Kalyan K. Sen, PhD, PE, MBA, IEEE Life Fellow

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Highlights:

- **Inventor** of *Sen Transformer* that will be essential for making the electric transmission lines around the world function more effectively. https://www.nypa.gov/news/press-releases/2021/20211028-transformer
- **Fulbright Scholar** (sponsored by U.S. Government); 2017: served at Indian Institute of Technology at Bhubaneswar, India; 2022: served at Nirma University at Ahmedabad, India.
- **GIAN Scholar** (sponsored by Government of India in 2017); served at Delhi Technological University.
- Scholarly peer-reviewed papers with record citations: https://scholar.google.co.in/citations?user=hRRMDMQAAAAJ&hl=en
- Co-author of two **books**, titled *Power Flow Control Solutions for a Modern Grid using SMART Power Flow Controllers* (ISBN: 978-1-119-82435-0), New York: IEEE Press and John Wiley & Sons, Inc. 2022 and *Introduction to FACTS Controllers - Theory, Modeling, and Applications* (ISBN: 978-0-470-47875-2), New York: IEEE Press and John Wiley & Sons, Inc. 2009, which is also published in Chinese and English paperback editions in China (2016) and India (2017), respectively.
- 2020-Present Sen Engineering Solutions, Inc., Monroeville, PA. (www.sentransformer.com); President & Chief Technology Officer. Start-up company, dedicated to promoting high efficiency operational techniques of electric transmission lines around the world.
- Prior to the current role: 33 years of experience in **academia and industry**: PhD in Electrical Engineering, Westinghouse Fellow Engineer, Registered Professional Engineer (Pennsylvania & New York), Teacher (Assistant Professor), Author/co-author of 25 peer-reviewed papers in international journals and three book chapters.
- **Volunteer Leader** of Institute of Electrical & Electronics Engineers, Inc. (IEEE – world's largest professional society): IEEE Distinguished Lecturer; IEEE Pittsburgh Section Chair; Editor/Reviewer: IEEE Transactions on Power Delivery; Keynote Speaker and Organizer of international conferences; Toastmasters International District Governor.
- Toastmasters International (Distinguished Toastmaster 2008, Advanced Leader Silver 2008, Leadership Excellence 2008, Advanced Communicator Gold 2007, Advanced Toastmaster Silver 2006, Advanced Toastmaster Bronze 2006, Competent Leader 2005, Competent Toastmaster 1999).
- **International residence**: Sweden (1999-2001) and India (1959-1982).

Education:

- MBA (2012), Robert Morris University, Pittsburgh, PA
- PhD (1987), Electrical Engineering, Worcester Polytechnic Institute, Worcester, MA, GPA: 4.0/4.0
- MS (1983), Electrical Engineering, Tuskegee University, Tuskegee, AL, GPA: 4.0/4.0
- BEE (1982), Jadavpur University, Calcutta, India. (First Class Honors)

Expertise:

Achieve excellence in whatever I do; Leading an organization to serve its mission for the benefit of mankind; Teaching undergraduate and graduate courses in Electrical Engineering; Expert in Flexible Alternating Current Transmission Systems (FACTS): bulk power system, transmission line power flow control; Inventor and Developer of a new technology in power engineering; Power Electronics Specialist.

Employment:

2010-2020	Retired from Fluor Corporation (formerly Westinghouse). Fellow Engineer. Responsible for designing high power electronics systems from concept to prototype.
2001-2010	Curtiss-Wright Electro-Mechanical Corporation (formerly Westinghouse). Mt. Pleasant, PA. Fellow Engineer. Responsible for designing high power electronics systems from concept to prototypes. Generated peer-reviewed papers and patents.
2000-2001	ABB Corporate Research Center, Västerås, Sweden. Product Development Engineer. Responsible for generating new concepts for grid applications. Generated peer-reviewed papers and patents.
1999-2000	ABB Power Systems, Västerås, Sweden. Consulting Engineer. Responsible for designing high power electronics systems from concept to prototypes for commercial applications. Generated peer-reviewed papers and patents.
1990-1999	Westinghouse Science & Technology Center, Pittsburgh, PA. Senior Engineer. Responsible for designing high power electronics systems from concept to prototypes to full-scale demonstration. Generated peer-reviewed papers and patents.
1987-1990	Prairie View A&M University (Texas A&M), Prairie View, TX. Assistant Professor, Electrical Engineering Department. Responsible for teaching several undergraduate and graduate classes, advising students and conducting research.
1983-1987	Worcester Polytechnic Institute, Worcester, MA. Instructor, Research Assistant, and Teaching Assistant. Responsible for conducting engineering research as a part of my PhD thesis, teaching laboratory classes, grading papers, and occasional classroom teaching.
1982-1983	Tuskegee University, Tuskegee, AL. Research Assistant. Responsible for conducting engineering research.

