

Noel N. Schulz
Bob Ferguson Endowed Professor
Director, Institute for Northwest Energy Futures
Professor of Electrical Engineering, Washington State University

Institute for Northwest Energy Futures
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Leadership Interests:

Energy Ecosystem collaborations, Faculty development and research team building, graduate student development and leadership, women and under-represented minorities in STEM, international engineering solutions

Research Areas: Power systems modeling and analysis; smart grid applications; microgrids; renewable energy; electric vehicles; shipboard power systems; engineering education.

Education:

Ph.D. Electrical Engineering, University of Minnesota, 1995 Minor: Computer Science
M.S. Electrical Engineering, Virginia Polytechnic Institute and State University (Virginia Tech), 1990
B.S. Electrical Engineering, Summa Cum Laude, Virginia Tech, 1988

Administrative Experience:

Washington State University

Inaugural Director, WSU Institute for Northwest Energy Futures, 2023-Present.
Co-Director, PNNL/WSU Advanced Grid Institute, August 2021-December 2023;
Interim Co-Director, January 2020-August 2021.
School of Electrical Engineering/Computer Science Graduate Studies Committee Chair, 2018-2023.
Special Assistant to Vice Chancellor for Academic Affairs for School of Engineering and Applied Sciences, WSU-Tri-Cities Campus, January-August 2021.

Kansas State University

Associate Dean of Research and Graduate Programs, 2012-2016
Coordinate college level activities related to research, graduate programs, distance education, and environmental health and safety.
Organizer of Women of K-State and Chair, Women of K-State Leadership Committee, 2009-2016; University wide effort for supporting the recruitment, retention and advancement of women administrators, faculty, staff and students
Director, Electrical Power Affiliates Program, 2010-2016; college-level effort to promote careers related to electric power industry through contributions of industrial partners.

Mississippi State University

Director, Women in Engineering and Faculty Development, Bagley College of Engineering, MSU, July 2003 – December 2004.

Director for MSU Electric Ship Research & Development Consortium, May 2005-August 2009.

Michigan Technological University

Coordinator, Women In Science and Engineering (WISE), Michigan Tech, 1998-2001

Academic and Industrial Experience:

Faculty Member, School of Electrical Engineering and Computer Science, Washington State University (WSU)

Bob Ferguson Endowed Professor, 2024 - Present

Edmund O. Schweitzer III Chair in Power Apparatus & Systems, 2019 - 2023

Full Professor, 2016-Present

Chief Scientist, Pacific Northwest National Laboratory (PNNL), 2020 - Present

Faculty Member, Department of Electrical & Computer Engineering, Kansas State University

Full Professor, 2009 –2016

Paslay Professor in Electrical & Computer Engineering, 2009 --2016

Faculty Member, Department of Electrical & Computer Engineering, Mississippi State University (MSU)

Full Professor, 2008 – 2009.

Sabbatical, Cardiff University, Wales, UK, Fall 2008

Tennessee Valley Authority (TVA) Endowed Professor in Power Systems Engineering, 2005 – 2009.

Associate Professor of Electrical Engineering, 2001 – 2008; Tenured, 2004.

Faculty Member, Department of Electrical & Computer Engineering, Michigan Technological University

Assistant Professor of Electrical Engineering, 1995 – 2000.

Associate Professor of Electrical Engineering, 2000 – 2001; Tenured, 2000.

Summer Research Position, Northern States Power Company, 1993

Instructor, Department of Electrical Engineering, University of North Dakota, 1991-1992

Instructor, Department of Electrical Engineering, Virginia Tech, 1990-1991

Summer Intern, Litton Electronic Facility, 1985, 1988

Summer Intern, General Motors, 1986, 1987

Awards and Honors:

Bob Ferguson Endowed Professor, 2024 - Present

IEEE Women in Technology & Leadership Award, 2023

Academy of Distinguished Alumni, Virginia Tech Bradley Department of Electrical and Computer Engineering, April, 2022

Elected Member, Washington State Academy of Sciences, 2021-Present

Edmund O. Schweitzer III Chair in Power Apparatus & Systems, 2019 – 2023

WSU Office of Research Largest New Team Grant Award, 2018

WSU Graduate & Professional Student Association (GPSA) Award of Excellence as an Academic Advisor, 2017-2018.
WSU Alumni Association Honorary Alumna Award, September 2017.
IEEE Fellow, 2016.
IEEE HP Harriet B. Rigas Award, recognizing outstanding faculty women who have made significant contributions to electrical/computer engineering education. 2014.
American Society for Engineering Education, Fellow, 2014.
Paslay Professor in Electrical & Computer Engineering, Kansas State University, 2009-2016.
Honorary Member, Kansas State University Chapter of Golden Key International Honour Society, Fall 2011.
Inductee, Kansas State University Chapter of Phi Kappa Phi, Spring 2011.
Inductee, MSU Bagley College of Engineering Academy of Distinguished Teachers, 2008
MSU President's Commission on the Status of Women Outstanding Faculty Member, 2008
United Kingdom Engineering and Physical Sciences Research Council Visiting Researcher, Cardiff University, Wales, 2008
Bagley College of Engineering Outstanding Engineering Educator, MSU, 2008
Tennessee Valley Authority (TVA) Endowed Professorship in Power Systems Engineering, MSU, 2005
IEEE Power & Energy Society (PES) Walter Fee Outstanding Young Power Engineer Award, 2002
Eta Kappa Nu (HKN) C. Holmes MacDonald Outstanding Young Electrical Engineering Professor Award, 2002
IEEE Senior Member, August 2000.
IEEE Accreditation Board of Engineering and Technology (ABET) Evaluator, 2001-2009.
IEEE Power & Energy Society, elected Secretary for 2004-2007; Treasurer 2008 – 2009; President-Elect 2010-2011; President 2012-2013; Immediate Past President 2014-2015.
IEEE Power Engineering Society society-wide Awards and Recognition Chair, 2000-2003.
IEEE Power Engineering Society Outstanding Technical Report, 2002
Dow Outstanding New Engineering Faculty Award, North Midwest Region, American Society for Engineering Education (ASEE), 1999
ASEE Campus Representative Outstanding Recruiter, 1998-99
First Place won by graduate student advisee, Krishna Sridharan, Student Poster/Paper Session, IEEE Power Engineering Society, Winter Meeting, February 1999
First Place in Presentation won by graduate student advisee, Maria Padula, MTU Graduate Student Council Poster Presentations, October 1999
Electrical Engineering Professor of the Year, Michigan Tech, 1998
National Science Foundation CAREER Award, 1998-2003.
Edison Electric Institute Doctoral Forgivable Loan Fellowship, 1992-1995
First Place, Student Poster/Paper Session, IEEE Power Engineering Society, Winter Meeting, January 1995.
First Place, Student Poster Session, Minnesota Power Systems Conference, October, 1994.
Certificate of Outstanding Performance as Graduate Teaching Assistant, Virginia Tech, 1989.

Graduate Students:

Completed (47 MS, 15 PhD):

- M.S. Eric Laverty (1997); Caroline Johansson, Viswajit Ranganathan and Lee Cooper (1998); Krishna Sridharan (1999); Rochelle Fischer, Mrudhula Lakkakula, Biao Li and Lin Ye (co-advisor) (2000); Balakrishna Arunachalam and Maria Padula (co-advisor) (2001); Raju Brahmandhabheri, Thirupathi Venganti, Jian Wu, Nick Amann, Derrick Cherry and Venkata Kanduri (2004); Vijaysimha Duvvuru-Narasimhulu and Yan Huang (2005); Sujatha Kotamurthy and Daxa Patel (2006); Lennon Brown, Hymiar Hamilton, Sandhya Sankar, Olu Amoda and Koteswar Padamati (2007); Bidur Gautam, Vamsi Vijapurapu, Yujie Zhang, Srinath Kamireddy and Bharath Ravulapati (2008); Krishnanjan Gubba Ravikumar, Vinoth Mohan Mohan and Padmavathy Kankanala (2009); Venkata Pendurthi (co-advisor), Seetharamaraju Rudraraju (co-advisor) and Shireesha Methuku (co-advisor) (2009); Amanuel Kesete (co-advisor), Woldu Tuku, Manoj Vijayarengan, Boran Lu (co-advisor), Ermias Gebreab and Lazaro Escalante (2013); Abderrahmane Elandaloussi and Dingyi Li (2014); Hitesh Kumar (2019); Ali Khan (2023).
- Ph.D. Yan Liu and Xiaofeng Wang (2001); Haibin Wang (2002); Yanfeng Gong (2005); Sarika Khushalani, Jignesh Solanki and Jian Wu (2006); Qiuli Yu (2008); Minglan Li (2010); Qinghua Huang (2010); Yamilka I. Baez-Rivera (2011); Derrick Cherry (2012), Emilio Piesciorovsky (co-advisor, 2015); Hongda Ren (2021); Lusha Wang (2022).

