy Chelangat K.

**IEEE Nigeria Section** - IEEE Nigeria section’s 4th International Conference on Disruptive Technologies for Sustainable Development brought together researchers and industry players to come and interact with innovative ideas to bring development to the world. IEEE Smart Village entrepreneurs conducted a hands-on STEM workshop on artificial intelligence, robotics and IoT using Arduino kits to educate pre-university students to be innovators guiding them to be at the forefront of Africa’s development. **Photo Credit:** IEEE Nigeria Section





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-Abigail, Kettering University (June 2020)

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We hope to see you next  
year in Orlando, Florida  
for the 2023 IEEE Power  
& Energy Society General  
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