Book Chapters:

- *SEN Transformer, Advanced Solutions in Power Systems: High Voltage Direct Current (HVDC), FACTS and Artificial Intelligence (AI) Techniques*, Chapter 12, ISBN: 978-1-119-03569-5, John Wiley & Sons, Inc. 2016.

- *Analysis of FACTS Controllers and Their Transient Modeling Techniques, Transient Analysis of Power Systems - Solution Techniques, Tools and Applications*, Chapter 6, ISBN: 978-1-118-35234-2, IEEE Press and John Wiley & Sons, Inc. 2015.
- *Power Electronics in Transmission and Distribution Systems*, The Encyclopedia of Life Support Systems (EOLSS-UNESCO), 2012, Ref. 6.39.59.09, Paris, France.

Peer-Reviewed Journal Publications:

- K. K. Sen, *et al, Advancements in Transformer Technology: Design, Manufacture, and Testing of a ±6.5 MVA, 33 kV Sen Transformer*, IEEE Power & Energy Society General Meeting, paper no. 25PESGM1323, July 2025, Austin.
- K. K. Sen & M. L. Sen, *Unique Capabilities of Sen Transformer: a Power Flow Regulating Transformer*, IEEE Power & Energy Society General Meeting, paper no. 16PESGM0961, July 2016, Boston.
- K. K. Sen & M. L. Sen, *Comparison of Operational Characteristics between the Sen Transformer and Phase Angle Regulator*, IEEE Power & Energy Society General Meeting, paper no. 16PESGM0959, July 2016, Boston.
- K. K. Sen & M. L. Sen, *SMART Power Flow Controller for Smarter Grid Applications*, IEEE Power & Energy Society General Meeting, paper no. 15PESGM1910, July 2015, Denver.
- M. L. Sen & K. K. Sen, *Introducing the SMART Power Flow Controller - an Integral Part of Smart Grid,* paper no. 103, 2012 Electrical Power and Energy Conference, London, Canada.
- K. K. Sen, *Analysis of FACTS Controllers and Their Transient Modeling Techniques*, J. A. Martinez-Velasco (editor.), IEEE Special Publication, 2010.
- K. K. Sen & M. L. Sen, *Comparison of the 'Sen' Transformer with the Unified Power Flow Controller*, TPWRD-00333-2002, IEEE PES General Meeting, July 2003, Toronto, Canada. IEEE Transactions on Power Delivery, vol. 18, no. 4, pp. 1523-1533, Oct. 2003.
- K. K. Sen & M. L. Sen, *Introducing the Family of 'Sen' Transformers: A Set of Power Flow Controlling Transformers*, 2001TR475, IEEE PES Summer Meeting, July 2002, Chicago. IEEE Transactions on Power Delivery, vol. 18, no. 1, pp. 149-157, Jan. 2003.
- K. K. Sen & A. J. Keri, *Comparison of Field Results and Digital Simulation Results of Voltage-Sourced Converter-based FACTS Controllers*, TPWRD-00078-2002, IEEE PES General Meeting, July 2003, Toronto, Canada. IEEE Transactions on Power Delivery, vol. 18, no. 1, pp. 300-306, Jan. 2003.
- K. K. Sen, *Versatile Power Flow Transformer*, Proceedings of IEEE PES Winter Meeting, Panel Session, January 2002, New York.
- K. K. Sen, *Simulation of UPFC*, Proceedings of IEEE PES Winter Meeting, Panel Session, January 2001, Columbus.
- K. K. Sen, *A Power Flow Controller with a Stable Reversing Capability*, Proceedings of IEEE PES Summer Meeting, July 2000, Seattle.
- K. K. Sen, L. Tang (Chairmen), H. W. Dommel, K. G. Fehrle, A. M. Gole, E. W. Gunther, I. Hassan, R. Iravani, A. J. F. Keri, R. Lasseter, J. R. Marti, J. A. Martinez, M. F. McGranaghan, O. B. Nayak, C. Nwankpa, and P. F. Ribeiro, *Guidelines for Modeling Power Electronics in Electric Power Engineering Applications*, Chapter 2 of *Modeling and Analysis of System Transients Using Digital Programs*, A. Gole, J. A. Martinez-Velasco and A. Keri (editors), IEEE Special Publication TP-133-0, IEEE Catalog No. 99TP133-0, 1999.
- K. K. Sen, *STATCOM - STATic synchronous COMpensator: Theory, Modeling, and Applications*, Proceedings of IEEE PES Winter Meeting, pp. 1177-1183, February 1999, New York.