Current Graduate Students (expected graduation date):

- Ph.D. Rabia Khan (May 2024), Ben Mccornack (2026)
MS Liadi Akande (Summer 2024)

Undergraduate and High School Student Researchers:

1996-1997 Helen Hamlin; 1997-98 Mike Skowronek; 1998-99 Rochelle Fischer, Chris Middlebrook, Mike Skowronek; 1999-2000 Jon Brown, Katie Kinzinger, Zakir Hossain, Kyla Manz, Deanna Rahko, Mike Skowronek, Poh-Mame Chang; 2000-2001 Aaron Laakonen, Adam MacEwen, Wayne Parker; 2001-2002 Kristen Bradley, Melissa Deer, Sam Jefferson; 2002-2003 Kristen Bradley, Jeff Jones, Dereck Lenior, Frankie Runnels, Allison Robertsen Mississippi School for Math and Science (MSMS); 2003-2004 Allison Robertson (MSMS); Karmen Harris, Justin Curry, 2009-2011; Emily Reinhard, 2010; Jacob Hnatiak, 2019-present.

Funded Research and Equipment Gifts:

Single PI Funding and Equipment Gifts:

- “Electric Ship Research and Development Consortium Research,” Mississippi State University for ONR project, 1/1/10-12/31/10, \$60,019.
- “Methodology for Determination of Schedule Integration,” Tennessee Valley Authority (TVA), 8/16/06-12/31/06, \$9,420.
- “Relay Data Integrity Study for Nashville, TN,” Tennessee Valley Authority, 3/1/2006-9/1/2006, \$6,000.
- “Relay Data Integrity Study for Starkville, MS,” Tennessee Valley Authority, 4/1/2005-9/30/2005, \$5,000.
- “Adaptive Reconfiguration for Shipboard Power and Support Systems,” Office of Naval Research through Florida State University, 1/1/2004-12/31/2005, \$600,000.

- “Transient Response to Current Perturbations in Power Distribution Networks,” Distribution Control Systems, Inc., (DCSI), August 2003-August 2004, \$25,000.
- “Electric Ship Power System Reconfiguration and Modeling,” Office of Naval Research, May 2003-May 2004, \$92,915.
- “Study of Poultry Litter/Wood Chip Power Distributed Generation for the Mississippi Band of Choctaw Indians,” Mississippi Technology Alliance, May 2003-September 2003, \$14,967.
- “Relay Test Equipment for Educational Purposes,” Schweitzer Engineering Labs (SEL), April 2003, \$9,000.
- “Relay Test Equipment for Educational Purposes,” Schweitzer Engineering Labs (SEL), April 2004, \$15,000.
- “Development of ECE Demonstrations Using SEL Equipment,” Schweitzer Engineering Labs, August 2002-July 2003, \$50,000.
- “Development of Intelligent Information Professor for Distribution Systems,” National Science Foundation-CAREER Award, June 1998-June 2003, \$310,000
- “Capacitor Bank Data Integrity Study,” Northern States Power Company, May 2000-September, 2000, \$15,000.
- “Data Analysis and Evaluation for Distribution System Computer Applications,” Northern States Power Company, May 1998-May 2000, \$119,058.
- "Data Analysis Support," Northern States Power Company, June 1999-December 1999, \$27,000.
- "Research Education for Undergraduates (REU) Supplement for CAREER Award," NSF, June-September, 2000, \$10,000.
- "REU Supplement for CAREER Award," National Science Foundation, June-September, 1999, \$10,000.
- “Development of the US Power Engineering Education Electronic Network,” National Science Foundation Supplemental grant, June 1997-February 2000, \$14,579.
- “Research Education for Undergraduates Experience,” National Science Foundation Supplemental grant, June 1998-March 1999, \$10,000.
- “Documentation of Heuristics for Restoration,” Siemens Power T&D, September 1997-March 1998, \$10,000.
- “Development of Restoration Switching Heuristics,” Configured Energy Systems, September 1997-September 1998, \$31,500.
- "Integration of Technical and Personnel Considerations for Utility Storm Management," National Science Foundation, February 1997-August 1998, \$18,000.
- "Computational Tools for Intelligent System Engineering of Power System Operations," Michigan Research Excellence Funds, December 1996 - December 1998, \$40,000.
- "Implementation of Configured Energy Systems (CES) Algorithm for Storm Management," Configured Energy Systems, December 1996 - June 1997, \$19,250.
- "System Review of Distribution Dispatch System and Process Review of Delivery Operations Work Management Requirements," Northern States Power Company, February 1996-February 1997, \$57,000.

Collaborative Research and Equipment Funding

- Technical Support for USAID/Pakistan-NREL Partnership, Noel Schulz (PI) and Sanjeev Pannala, National Renewable Energy Laboratory, \$77835, April 2023 – May 2024.

- Northwest Virtual Institute for CyberSecurity Education & Research (CySER), Bernard VanWie (PI), Assefaw Gebremedhin (co-PI) and Noel Schulz (co-PI), DOD through Griffiss Institute, \$1.5M, June 2021 – June 2024.
- Interdisciplinary Graduate Training Program in AI and Data Science for Complex Engineering Applications (TAIDCEA), Assefaw Gebremedhin (PI), Anamika Dubey (co-PI), Venera Arnaoudova (co-PI) and Noel Schulz (Co-PI), Department of Education GAANN, \$1.2M, November 2021-2024.
- “Polarizing Logic for Distance and Directional Elements in Modern Power Systems with Low-Inertia,” Schweitzer Engineering Laboratories (SEL), Noel Schulz (PI) and Saeed Lotfifard, February 2018-2019, \$100,000.
- “Data Analytics for High Impedance Fault Detection,” SEL, Saeed Lotfifard (PI) and Noel Schulz, \$200,000, May 2017-2019.
- “US-Indian Collaborative for Smart Distribution System With Storage, UI-ASSIST,” US Department of Energy and Indian Department of Science & Technology, Noel Schulz (US Admin lead) and Anurag Srivastava (US technical lead), Washington State University and Suresh C. Srivastava, (India Admin lead) and Santanu Mishra, (India Technical lead), includes 15 partners in US and in India. Oct. 2017-2023, \$30M.
- “Equipment and Laboratory Proposal,” Burns & McDonnell through K-State Foundation, Kelly Sartorius, Don Gruenbacher, Caterina Scoglio and Noel Schulz, 08/2011, \$100,000.
- “Equipment for Smart Grid Laboratory,” SEL through K-State Foundation, Noel Schulz and Amy Bartak, 03/2012, \$60,000.
- “Holonic Multi-Agent Control of Intelligent Power Distribution Systems,” National Science Foundation Cyber-Physical Systems, Anil Pahwa (PI); Co-PIs Scott DeLoach, Sanjoy Das, Bala Natarajan and Xinming Ou; Senior Personnel Dan Andresen Noel Schulz and Gurdip Singh; 01/2012-12/2015, \$1.1M.
- “Power Management and Control in All Electric and Hybrid Electric Combat Vehicles,” Bala Natarajan (PI) and Noel Schulz, M2 through Expeditionary Capabilities Consortium, 08/2010-08/2011, \$50,000.
- “From Defense to Degree: Accelerating Engineering Degree Opportunities for Military Veterans,” David Soldan (PI), Don Gruenbacher and Noel Schulz, 08/01/10-07/31/12, \$146,000; REU Supplement for this Project \$20,800.
- “Advanced Computational and Sensor Network Methods for MVDC Shipboard Power Systems,” Noel Schulz (PI), Sanjoy Das, Bala Natarajan and Caterina Scoglio, DoD EPSCoR, ONR, 12/01/09-11/30/12, \$569,380.
- “Electric Ship Research and Development Consortium MSU Contributions,” Noel Schulz (PI), Herb Ginn, Stan Grzybowski, Anurag Srivastava, Stephanie Doane and Tomasz Haupt, Office of Naval Research through Electric Ship Consortium, October 2007-September 2012, \$6,540,000.
- “Cooling, Heating, and Power (CHP) at MSU,” Noel Schulz (PI). Herbert L. Ginn, and Anurag K. Srivastava, Department of Energy, 5/01/2008 – 1/30/2010, \$199,358.
- “Device Development for Nondestructive Testing and Measurement of Power Systems”, Department of Defense-Multidisciplinary University Research Initiative (MURI) with Drexel (PI), Iowa State, Texas A&M, and Northeastern, June 2004-April 2009, MSU part \$376,649.
- “Semantics-Driven Knowledge Discovery System for Wide Area Monitoring of Electric Power Grid,” Nick Younan (PI), Noel Schulz, Roger King and Kari Babski-Reeves, Oak Ridge National Labs and Department of Homeland Security, 1/1/07-12/31/07, \$588,000.