- L. Gyugyi, K. K. Sen & C. D. Schauder, *The Interline Power Flow Controller Concept: A New Approach to Power Flow Management in Transmission Systems*, PE-316-PWRD-0-07-1998, IEEE PES Summer Meeting, July 1998, San Diego. IEEE Transactions on Power Delivery, Vol. 14, No. 3, July 1999.
- K. K. Sen & E. J. Stacey, *UPFC - Unified Power Flow Controller: Theory, Modeling, and Applications*, PE-282-PWRD-0-12-1997, IEEE PES Winter Meeting, February 1998, Tampa. IEEE Transactions on Power Delivery, pp. 1453-1460, Vol. 13, No. 4, October 1998.
- K. K. Sen, *SSSC - Static Synchronous Series Compensator: Theory, Modeling, and Applications*, PE-862-PWRD-0-04-1997, IEEE PES Summer Meeting, July 1997, Berlin, Germany. IEEE Transactions on Power Delivery, pp. 241-246, Vol. 13, No. 1, January 1998.
- L. Gyugyi, C. D. Schauder & K. K. Sen, *Static Synchronous Series Compensator: A Solid-State Approach to the Series Compensation of Transmission Lines*, IEEE PES Winter Meeting, February 1996, Baltimore. IEEE Transactions on Power Delivery, pp. 406-413, Vol. 12, No. 1, January 1997.
- A. E. Emanuel & K. K. Sen, *Steady-State Performance of the DC Motor Supplied from Single-Phase Rectifier with Step-Up Converter. A Unity Power Factor Converter*, IEEE PES Summer Meeting, July 1987, San Francisco. IEEE Transactions on Energy Conversion, pp. 172-178, Vol. 3, No. 1, March 1988.
- K. K. Sen & A. E. Emanuel, *Unity Power Factor Single-Phase Power Conditioning*, IEEE Power Electronics Specialists Conference, pp. 516-524, June 1987, Blacksburg.
- K. K. Sen & A. E. Emanuel, *Voltage Distortion at Mains Supplying Quasi Sinusoidal Current Pulses*, International Conference on Harmonics in Power Systems, pp. 57-61, October 1984, Worcester.
- K. K. Sen & P. K. Ray, *Energy Partitioning in an Inductively Driven Rail Gun*, IEE proceedings, pp. 140-144, Vol. 131, Part A, No. 3, May 1984.

Articles:

- K. K. Sen & M. L. Sen, *Modeling Of The Sen Transformer Using An Electromagnetic Transients Program*, How2Power.com e-magazine, March 2018. http://www.how2power.com/newsletters/1803/articles/H2PToday1803_design_Sen.pdf?NOREDIR=1
- K. K. Sen & M. L. Sen, *Phase Angle Regulation Versus Impedance Regulation: Which Offers Greater Control Of Power Flow On the Grid?***,** How2Power.com e-magazine, February 2017. http://www.how2power.com/newsletters/1702/articles/H2PToday1702_design_Sen.pdf?NOREDIR=1
- K. K. Sen, *Overview Of Voltage Regulation Schemes For Utility And Industrial Applications*, How2Power.com e-magazine, September 2015. http://www.how2power.com/newsletters/1509/articles/H2PToday1509_design_Sen.pdf?NOREDIR=1
- K. K. Sen, *Practical Power Flow Controller Brings Benefits of Power Electronics to the Grid* How2Power.com e-magazine, March 2015. http://www.how2power.com/newsletters/1503/articles/H2PToday1503_design_Sen.pdf?NOREDIR=1
- K. K. Sen, *SMART Power Flow Controller*, IEEE Canadian Review, Spring 2014. http://canrev.ieee.ca/cr72/ICR72_SmarterGrid-SPFcontroller