- “Electric Power Grid,” Noel Schulz (PI) and Anurag Srivastava, Department of Energy, 6/01/06-5/31/07, \$100,079.
- “MicroCooling, Heating & Power,” Noel Schulz (PI) and Herb Ginn, Department of Energy, 8/18/06-8/15/07, \$71,990.
- “High Performance Real-Time System for Hardware in the Loop Testing and Analysis of Advanced Power and Control System,” Noel Schulz (PI), Herb Ginn, Randolph Follett and Wenzong Gao, Department of Defense University Research Instrumentation Program (DURIP), 04/01/06-3/31/07, \$310,000.
- “Electric Ship Research and Development Consortium MSU Contributions,” Noel Schulz (PI), Herb Ginn, Stan Grzybowski and David Gao, Office of Naval Research through Electric Ship Consortium, October 2005-December 2007, \$2,859,726.
- “Power System Sub-Task for MSU E-ship Effort,” Noel Schulz (PI) and J.W. Bruce, Office of Naval Research through Electric Ship Consortium, June 2002 – May 2003, \$381,319.
- “A Multimedia Introductory Course in Electric Energy: Part II,” Leonard Bohmann (PI), Bruce Mork, Noel Schulz and Dennis Wiitanen, EPRI, June 1997-June 2000, \$60,000.
- “A Multimedia Introductory Course in Electric Energy,” Leonard Bohmann (PI), Bruce Mork, Noel Schulz and Dennis Wiitanen, Electric Power Research Institute (EPRI), June 1997-June 2000, \$209,750.
- “Professional Design Laboratory,” National Science Foundation, Martha Sloan (PI), Allan Hambley, Noel Schulz, Timothy Schulz and Dennis Wiitanen, June 1997-June 1999, \$99,982.

Publications:

Book Chapters

1. Aicha Elshabini-Riad and **Noel N. Schulz**, "Electrical Modeling," Chapter XVI, ISHM Hybrid Microelectronics Series, Vol. 1, International Society of Hybrid Microelectronics, October, 1990.
2. Anurag K. Srivastava, **Noel N. Schulz**, Ramon Zamora, Krishnanjan G. Ravikumar and Vinoth M. Mohan, “Real Time Modeling and Control of Smart Grid Systems,” Modeling and Control of Power System: Towards Smarter and Greener Electric Grids, Springer, 2011.
3. Co-Editor of Springer Book “Women in Power: Research and Development Advances in Electric Power Systems, Springer; 1st ed. 2023 edition <https://doi.org/10.1007/978-3-031-29724-3>.

Refereed Journal Publications

1. R. Khan, **N.N. Schulz**, and M. Nasir, “An Optimal Neighborhood Energy Sharing Scheme Applied to Islanded DC Microgrids for Cooperative Rural Electrification.” *IEEE Access* (2023)
2. Lusha Wang, Jonghwan Kwon, Zhi Zhou, and **Noel Schulz**, " Evaluation of Aggregated EV Flexibility With TSO/DSO Coordination " *IEEE Transactions on Sustainable Energy*, 13(4), 2304 - 2315.

3. Wang, L., Gebremedhin, A., Dubey, A. N., Srivastava, A.K., **Schulz, N. N.** (2022), "MPC-Based Decentralized Voltage Control in Power Distribution Systems With EV and PV Coordination," *IEEE Transactions on Smart Grid*, 13(4). Doi: 10.1109/TSG.2022.3156115
4. H. Ren, R. R. Jha, A. Dubey and **N. N. Schulz**, "Extremum-Seeking Adaptive-Droop for Model-Free and Localized Volt-VAR Optimization," in *IEEE Transactions on Power Systems*, vol. 37, no. 1, pp. 179-190, Jan. 2022
5. B. Brusilowicz and **N. N. Schulz**, "Polarizing Voltage Generating Method for Distance and Directional Protection Elements," *IEEE Transactions on Power Delivery*, doi: 10.1109/TPWRD.2020.2974737.
6. R. Panigrahi, S. K. Mishra, S. C. Srivastava, A. K. Srivastava and **N. N. Schulz**, "Grid Integration of Small-Scale Photovoltaic Systems in Secondary Distribution Network—A Review," *IEEE Transactions on Industry Applications*, vol. 56, no. 3, pp. 3178-3195, May-June 2020, doi: 10.1109/TIA.2020.2979789.
7. Emilio C. Piescorovsky and **Noel N. Schulz**, "Comparison of non-real-time and real-time simulations with relays in-the-loop for adaptive overcurrent protection," *Electric Power Systems Research*, Vol 143, February 2017, pp. 657-668.
8. E.C. Piescorovsky and **N.N. Schulz**, "Fuse Relay Adaptive Overcurrent Protection Scheme for Microgrid with Distributed Generators," *IET Generation, Transmission and Distribution*, 11 (2), 2017, pp. 540-549.
9. S. Bose, B. Natarajan, C.M. Scoglio, **N.N. Schulz**, D. Gruenbacher and S. Das, "Shipboard Power Systems-Reconfiguration – A Cyber-Physical Framework for Response Time Analysis," *IEEE Transactions on Industrial Informatics*, 10 (1), 2014, pp. 439-449.
10. S. Pahwa, C. Scoglio, S. Das, **N. Schulz**, "Load-Shedding Strategies for Preventing Cascading Failures in Power Grid," *Electric Power Components and Systems*, 41 (9), July 2014, pp 879-895.
11. S. Das, S. Bose, S. Pal, **N.N. Schulz**, C.M. Scoglio and B. Natarajan, "Dynamic reconfiguration of shipboard power systems using reinforcement learning," *IEEE Transactions on Power Systems*, 28 (2), 2013, pp. 669-676.
12. S. Pahwa, M. Toussef, P. Schumm, C. Scoglio and **N. Schulz**, "Optimal intentional islanding to enhance the robustness of power grid networks," *Physica A: Statistical Mechanics and its Applications*, 392 (17), September 1, 2013, pp. 3741-3754.
13. A. Sydney, J. Nutaro, C. Scoglio, D. Gruenbacher, N. Schulz, "Simulative Comparison of Multiprotocol Label Switching and OpenFlow Network Technologies for Transmission Operations," *IEEE Transactions on Smart Grid*, 4 (2), 2013, pp.763-770.
14. S.K. Srivastava, A.K. Srivastava, O. Adesope, A.R. Minerick, N.N. Schulz, "Analyzing Self-Reported Challenges and Preferences for Enhancing Recruitment and Retention of International Female Graduate Engineering Students," *Journal of Women and Minorities in Science and Engineering*, 19 (2), 2013, pp. 185-208.
15. Padmavathy Kankanala, Suresh C. Srivastava, Anurag K. Srivastava and **Noel N. Schulz**, "Optimal Control of Voltage and Power in Multi-Zonal MVDC Shipboard Power System," *IEEE Transactions on Power Systems*, 27 (2), pp. 642-650, May 2012.
16. Anurag K. Srivastava, Aarthi Ashok Kumar and **Noel N. Schulz**, "Impact of Distributed Generations with Energy Storage Devices on the Electric Grid," *IEEE Systems Journal*, Vol. 6, No. 1, pp. 110-117, January 2012.