Patents:

- K. K. Sen & M. L. Sen, *Transformer for Controlling Independent Active and Reactive Power Flows in a Transmission Line*, filed for U.S. Patent (June 2023).
- M. P. Krefta & K. K. Sen, *System and Method for Controlling a Permanent Magnet Motor*, U.S. Patent No. 8,860,342 (October 14, 2014).
- G. E. Baumgart & K. K. Sen, *Harmonic Control and Regulation System for Harmonic Neutralized Frequency Changer*, U.S. Patent No. 7,388,766 (June 17, 2008).
- K. K. Sen & M. L. Sen, *Multiline Power Flow Transformer for Compensating Power Flow Among Transmission Lines*, U.S. Patent No. 6,841,976 (January 11, 2005).
- K. K. Sen & M. L. Sen, *Versatile Power Flow Transformers for Compensating Power Flow in a Transmission Line* (*Series-Compensating Power Flow Transformer*), U.S. Patent No. 6,420,856 (July 16, 2002).
- K. K. Sen and M. L. Sen, *Versatile Power Flow Transformers for Compensating Power Flow in a Transmission Line*, U.S. Patent No. 6,396,248 (May 28, 2002).
- K. K. Sen and M. L. Sen, *Versatile Power Flow Transformers for Compensating Power Flow in a Transmission Line* (*Limited Angle Power Flow Transformer*), U.S. Patent No. 6,384,581 (May 7, 2002).
- K. K. Sen and M. L. Sen, *Versatile Power Flow Transformers for Compensating Power Flow in a Transmission Line* (*Shunt-Compensating Power Flow Transformer*), U.S. Patent No. 6,335,613 (January 1, 2002).
- K. K. Sen, *Apparatus and Method for Controlling Flow of Power in a Transmission Line Including Stable Reversal of Power Flow*, US Patent No. 5,754,035 (May 19, 1998).

Teaching undergraduate & graduate courses:

- Taught a graduate course on electric machines/transformers at Worcester Polytechnic Institute, Worcester (August/November 2025)
- Taught undergraduate and graduate students at Nirma University, Ahmedabad (March/April 2022)
- Guest Lecturer for a graduate-level course on FACTS, Sungkyunkwan University (June 2019)
- Developed a graduate-level course on FACTS, Indian Institute of Technology, Bhubaneswar (May/June 2017)
- Guest Lecturer, University of Pittsburgh (2013, 2015)
- Transmission line power flow control technology, Guest Lecturer every year for 3 to 6 hours to teach a summer course at Youngstown State University (2012 to 2018)
- Electric Machines, Electric Power Systems, Power Electronics, Prairie View A&M University (1987 to 1990)

Webinars:

- Opportunities and Challenges in Power Flow Control in a Modern Grid (November 25, 2025)
- Practical Power Flow Controller Brings Benefits of Power Electronics to the Modern Grid (March 26, 2025)
- How to Revive Your Local IEEE Chapter (July 28, 2018)
- SMART Power Flow Controller for Smart Grid Applications (August 4, 2017)
- SMART Power Flow Controller for Smart Grid Applications (September 2013)
- Small-scale power network simulator (September 2012)

Seminars:

Presentations on power flow control technology that are scheduled in 2026 as an IEEE PES Distinguished Lecturer: Hong Kong; Lectured in 2025: USA: Orlando, Washington, Columbus,