17. Sayak Bose, Siddharath Pal, Bala Natarajan, Caterina Scoglio, Sanjoy Das and **Noel Schulz**, "Analysis of Optimal Reconfiguration of Shipboard Power Systems," *IEEE Transactions on Power Systems*, 27 (1), pp. 189-197, 2012.
18. V.K. Vijapurapu, A.K. Srivastava, N.N. Schulz, "Modelling and Validation of Differential Relay Using Real Time Digital Simulator," *International Journal of Energy Technology and Policy*, 8 (3-6), 2012, pp. 305-322.
19. A.K. Srivastava, R. Zamora, N.N. Schulz, K.G. Ravikumar, V.M. Mohan, "Real Time Modeling and Control of Smart Grid Systems," *Green Energy and Technology*, 96, 2012, pp 1-26.
20. Seetharama R. Rudraraju, Suresh C. Srivastava and **Noel N. Schulz**, "Modeling and Simulation of VSC-MVDC System," *Electric Power and Component System*, Vol. 39, Issue 11, pp.1134-1150, July 2011.
21. Soumya K. Srivastava, Anurag K. Srivastava, Adrienne R. Minerick and **Noel N. Schulz**, "Recruitment and Retention of International Graduate Students in U.S. Universities," *International Journal of Engineering Education*, Vol. 26, No. 6, pp. 1561-1574, 2010.
22. Qiuli Yu, **Noel N. Schulz** and Anurag K. Srivastava, "Multi-Agent Based Reconfiguration of AC-DC Shipboard Distribution Power Systems," *Integrated Computer-Aided Engineering*, Vol. 17, pp. 347-357, 2010 (invited).
23. Jignesh M. Solanki, Sarika Khushalani and **Noel N. Schulz**, "Multi-agent based reconfiguration for restoration of distribution systems with distributed generators," *Integrated Computer-Aided Engineering*, Vol. 17, pp. 331-346, 2010 (invited).
24. Lee Tang, Yanfeng Gong, **Noel N. Schulz**, Mischa Steurer and Peter G. McLaren, "Implementation of Ship-Wide Area Differential Protection Scheme," *IEEE Transactions on Industry Applications*, Vol. 44, No. 6, November/December 2008, pp. 1864-1871.
25. Sarika Khushalani, Jignesh Solanki and **Noel N. Schulz**, "Optimized Restoration of Combined AC/DC Shipboard Power Systems Including Distributed Generation and Islanding Techniques," *Electric Power System Research*, Elsevier, Vol. 78, Issue 9, September 2008, pp.1528-1536.
26. Sujatha Kotamarty, Sarika Khushalani and **Noel N. Schulz**, "Impact of Distributed Generation on Distribution Contingency Analysis," *Electric Power System Research*, Elsevier, Vol. 78, Issue 9, September 2008, pp. 1537-1545.
27. Yanfeng Gong, Yan Huang and **Noel N. Schulz**, "Integrated Protection System Design for Shipboard Power Systems," *IEEE Transactions on Industrial Applications*, Vol. 44, Issue 6, Nov.-Dec. 2008, pp. 1930-1936.
28. Jian Wu, **Noel N. Schulz** and Wenzhong Gao, "Distributed Simulation For Electric Power System Analysis," *Electric Power Systems Research*, Vol. 77, Issue 8, June 2007, pp. 1124-1131.
29. Sarika Khushalani, Jignesh M. Solanki and **Noel N. Schulz**, "Optimized Restoration of Unbalanced Distribution Systems," *IEEE Transactions on Power Systems*, Vol. 22, No. 2, May 2007, pp. 624-630.
30. Sarika Khushalani, Jignesh Solanki and **Noel N. Schulz**, "Development of Three Phase Unbalanced Power Flow Using PV and PQ Models for Distributed Generation and Study of the Impact of DG Models," *IEEE Transactions on Power Systems*, Vol. 22, Issue 3, Aug. 2007, pp. 1019-1025.
31. Jignesh Solanki, Sarika Khushalani and **Noel N. Schulz**, "A Multi-Agent Solution to Distribution Systems Restoration," *IEEE Transactions on Power Systems*, Vol. 22, Issue 3, Aug. 2007, pp. 1026-1034.

32. Jim McCalley, Leonard Bohmann, Karen Miu, and **Noel N. Schulz**, "Electric Power Engineering Education Resources 2005-2006: IEEE Power Engineering Society Committee Report," *IEEE Transactions on Power Systems*, Vol. 23, Issue 1, Feb. 2008, pp. 1-24.
33. Jian Wu, Yong Cheng, **Noel N. Schulz** and Herbert L. Ginn, "Impact of Standardized Models, Programming, Interfaces and Protocols on Shipboard Power System," *IEEE Transactions on Industrial Applications*, Vol. 44, Issue 2, March/April 2008, p. 455-462.
34. Haibin Wang and **Noel N. Schulz**, "Using Automatic Meter Reading (AMR) Data for Load Estimation for Distribution System Analysis," *Electric Power Systems Research*, Elsevier, Vol. 26, March 2006, pp. 336-342.
35. Jim McCalley, Leonard Bohmann, Karen Miu and **Noel N. Schulz**, "Electric Power Engineering Education Resources 2001-02: IEEE Power Engineering Society Committee Report," *IEEE Transactions on Power Systems*, Vol. 19, No. 4, November 2004, pp. 1703-1722.
36. Haibin Wang and **Noel N. Schulz**, "A Revised Branch Current Based Distribution State Estimation Algorithm and Meter Placement Impact," *IEEE Transactions on Power Systems*, Vol. 19, No. 1, February 2004, pp. 207-213.
37. Xiaofeng Wang, **Noel N. Schulz** and Scott A. Neumann, "Common Information Modeling Extensions to Electrical Distribution and Common Information Modeling eXtensible Markup Language (CIM XML) for the IEEE Radial Test Feeders," *IEEE Transactions on Power Systems*, Vol. 18, No. 3, August 2003, pp. 1021-1028.
38. Yan Liu and **Noel N. Schulz**, " Knowledge-Based System for Distribution System Outage Locating Using Comprehensive Information," *IEEE Transactions on Power Systems*, Vol.17, No.2, May 2002, pp. 451-6.
39. Yan Liu and **Noel N. Schulz**, "Integrated Fuzzy Filter for Distribution Outage Information," *Electric Power Systems Research*, Vol. 63, No.3, Oct. 2002, pp. 177-84.
40. Rochelle Fischer, Aaron Laakonen and **Noel N. Schulz**, "A General Polling Algorithm Using A Wireless AMR System for Restoration Confirmation," *IEEE Transactions on Power Systems*, Vol. 16, No. 2, May 2001, pp. 312-316.
41. Krishna Sridharan and **Noel N. Schulz**, "Outage Management Through Automatic Meter Reading (AMR) Systems Using An Intelligent Data Filter," *IEEE Transactions on Power Delivery*, Vol.16, No. 4, October 2001, pp. 669 -675.
42. Eric Laverty and **Noel N. Schulz**, "An Improved Algorithm to Aid in Post-Heat Storm Restoration," *IEEE Transactions on Power Systems*, Vol. 14, No. 2, May 1999, pp. 446-450.
43. **Noel N. Schulz**, Kirk H. Schulz and Mariesa L. Crow, "A Survey of Dual Career Hiring into Engineering Faculty Positions," *Journal of Engineering Education*, Vol. 86, No. 4, October 1997, pp. 333-339.
44. **Noel N. Schulz** and Bruce F. Wollenberg, "Incorporation of an Advanced Evaluation Criteria in an Expert System for the Creation and Evaluation of Planned Switching Sequences," *IEEE Transactions on Power Systems*, Vol. 12 No. 3 August 1997, pp. 1167-1176.

Invited Conference Publications

1. **Noel N. Schulz**, "Intelligent System Applications to Intelligent Distributed Automated Power Systems," *Proceedings of the Japan-US Intelligent Distributed Autonomous Power System (IDAPS) Conference*, Hakone, Japan, July 1998.

2. A Bruce F. Wollenberg and **Noel N. Schulz**, "Expert system implementation in power system operations computer systems," *Tutorial Session Proceedings of the 11th Power Systems Computation Conference*, 1993, pp. 51-57.