RPI, Kansas City and Baltimore; Australia/NZ: Auckland, Sydney, Brisbane, Adelaide and Melbourne; Lectured in 2024: Australia: Newcastle, Sydney, Wollongong, Melbourne; Malaysia: Kuala Lumpur; India: IIT-Indore April 12; USA: San Francisco, San Louis Obispo, Irvine, Long Beach; Lectured in 2023: Sri Lanka – Colombo and Jaffna, India – NIT-New Delhi and IIEST-Shibpur, Bangladesh – Dhaka (BRAC, BUET, AIUB, NUS and IUB); Lectured in 2022: India: LDEC-Ahmedabad, IIT-Gandhinagar; Ireland – University College Dublin; England – University of Birmingham and Brunel University; USA – University of Dayton, Idaho Power and University of Washington, Pullman; India – IIT-Kharagpur, NIT-Mizoram, Raisoni College-Nagpur, IIT-Bombay, IIT-Varanasi, PDEU-Gandhinagar, LCIT-Bhandu, PREC-Kurnool, BHEL, PGCIL, CPRI, VNRVJIET-Hyderabad, NIT, SRU-Warangal; Lectured in 2019: India – New Delhi; USA – Springfield, Raleigh and Baltimore; Canada – Vancouver, Ottawa and Kingston; Malaysia – Kuala Lumpur; Singapore; Lectured in 2018: Chile – Santiago and Antofagasta; India – Varanasi, New Delhi and Nagpur; Peru – Lima; Canada – Montreal, Hamilton, Toronto and Kingston; USA: Los Angeles, Washington, DC, Richmond and Norfolk; Lectured in 2017: Peru – Cusco and New Zealand – Auckland, Hamilton and Wellington; Lectured in 2016: South Korea – Sungkyunkwan University and Myongji University; USA – Baltimore, Idaho, Penn State University-Erie and Orlando; Peru – University of Piura; India – Ahmedabad, New Delhi, Indian Institute of Technology (IIT)-Kanpur and Jadavpur University-Kolkata; Scotland/England – University of Strathclyde, Straffordshire University, University of Portsmouth, Imperial College and Brunel University; Lectured in 2015: India – Delhi Technological University and IIT-Kanpur; USA – Pittsburgh; Lectured in 2014: India – Raisoni College of Engineering-Nagpur, National Institute of Technology-Kurukshetra, IIT-Roorkee, IIT-Delhi, Bangalore and Pondicherry Engineering College; USA – Pittsburgh and Los Angeles; Lectured in 2013: USA – Pittsburgh, University of Pittsburgh at Johnstown, Ohio State University at Columbus, Buffalo and Kansas City; Canada – Toronto and Montreal; India – IIT-Varanasi and IIT-New Delhi; National University of Singapore; Lectured in 2012: India – IIT-New Delhi and IIT-Kharagpur; Lectured in 2011: India – IIT-New Delhi; USA – Greensburg and Philadelphia; Lectured in 2010: India – New Delhi; Canada – London; USA – Minneapolis; 2009: India – IIT-Kharagpur and IIT-New Delhi; 2008: India – (see the details below); 2007: Canada – Toronto and London; India – Bangalore; 2006: China & Brazil (see the details below); 2005: China & India (see the details below); 2004: India – Baroda, Nirma University-Ahmedabad, Bangalore and Kolkata; 2003: USA – Pittsburgh.

1-day tutorial:

- Nirma University, India (April), 2022
- National Power Training Institute, India (October), 2019
- Sungkyunkwan University, South Korea (November), 2017
- National Power Training Institute, India (October), 2016
- University of Saskatchewan (November); National Institute of Tech-Jamshedpur (November); IEEE Electrical Power and Energy Conference, London, Ontario, Canada (October); Canada – Calgary and Edmonton (February), 2015
- Mumbai, Bangalore, Pondicherry (December, 2014)
- Regina (December), Orlando (September), Tampa (February), 2013
- IEEE Electrical Power and Energy Conference, London, Ontario, Canada (October), IEEE Power & Energy Society Transmission and Distribution Conference, Orlando (May), 2012
- IEEE Power & Energy Society Conference, Phoenix (March, 2011)
- Ecole Polytechnic, Montreal; IIT-Kanpur (December, 2010)
- University of Saskatchewan (November, 2009)

- Power India Conference, New Delhi (October, 2008)
- Pakistan – Islamabad; India – IIT-Varanasi and IIT-New Delhi (July), 2007
- Tennessee Technological University, Cookville (March); China Electric Power Research Institute, Beijing, Shanghai Jiatong University, Xi'an Jiatong University (July); Federal University of Rio de Janeiro, Federal University of Santa Catarina, Florianópolis, University of São Paolo, Ilha Solteira (November), 2006
- Zhejiang University, Hangzhou, China (October) India – Hyderabad, Kolkata, Trivandrum and Cochin (October), 2005
- India – New Delhi (October, 2004)
- Jamia Milia University, New Delhi, India (October, 2003)
- Singapore; Thailand – Bangkok; India – IIT-Madras and Jadavpur University-Kolkata (September/October), 2002