Refereed Conference Publications

1. R.Khan, and N.N.Schulz, "Power-Electronic Loss Modeling and Analysis of DC Microgrids for Rural Electrification," IEEE Global Humanitarian Technology Conference (GHTC), 2023, pp. 1-6
2. R.Khan, and N.N.Schulz, "Optimal Peer-to-Peer Power Dispatch in Islanded DC Clustered Nanogrids for Rural Electrification," IEEE Power & Energy Society General Meeting (PESGM), 2023, pp. 1-5.
3. Khan, Ali, Pannala, Sanjeev, and **Schulz, Noel**, "Regional Energy Arbitrage With Electric Vehicles Mobility Using Voltage-Cost Curve," 2023 IEEE Kansas Power and Energy Conference (KPEC).
4. Patel, Viresh, Mccornack, Benjamin, Pannala, Sanjeev, Soni, Anupam, Sharma, Ankush, **Schulz, Noel**, and Srivastava, Anurag, "Transnational Federated Testbed: Analyzing Impact of Network Parameters on T&D Co-Simulation," 2023 IEEE International Conference on Energy Technologies for Future Grids (ETFEG).
5. Pannala, S., Khan, A., **Schulz, N. N.**, Srivastava, A. K., Sharma, A., Srivastava, S. C. (2022). Cooperative Framework For Mitigation of Voltage Limit Violations in a Rural Distribution System with Electric Vehicles Fleet. IEEE NPSC Conference 2022, December 17-19, 2022.
6. Sharma, P. A., Mohapatra, A., Sarma, A., Pannala, S., **Schulz, N. N.**, Srivastava, A. K., Gibson, S., Hieb, J. (2022). Real Time Adjustment to Mitigate the SPV Forecasting Errors with BESS and EV – An Utility Case Study. 2022 IEEE 10th Power India International Conference (PIICON).
7. Wertz, C., Smit, A., Baetz, I., Qu, S., Rappazzo, B., Pannala, S., **Schulz, N. N.** (2022). Renewable Energy Resources Connected Utility Microgrid for the Tulalip Tribes. IEEE North American Power Symposium 2022. <https://ieeexplore.ieee.org/document/10012187>.
8. H. Ren and **N. N. Schulz**, "A Clustering-based Microgrid Planning for Resilient Restoration in Power Distribution System," *2020 IEEE/PES Transmission and Distribution Conference and Exposition (T&D)*, Chicago, IL, 2020, pp. 1-5, doi: 10.1109/TD39804.2020.9299978.
9. R. Khan and **N. N. Schulz**, "Network Loss Analysis of Low-Voltage Low-Power DC Microgrids for Rural Electrification," *2020 IEEE/PES Transmission and Distribution Conference and Exposition (T&D)*, Chicago, IL, 2020, pp. 1-5, doi: 10.1109/TD39804.2020.9299657.
10. S.K. Singh, Ankush Sharma, Santanu Mishra, S.C. Srivastava, Deep Mukherjee, Anurag Srivastava and Noel Schulz, " Rural Microgrid Field Pilot in India Ensuring Reliable Electricity Supply and Social Upliftment," *2021 IEEE Global Humanitarian Technology Conference (GHTC)*, 2021, pp. 24-27, doi: 10.1109/GHTC53159.2021.9612517.
11. S. Jena, N. P. Padhy, S. C. Srivastava and **N. N. Schulz**, "A hybrid RC-droop control strategy for power sharing and voltage restoration in islanded DC microgrids," *2019 8th International Conference on Power Systems (ICPS)*, Jaipur, India, 2019, pp. 1-6, doi: 10.1109/ICPS48983.2019.9067669.

12. R. Khan, **N. N. Schulz** and M. Nasir, "Distribution Loss Analysis of DC Microgrids for Rural Electrification," *2019 IEEE Global Humanitarian Technology Conference (GHTC)*, Seattle, WA, USA, 2019, pp. 1-8, doi: 10.1109/GHTC46095.2019.9033010.
13. H. Ren, **N. N. Schulz**, V. Krishnan and Y. Zhang, "Online Static Load Model Estimation in Distribution Systems," *2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*, Vancouver, BC, Canada, 2019, pp. 153-158, doi: 10.1109/ISIE.2019.8781530.
14. R. Khan and **N. N. Schulz**, "Cost Optimization of Hybrid Islanded Microgrid for Rural Electrification," *2019 IEEE Power & Energy Society General Meeting (PESGM)*, Atlanta, GA, USA, 2019, pp. 1-5, doi: 10.1109/PESGM40551.2019.8974024.
15. H. Ren and N. N. Schulz, "An Improved DBSCAN Method for Self-sufficient Microgrid Design," *2018 North American Power Symposium (NAPS)*, Fargo, ND, 2018, pp. 1-6, doi: 10.1109/NAPS.2018.8600608.
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17. D.L. Soldan, D.M. Gruenbacher, **N.N. Schulz**, W.B. Hageman, B. Vogt and R. Natarajan, "Accelerating Engineering Degree Completion for Military Veterans," 2013 IEEE Frontiers in Education Conference 2013, pp. 1231-1232.
18. S. Bose, B. Natarajan, C. Scoglio, **N.N. Schulz**, "Distributed Optimization for Shipboard Smartgrid," Proceedings of the IEEE Latin-America Conference on Communications, Cuenca, Ecuador, 2012.
19. D.L. Soldan, **N.N. Schulz**, D. Gruenbacher, R. Natarajan, B.M. Vogt, "Integrating Military Veterans into Engineering Programs," Proceedings of the ASEE Annual Conference and Exposition, San Antonio, TX, June 2012.
20. Boran Lu, Bala Natarajan and **Noel N. Schulz**, "Optimal Control Based Power Management in Hybrid Military Vehicle," Proceedings of the IEEE International Electric Vehicle Conference, Greenville, SC, March 2012.
21. D.L. Soldan, **N.N. Schulz**, D.M. Gruenbacher, B.M. Vogt, R. Natarajan, "Work in Progress – Streamlining Pathways to Engineering Degrees for Military Veterans," Proceedings of the Frontiers in Education Conference, Rapid City, SD, November 2011.
22. **N.N. Schulz**, "Integrating Smart Grid Technologies into an Electrical and Computer Engineering Curriculum," IEEE PES Innovative Smart Grid Technologies Conference, Perth, WA; Australia, November 2011.
23. A.K. Srivastava, S.K. Srivastava, A.R. Minerick, **N.N. Schulz**, "Survey Based Comparison of Perceptions Among Current International Engineering Graduate Students and Alumni at US Universities," Proceedings of the ASEE Annual Conference and Exposition, Vancouver, BC; Canada, June 2011.
24. D.L. Soldan, **N.N. Schulz**, B.A. Vogt, D. Gruenbacher, R. Natarajan, "Accelerating Engineering Degree Opportunities for Military Veterans," Proceedings of the ASEE Annual Conference and Exposition, Vancouver, BC; Canada, June 2011.
25. Emily Reinhard, Ben Champion, **Noel Schulz**, Rebecca Gould, Ernie Perez and Nick Brown, "Computer Power Consumption and Management," Proceedings of the IEEE Power Systems Conference and Exhibition, March 2011, Phoenix, Arizona (acceptance 70%).
26. Sarah Kubler, Sakshi Pahwa, **Noel Schulz** and Caterina Scoglio, "A simulative analysis of the robustness of Smart Grid communications network," Proceedings of the North American Power Symposium, 2011, p. 1-7.

27. Minglan Lin, Anurag K Srivastava and **Noel Schulz**, “Voltage Stability Assessment of AC/DC Systems”, Proceedings of the IEEE PES T&D conference and exposition, New Orleans, LA, April 19-22, 2010.
28. Venkata Pendurthi, **Noel Schulz** and Anurag K Srivastava, “Dealing with Uncertainty in the Measurements for the Reconfiguration of Distribution Power Systems”, Proceedings of the IEEE PES T&D conference and exposition, New Orleans, LA, April 19-22, 2010.
29. Sayak Bose, Siddharth Pal, Caterina Scoglio, Bala Natarajan, Sanjoy Das and **Noel N. Schulz**, “Analysis of optimized reconfiguration of power systems for electric ships,” Proceedings of the North American Power Symposium, University of Texas-Arlington, September, 2010.
30. Siddharth Pal, Sayak Bose, Sanjoy Das, Caterina Scoglio, Bala Natarajan and **Noel Schulz**, “Shipboard Power System Reconfiguration Using Reinforcement Learning,” Proceedings of the North American Power Symposium, University of Texas-Arlington, September, 2010.
31. **N.N. Schulz**, A.M. Haddad, “International Sabbaticals: Experiences and Opportunities,” IEEE PES General Meeting, Calgary, AB; Canada, July 2009.
32. **N.N. Schulz**, “Integrating Today’s Research to Prepare Tomorrow’s Power Engineers,” IEEE PES General Meeting, Calgary, AB; Canada, July 2009.
33. Qinghua Huang, **Noel N. Schulz**, Anurag K. Srivastava, and Tomasz Haupt, “Distributed State Estimation with PMU Using Grid Computing”, IEEE PES General Meeting, Calgary, Canada, 26-30 July, 2009
34. Padmavathy Kankanala, Suresh C Srivastava, Anurag K Srivastava and **Noel N Schulz**, “Optimal Control of Voltage and Power in a Multi Zonal Shipboard MVDC Power System”, North American Power Symposium, Mississippi State, MS, October 4-6, 2009
35. D. Clark, A. Haddad, H. Griffiths, N.N. Schulz, “Analysis of Switching Transients in Domestic Installations with Grid-Tied Microgeneration,” North American Power Symposium, Starkville, MS, October 2009.
36. Shireesha Methuku, Anurag K Srivastava and **Noel N Schulz**, “Comprehensive Modeling and Stability Analysis of Biomass Generation”, North American Power Symposium, Mississippi State, MS, October 4-6, 2009
37. B. Watford, L. Crumpton-Young, S. Davidson, L. McCue, N. Schulz, “Taking a Break from Academia,” Proceedings of the ASEE Annual Conference and Exposition, Austin, TX, June 2009.
38. Soumya K Srivastava, Anurag K Srivastava, Adrienne Minerick and **Noel N Schulz**, “Preferences and challenges for female graduate engineering students: A survey based study”, ASEE Conference and Exposition, Louisville, Kentucky, June 20-23, 2010
39. Anurag K Srivastava and **Noel N Schulz**, “Applications of Real Time Digital Simulator in Power System Education and Research” ASEE annual conference and exposition, Austin, TX, June 14-17, 2009
40. **Noel N. Schulz**, “Recharge Your Professional and Personal Activities through an International Sabbatical,” *Proceedings of the 2009 ASEE Annual Meeting*, June 2009, Austin, TX.
41. Soumya Keshavamurthy, Anurag K. Srivastava, Adrienne Minerick, and **Noel N. Schulz**, “International Graduate Students’ Challenges: A Survey-based Study,” *Proceedings of the 2009 ASEE Annual Meeting*, June 2009, Austin, TX.

42. Krishnanjan Gubba Ravikumar, **Noel N. Schulz**, and Anurag K. Srivastava, “Distributed Simulation of Power Systems Using Real-Time Digital Simulator”, *Proceedings of the IEEE PES Power System Conference & Exhibition*, March 2009, Seattle, WA.
43. Nishal Dahal, Vinoth Mohan, **Noel N. Schulz**, Surya Durbha, and Anurag K. Srivastava, “Wide Area Monitoring Using Common Information Model and Sensor Web”, *Proceedings of the IEEE PES Power System Conference & Exhibition*, March 2009, Seattle, WA.
44. Aarthi Asok Kumar, Anurag K Srivastava and **Noel N. Schulz**, “Impact of Biomass Based Distributed generation with Energy Storage on Transient Stability of Grid”, *Proceedings of Power System Conference (PSC)*, March 11-14, 2008, Clemson, SC.
45. Abhilash R Masannagari, Anurag K Srivastava and **Noel N. Schulz**, “Optimizing Siting and Sizing of DG to maximize Grid Stability”, *Proceedings of Power System Conference (PSC)*, March 11-14, 2008, Clemson, SC.
46. Bharath K Ravulapati, Srinath Kamireddy, Anurag K Srivastava and **Noel N Schulz**, “Developing Corrective and Preventive Actions for Extreme Contingencies”, *Proceedings of Power System Conference (PSC)*, March 11-14, 2008, Clemson, SC.
47. Aarthi Asok Kumar, Abhilash R Masannagari, Anurag K Srivastava and **Noel N Schulz**, “**Impact of Biomass Based Distributed generation on Electric Grid**”, Clan technology and Sustainable Industries Conference and Trade Show, Boston, MA, June 1-5, 2008.
48. Meenakshi Garg, Hymiar Hamilton, Anurag K. Srivastava, and **Noel N. Schulz**, “DC Fault Analysis Using Simulink and RTDS”, IEEE Conference & Exhibition on Control, Communication and Automation (INDICON), Indian Institute of Technology, Kanpur, India, 11-13 December, 2008
49. Vamsi K Vijapurapu, **Noel N. Schulz**, Anurag K Srivastava, and Jimena Bastos, “Comparative Assessment of Differential Relay Model Performance with Hardware Equipment”, Grand Challenges in Modeling & Simulation, Summer Simulation Conference (SummerSim), June 16-19, 2008 Edinburgh, Scotland.
50. Yamilka Báez-Rivera, **Noel N. Schulz** and Anurag K. Srivastava, “Simulations to Study the Stability Issues in a Shipboard Power System”, Grand Challenges in Modeling & Simulation, Summer Simulation Conference (SummerSim), June 16-19, 2008 Edinburgh, Scotland.
51. Ankush Saran, Padmavathy Kankanala, Anurag K. Srivastava and **Noel N. Schulz**, “Designing and Testing Protective Overcurrent Relay using Real Time Digital Simulation”, Grand Challenges in Modeling & Simulation, Summer Simulation Conference (SummerSim), June 16-19, 2008 Edinburgh, Scotland.
52. Sunil Palla, Anurag K Srivastava and **Noel N. Schulz**, “Modeling and validation of an overcurrent relay using LabVIEW and RTDS”, Grand Challenges in Modeling & Simulation, Summer Simulation Conference (SummerSim), June 16-19, 2008 Edinburgh, Scotland.
53. Vinoth Mohan, **Noel N Schulz**, and Anurag K Srivastava, “Common Information Model for Sensors” Grand Challenges in Modeling & Simulation, Summer Simulation Conference (SummerSim), June 16-19, 2008 Edinburgh, Scotland.
54. Q. Yu and **N. N. Schulz**, “Modeling and Simulation of MAS-Based Reconfiguration for an Integrated Power System,” *Proceedings of the 2008 International Simulation Multi-Conference (ISM’08)*, Edinburgh, Scotland, June 2008.

55. Ankush Suran, Sunil K. Palla, Anurag K. Srivastava, and **Noel N. Schulz**, “Real Time Power System Simulation Using RTDS and NI PXI,” *Proceedings of the 2008 North American Power Symposium*, Sept. 2008, Calgary, Canada.
56. Srinath Kamireddy, **Noel N. Schulz**, and Anurag K. Srivastava, “Comparison of State Estimation Algorithms for Extreme Contingencies”, *Proceedings of the 2008 North American Power Symposium*, Sept. 2008, Calgary, Canada.
57. Dina Khaniya, Anurag K. Srivastava, and **Noel N. Schulz**, “Distribution Power Flow for Multiphase Meshed or Radial Systems”, *Proceedings of the 2008 North American Power Symposium*, Sept. 2008, Calgary, Canada.
58. Qinghua Huang, **Noel N. Schulz**, Jian Wu, Tomasz Haupt, and Anurag K. Srivastava, “Power System Decoupled Simulation in MATLAB/SIMULINK”, *Proceedings of the 2008 North American Power Symposium*, Sept. 2008, Calgary, Canada.
59. Soumya Keshavamurthy, Anurag K. Srivastava, Adrienne Minerick, and **Noel N. Schulz**, “Challenge for International Students in a Globally Changing Environment”, *Proceedings of the 2008 ASEE Annual Conference and Exposition*, June 2008, Pittsburgh, PA.
60. Qiuli Yu, Jignesh Solanki, Koteswar Padamati, N. Kumar, Anurag K. Srivastava, Jimena Bastos, and **Noel N. Schulz**, “Intelligent Methods for Reconfiguration of Terrestrial and Shipboard Power Systems”, *Proceedings of IEEE Power and Energy Society General Meeting*, July 2008, Pittsburgh, PA.
61. Yujie Zhang, Jimena Bastos, and **Noel N. Schulz**, “Model-Based Design of a Protection Scheme for Shipboard Power Systems”, *Proceedings of IEEE Power and Energy Society General Meeting*, July 2008, Pittsburgh, PA.
62. N. Kumar, A.K. Srivastava, N.N. Schulz, “Shipboard Power System Restoration Using Binary Particle Swarm Optimization,” *Proceedings of the North American Power Symposium*, Las Cruces, NM, September/October 2007.
63. Hymiar Hamilton and **Noel N. Schulz**, “Impact of Grounding on Overcurrents for a Naval AC/DC Shipboard Power System” *Proceedings of the 2007 North American Power Symposium, 2007 (NAPS '07)*, Sep. – Oct. 2008, Las Cruces, NM.
64. Koteswar Padamati, **Noel N. Schulz**, and Anurag K. Srivastava, “Application of Genetic Algorithm for Reconfiguration of Shipboard Power System”, *Proceedings of the 2007 North American Power Symposium, 2007 (NAPS '07)*, Sep. – Oct. 2008, Las Cruces, NM.
65. Qiuli Yu and **Noel N. Schulz**, “Multi-Agent Based Reconfiguration of Electric Propulsion System for all Electric-Ships”, *Proceedings of the 2007 North American Power Symposium, 2007 (NAPS '07)*, Sep. – Oct. 2008, Las Cruces, NM.
66. Bidur Gautam, **Noel N. Schulz**, and Anurag K. Srivastava, “Developing a Survivability Index for Distribution Systems Including Islanding”, *Proceedings of the 2007 North American Power Symposium, 2007 (NAPS '07)*, Sep. – Oct. 2008, Las Cruces, NM
67. **Noel N. Schulz** and Kirk H. Schulz, “Working Effectively with Graduate Students,” *Proceedings of the 2007 Society for Engineering Education (ASEE) Annual Meeting*, June 2007, Honolulu, Hawaii.
68. Y. Baez-Rivera, L. Brown III and **N. N. Schulz**, “Using Graduate Internships to Enhance Graduate Student Education and Research,” *Proceedings of the 2007 Society for Engineering Education (ASEE) Annual Meeting*, June 2007, Honolulu, Hawaii.