2-day tutorial:

- Raisoni College, Nagpur, India (October, 2018)
- National Power Training Institute, India (October), 2018; https://www.npti.gov.in/smart-power-flow-controllers-smarter-grid-applications
- Lima, Peru (August, 2017)
- Lima, Peru (August, 2016)
- University Putra Malaysia, Kuala Lumpur; Gandhi International Center, New Delhi (October, 2002)

5-day tutorial:

- Delhi Technological University, India (December, 2017)

Editorial/reviewer work:

- Editor of IEEE Transactions on Power Delivery, assigned reviewers/edited/reviewed over 100 papers per year (2002-2007)
- Reviewer, IEEE Transactions papers on Power Delivery (1997-present)
- Reviewer: *Real-Time Electromagnetic Transient Simulation of AC-DC Networks*, Venkata Dinavahi, 1st Edition, Wiley & Sons, 2019 (In Progress); *Intelligent Integration of Distributed Renewable Generation in Future Networks*, Nadarajah Mithulananthan, Duong Quoc Hung and Kwang Y Lee, 1st Edition, Wiley & Sons, 2016; *Advanced Solutions in Power Systems: High Voltage Direct Current (HVDC), FACTS and Artificial Intelligence (AI) Techniques*, M. Eremia and C-C. Liu, 1st Edition, John Wiley & Sons, Inc., 2015; *Power System Relaying*, Stanley Horowitz and Arun Phadke, 4th Edition, Wiley & Sons, 2014; *Power Electronics Design: A Practitioner's Guide*, Keith H. Sueker, 1st Edition, Elsevier, 2005; *Electrical Machinery Fundamentals*, Stephen J. Chapman, 6th Edition, McGraw-Hill Book Company, 1990.
- *Power Flow Control Strategy at the Load Bus in the Presence of Dispersed Generation*, Advisor: Dr. Muhammad Ahmad, University of Engineering and Technology, Taxila, Pakistan, 2009.

Keynote speaker:

- International Conference on Smart Electric Drives and Power System, Nagpur, India (2018)
- National Workshop on Power Electronics, New Delhi (2015)
- 6th IEEE India Conference on Power Electronics, Kurukshetra, India (2014)

Conference session chair:

- International Conference on Smart Electric Drives and Power System, Nagpur, India (2018)
- 6th IEEE India Conference on Power Electronics, Kurukshetra, India (2014)
- IEEE Intl. Conference on Power Electronics, Drives and Energy Systems, New Delhi, India (2010)

Invited speaker:

- 2026 IEEE Power & Energy Society International Meeting, Hong Kong (2026)
- Seminar Series "Next Generation Power Electronics for Photovoltaic Energy Systems," Valparaiso, Chile (2018)
- International Conference on Smart Electric Drives and Power System, Nagpur, India (2018)
- 2014 6th IEEE Power India International Conference (PIICON) New Delhi
- IEEE Intl. Conference on Power Electronics, Drives and Energy Systems, New Delhi, India (2010)
- ABB Transmission & Distribution University, Sweden (2000)
- Bharat Heavy Electrical Limited, India (1997)

Activities/Awards:

- **SeaPerch (www.seaperch.org)**
  - Mentor (2016, 2017)
  - Leader of 94 students and 47 volunteers in 6 Pittsburgh area Middle & High Schools. (West Mifflin Middle School: **Champion**, Pittsburgh Regional Competition at Cal U on April 8, 2017). Ranked 16th at the National Competition on May 20, 2017 at Georgia Tech.
- **Institute of Electrical &Electronics Engineers (IEEE)**
  - IEEE (Student Member'83-Member'87-Senior Member'01-Fellow'21–Life Fellow'25)
  - IEEE Power & Energy Society (PES) **Distinguished Lecturer** (2002-Present). Gave presentations on power flow control technology more than 225 times in 20 countries.
  - IEEE Region 2 Professional Activities (PA) Chair (2025-2026);
  - IEEE Power Electronics Society (PELS) Region Chair (2016-2023); manage PELS chapters in USA and Canada
  - Members, Board of Governors, Society on Social Implications of Technology (SSIT): Chapters Committee Chair (2020-2021); Education Committee Chair (2025); President Elect (2025-2026)
  - IEEE Pittsburgh Section Special Events Coordinator (2010-2025): organize annual events, such as awards dinner, picnic, baseball outing, scientific tour and holiday dinner.
  - Chairman, IEEE Pittsburgh Society on Social Implications of Technology (SSIT) Chapter (2018-2021)
  - IEEE Pittsburgh Section Awards Chair (2016-2018)
  - Founding Chairman, IEEE Pittsburgh Power Electronics Society (PELS) Chapter (2014, 2015), received Best Chapter Award, #1 placement among all PELS chapters in the world, in 2015
  - Treasurer, IEEE Pittsburgh Section Power Electronics Society Chapter (2016-Present)
  - Treasurer, IEEE Pittsburgh Section Power & Energy Society/Industrial Applications Society Chapters (2009-2013)
  - Member of the IEEE Center for Leadership Excellence Committee (2013, 2014)
  - IEEE Power & Energy Society Region 2 Representative (2010, 2011)

- Chapters/Sections Activities Track Chair for the 2008 IEEE Section Congress, Quebec City
- Technical Program Chair for the 2008 IEEE PES General Meeting, Pittsburgh with 2200+ international attendees
- Chairman, IEEE Pittsburgh Section (2005). Gave a complete facelift to the Section, received **Outstanding Large Section** Award (#1 placement among 319 sections in the world)
- Chairman, Power & Energy Society and Industrial Applications Society, IEEE Pittsburgh Section (2003, 2004). Received **Outstanding Large Chapter** Award (#1 placement among over 200 chapters in the world) for both Chapters (2004)
- **Outstanding Volunteer Service** Award for reviving the local Chapters of Power & Energy Society and Industrial Applications Society from inactivity to world-class performance (2004)
- IEEE Pittsburgh Section Power & Energy Society **Outstanding Engineer** Award (2004)
- **Outstanding Technical Committee Prize Paper** Award winner, PES (2001)
- Co-Chairman, *Task Force* in *Modeling and Analysis of System Transients Using Digital Programs* Working Group (1999-2003), which received the 2000 PES Working Group Award.

- **Boys Scout of America**
  - Leader, Boy Scouts of America, Troop 220 (2018 - Present)
  - Treasurer, Boy Scouts of America, Pack 220 (2014-2017)

- **Toastmasters International**
  - https://www.toastmasters.org/magazine/magazine-issues/2019/jan/6-quick-takes-member-moment
  - District Governor, District 13 (2007-2008). Received **Select Distinguished** District Governor award (#10 placement among 79 districts in the world, best performance of District 13 in its 75+ years of history)
  - Lieutenant Governor of Education & Training, District 13 (2006-2007). Received **Excellence in Education and Training** Award
  - Lieutenant Governor of Marketing, District 13 (2005-2006)
  - Area 9 Governor, District 13 (2004-2005). Received **Area Governor of the Year** Award
  - Monroeville Toastmasters Club: Treasurer (2004-2015), President (2003-2004), Vice President (2002-2003), Sergeant-at-Arms (1998-1999).
  - During my Presidency, I led the Monroeville Toastmasters Club to be **President's Distinguished** Club (2004), Toastmasters International's highest award.
  - Park Toastmasters Club, Stockholm, Sweden: Member (1999-2001).
  - Monroeville Toastmasters Club, Monroeville, PA: Member (1997-2022).

- **Community Service**
  - Volunteer: Lego Robot Car Race, Carnegie Science Center (every year for 2 decades)
  - Judge: Pittsburgh Regional Science & Engineering Fair (every year for 2 decades)
  - Judge: Intel International Science & Engineering Fair
  - Server: Jubilee Kitchen (regularly)
  - Volunteer: Hindu Jain Temple (for 3 decades)

- **Others**
  - Honor Societies: Eta Kappa Nu and Tau Beta Pi.

- Listed in International WHO'S WHO of Professionals.

Personal:

- U.S. Citizen