69. **N. N. Schulz**, H. L. Ginn, S. Grzybowski, A. K. Srivastava and J. L. Bastos, “Integrating Shipboard Power System Topic into the Curriculum,” *Proceedings of the 2007 American Society for Engineering Education Annual Meeting*, June 2007, Honolulu, Hawaii.
70. **N. N. Schulz**, H. L. Ginn, S. Grzybowski, A. K. Srivastava and J. L. Bastos, “Ship-to-Shore Collaborations: Integrating Research of Shipboard Power Systems into Today’s Power Engineering Research Activities,” *Proceedings of the 2007 Society for Engineering Education (ASEE) Annual Meeting*, June 2007, Honolulu, Hawaii.
71. J. L. Bastos, Y. Zhang, A. K. Srivastava, and **N. N. Schulz**, “A Design Paradigm for Integrated Protection of Shipboard Power Systems”, *Proceedings of the 2007 Summer Computer Simulation Conference (SCSC’07)*, San Diego, July 2007.
72. J. L. Bastos, J. Wu, **N. N. Schulz**, R. Liu, and A. Monti, “Distributed simulation using VTB and VTB-RT,” *Proceedings of the 2007 Summer Computer Simulation Conference (SCSC’07)*, San Diego, July 2007.
73. J. Wu, **N. N. Schulz** and W. Gao, “Power System Load Modeling in Virtual Test Bed,” *Proceedings of the 2007 Summer Computer Simulation Conference (SCSC’07)*, San Diego, July 2007.
74. M. Lin, A. K. Srivastava and **N. N. Schulz**, “Modeling Considerations in Static and Dynamic Voltage Stability Studies of Shipboard Power Systems,” *Proceedings of the 2007 Summer Computer Simulation Conference (SCSC’07)*, San Diego, July 2007.
75. Y. Zhang, V. Vijapurapu, A. K. Srivastava, J. L. Bastos, **N. N. Schulz** and R. Wierckx, “Hardware in the Loop Simulation of Distance Relay Using RTDS,” *Proceedings of the 2007 Summer Computer Simulation Conference (SCSC’07)*, San Diego, July 2007.
76. A.K. Srivastava, J.L. Bastos, N.N. Schulz, H.L. Ginn III, “AC/DC Power System Modeling and Analysis for Shipboard Applications,” *Proceedings of the IEEE PES General Meeting*, Tampa, FL, June 2007.
77. Yong Cheng, Jian Wu, Anurag Srivastava, **Noel Schulz** and Herbert Ginn, “Hardware in the Loop Test for Power System Modeling and Simulation,” *Proceedings of the IEEE Power Engineering Society (PES) Power Systems Conference and Exhibition*, Atlanta, Georgia, October 2006.
78. Jignesh Solanki and **Noel N. Schulz**, “Multi-Agent System for Islanded Operation of Distribution Systems,” *Proceedings of the IEEE Power Engineering Society (PES) Power Systems Conference and Exhibition*, Atlanta, Georgia, October 2006.
79. Sarika Khushalani and **Noel N. Schulz**, “Unbalanced Distribution Power Flow with Distributed Generation,” *Proceedings of the IEEE Power Engineering Society (PES) Transmission and Distribution Conference*, May, 2006, Dallas, Texas.
80. J. Wu, N.N. Schulz, W. Gao, “Agent-Based Distributed Simulation,” *Proceedings of the IEEE PES General Meeting*, Montreal, QC; Canada, June 2006.
81. Jian Wu, **Noel N. Schulz** and Wenzhong Gao, “Generalized Three Phase Coupling Method for Distributed Simulation,” *Proceedings of the IEEE Power Engineering Society General Meeting*, June 2006, Montreal.
82. Jian Wu, Yan Huang, Wenzhong Gao and **Noel N. Schulz**, “Power System Load Modeling in Virtual Test Bed,” *Proceedings of the IEEE Power Engineering Society General Meeting*, June 2006, Montreal.
83. Kirk Schulz, Donna Reese, Roger King and **Noel Schulz**, “A Third Year Review of the Faculty Development Program at Mississippi State University,” *Proceedings of the 2006 American Society for Engineering Education (ASEE) Annual Conference*, June 2006, Chicago.

84. Jian Wu and **Noel N. Schulz**, Overview of Common Information Modeling (CIM)-Oriented Database Design and Data Exchanging in Power System Applications, *Proceedings of the 37th Annual North American Power Symposium*, Iowa State University, Ames, Iowa, October 23-25, 2005.
85. Jignesh M. Solanki, **Noel N. Schulz**, and Wenzhong Gao, “Reconfiguration for Restoration of Power Systems Using a Multi-Agent System,” *Proceedings of the 37th Annual North American Power Symposium*, Iowa State University, Ames, Iowa, October 23-25, 2005
86. Jian Wu and **Noel N. Schulz**, “Generalized Three Phase Coupling Method for Distributed Simulation,” *Proceedings of the 37th Annual North American Power Symposium*, Iowa State University, Ames, Iowa, October 23-25, 2005.
87. Sarika Khushalani and **Noel N. Schulz**, "Restoration Optimization With Distributed Generation Considering Islanding," *Proceedings of the IEEE Power Engineering Society 2005 General Meeting*, San Francisco, CA, June 2005.
88. Kirk H. Schulz and **Noel N. Schulz**, “Work/Life Balance for Dual Career Faculty Couples,” *Proceedings of the 2005 American Society for Engineering Education (ASEE) Annual Conference*, Portland, Oregon, June 2005.
89. **Noel N. Schulz** and Kirk H. Schulz, “Investing in Engineering Faculty – A Comprehensive Faculty Development Program,” *Proceedings of the 2005 American Society for Engineering Education (ASEE) Southeastern Conference*, Chattanooga, Tennessee, April 2005.
90. Sarika Khushalani and **Noel N. Schulz**, “Optimized Restoration of Shipboard Power Systems with Integrated Power System (IPS) Architecture and Distributed Generation,” *Proceedings of the American Society of Naval Engineers Reconfiguration and Survivability Symposium 2005*, Atlantic Beach, Florida, February 2005.
91. Haibin Wang, **Noel N. Schulz**, David Cartes, Li-Hsiang Sun and Sanjeev Srivastava, “System Reconfiguration Strategy for Shipboard Power Systems Using Multi-Agent Systems,” *Proceedings of the American Society of Naval Engineers Reconfiguration and Survivability Symposium 2005*, Atlantic Beach, Florida, February 2005.
92. Yanfeng Gong and **Noel N. Schulz**, “Integrated Protection and Reconfiguration Design for the All-Electric Ship,” *Proceedings of the American Society of Naval Engineers Reconfiguration and Survivability Symposium 2005*, Atlantic Beach, Florida, February 2005.
93. Jignesh M. Solanki and **Noel N. Schulz**, “Autonomous Control of Dispersed Generation in Unbalanced Three Phase Distribution Systems,” *Proceedings of the American Society of Naval Engineers Reconfiguration and Survivability Symposium 2005*, Atlantic Beach, Florida, February 2005.
94. Jian Wu and **Noel N. Schulz**, “Experimental Design for Remote Hardware-In-the-Loop Testing,” *Proceedings of the American Society of Naval Engineers Reconfiguration and Survivability Symposium 2005*, Atlantic Beach, Florida, February 2005.
95. **Noel N. Schulz** and Kirk H. Schulz, “Faculty Development – The Future of Engineering Education,” *Proceedings of the 2004 American Society for Engineering Education (ASEE) Annual Conference*, Salt Lake City, Utah, June 2004.
96. P.K. Wiesner, M.J. Miller, N.N. Schulz, K.N. Miu, “The IEEE Pathfinder on Power and Energy: A Living Document for Selecting and Filtering Web-Based Resources,” *Proceedings of the ASEE Annual Conference*, Salt Lake City, UT, June 2004.
97. Sarika Khushalani and **Noel N. Schulz**, “Analysis of the DC Zonal Electric Shipboard Power System,” *Proceedings of the 35th North American Power Symposium*, Rolla, Missouri, October 2003.

98. Jian Wu, **Noel N. Schulz** and Herb Ginn, "Extending the Common Information Model for Electric Ship Power Systems," *Proceedings of the 35th North American Power Symposium*, Rolla, Missouri, October 2003.
99. **Noel N. Schulz** and Kirk H. Schulz, "Hiring and Advancement Hints for Dual Academic Engineering Couples," *Proceedings of the 2003 American Society for Engineering Education (ASEE) Annual Conference*, Nashville, TN, June 2003.
100. **Noel N. Schulz**, Yanfeng Gong and Mike Collum, "Electrical Engineering Concept Demonstrations and Laboratories using a Power Relay System," *Proceedings of the 2003 American Society for Engineering Education (ASEE) Annual Conference*, Nashville, TN, June 2003.
101. **Noel N. Schulz**, Karen Butler-Purry and Mariesa L. Crow, "Women in Power – Networking On and Off Campus," *Proceedings of the 2002 ASEE Annual Conference*, Montreal, Quebec, June 2002.
102. **Noel N. Schulz** and Kirk H. Schulz, "Getting US Undergraduates into Graduate School," *Proceedings of the 2002 American Society for Engineering Education (ASEE) Annual Conference*, St. Louis, Missouri, 2000.
103. Leonard J. Bohmann, Bruce A. Mork, **Noel N. Schulz** and Dennis O. Wiitanen, "The New Energy Systems Course at Michigan Tech," *Proceedings of the 1999 IEEE Frontiers in Education Conference*, Nov. 1999, pp. 11b6-24.
104. Leonard Bohmann, Bruce Mork, **Noel N. Schulz**, and Dennis Wiitanen, "The Development of a New Core Electrical Engineering Course in Energy Processing Systems," *Proceedings of the 1998 IEEE Frontiers in Education Conference*, Tempe, AZ, Nov. 1998, IEEE , p. 79.
105. Leonard Bohmann, Bruce Mork, and **Noel N. Schulz**, "Redefining the Introductory Electric Energy Conversion Course," *Proceedings of the 1997 American Society for Engineering Education (ASEE) Annual Conference*, Session 2333, CD Reference 2333-06, 1997.
106. Allan R. Hambley, **Noel N. Schulz**, Martha E. Sloan, Jon A. Soper, David Stone and Dennis O. Wiitanen, "Professional Design Laboratories: Bridging the Gap Between Classroom and Industry in the Senior Year," *Proceedings of the 1998 American Society for Engineering Education (ASEE) Annual Conference*, CD-ROM.
107. **Noel N. Schulz**, Kirk H. Schulz, Mariesa L. Crow and James L. Drewniak, "Dual Career Academic Searches for Engineering Faculty Positions," *Proceedings of the 1996 American Society for Engineering Education (ASEE) Annual Conference*, Session 3675, CD Reference 3675-01, 1996.
108. **Noel N. Schulz**, "Automated Networks/Electronics Teaching Laboratories," *Proceedings of IEEE 1989 Frontiers in Education Conference*, 1989, pp. 88-92.

Other Conference Publications

1. Sayak Bose, B. Natarajan, C.Scoglio, S.Das, and **N.N. Schulz**, "Analysis of Robustness for Shipboard Power Systems with non-radial Power Flow," *Proceedings of the 2011 IEEE Electric Ship Technologies Symposium*, 2011, pp. 181-186.
2. D. Close, K. Babski-Reeves, N. Younan, N. Schulz, "Cognitive Task Analysis of Power Grid Monitors," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, San Antonio, TX, October 2009, pp 304-308.

3. S.R. Rudraraju, A.K. Srivastava, S.C. Srivastava, N.N. Schulz, "Small Signal Stability Analysis of a Shipboard MVDC Power System," Proceedings of the IEEE Electric Ship Technologies Symposium, Baltimore, MD, April 2009.
4. T. Haupt, G. Henley, B. Parihar, N. Schulz, "Simulation Environment for Onboard Subsystems of an Electric Ship," Proceedings of the IEEE Electric Ship Technologies Symposium, Baltimore, MD, April 2009.
5. V. K. Pendurthi, **N. N. Schulz**, S. Doane, and A. K. Srivastava, "Cognitive Engineering Studies of DSS and Dealing with uncertainty in Load for Real-Time Adaptive Power system Reconfiguration," *Proceedings of the IEEE Electric Ship Technologies Symposium 2009, (ESTS 09)*, Baltimore, Maryland, April 2009.
6. D. Khaniya, A. K. Srivastava, **N. N. Schulz**, "Development of Three Phase Continuation Power Flow for Shipboard Power Systems", *Proceedings of the IEEE Electric Ship Technologies Symposium 2009, (ESTS 09)*, Baltimore, Maryland, April 2009.
7. A. Saran, A. K. Srivastava and **N. N. Schulz**, "Modeling and Simulation of Shipboard Power System Protection Schemes Using Coordination of Overcurrent Relay," *Proceedings of the IEEE Electric Ship Technologies Symposium 2009, (ESTS 09)*, Baltimore, Maryland, April 2009.
8. H. Hamilton and **N. N. Schulz**, "Modeling of MVDC Systems", *Proceedings of the IEEE Electric Ship Technologies Symposium 2009, (ESTS 09)*, Baltimore, Maryland, April 2009.
9. **N. N. Schulz**, R. E. Hebner, S. Dale, R. Dougal, S. Sudhoff, E. Zivi, and C. Chryssostomidis, "The U. S. ESRDC Advances Power System Research for Shipboard Systems" *Proceeding of the 43rd International Universities Power Engineering Conference 2008, UPEC 2008*, Padova, Italy, September 2008.
10. **N. N. Schulz** and W. Reder, "The Challenges and Opportunities of Workforce Development in Power Engineering and How the IEEE PES is Helping" *Proceeding of the 43rd International Universities Power Engineering Conference, 2008, UPEC 2008*, Padova, Italy, September 2008.
11. S. Palla, A. Srivastava, and **N. N. Schulz**, "Hardware in the Loop Test for Relay Model Validation", *Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.
12. Y. Zhang, J. L. Bastos, **N. N. Schulz** and D. Patel, "Modeling and Testing of Protection Devices for SPS using MATLAB/Simulink and VTB," *Proceedings of the IEEE Electric Ship Technologies Symposium 2007, (ESTS 07)*, Arlington, Virginia, May 2007.
13. O. Amoda and **N. N. Schulz**, "An Adaptive Protection Scheme for Shipboard Power Systems," *Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.
14. H. Hamilton and **N. N. Schulz**, "DC Protection on the Electric Ship," *Proceedings of the IEEE Electric Ship Technologies Symposium 2007, (ESTS 07)*, Arlington, Virginia, May 2007.
15. M. Lin, A. K. Srivastava and **N. N. Schulz**, "A Generic Digital Model of Multiphase Synchronous Generator for Shipboard Power Systems," *Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.
16. Q. Yu, S. Khushalani, J. Solanki, **N. N. Schulz**, H. L. Ginn, S. Grzybowski, A. K. Srivastava and J. L. Bastos, "Shipboard Power Systems Research Activities at Mississippi State University," *Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.

17. Q. Huang, J. Wu, J. L. Bastos and **N. N. Schulz**, “Distributed Simulation Applied to Shipboard Power Systems,” *Applied to Shipboard Power Systems, Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.
18. S. Sankar and **N. N. Schulz**, “Intelligent Placement of Meters/Sensors for Shipboard Power System Analysis,” *Proceedings of the IEEE Electric Ship Technologies Symposium 2007 (ESTS 07)*, Arlington, Virginia, May 2007.
19. Donna Reese and **Noel Schulz**, “Providing Support: Mississippi State’s Women in Engineering Faculty Program,” *Proceedings of the Women in Engineering Program and Advocates Network Conference*, June 2006.
20. J. Tang, Y. Gong, N. Schulz, M. Steurer, P.G. McLaren, “Hardware Implementation of a Ship-Wide Area Differential Protection Scheme,” *Proceedings of the IEEE Industrial and Commercial Power Systems Technical Conference*, Detroit, MI, April/May, 2006.
21. J. Wu, Y. Cheng, N.N. Schulz, “Overview of Real-Time Database Management System Design for Power System SCADA System,” *Proceedings of the IEEE SoutheastCon*, Memphis, TN, March/April 2006.
22. Yamilka Báez-Rivera, **Noel N. Schulz** and Wenzhong Gao, “Advanced Modeling of Micro-Turbine for System Analysis,” *Proceedings of the Power Systems Conference: Advanced Metering, Protection, Control Communication and Distributed Resources*, March 2006, Clemson.
23. Yanfeng Gong and **Noel N. Schulz**, and Armando Guzman, “Synchrophasor-Based Real-Time Voltage Stability Index,” *Proceedings of the Western Protective Relaying Conference*, Spokane, WA, October, 2005.
24. Jignesh M. Solanki and **Noel N. Schulz**, “Using Intelligent Multi-Agent Systems for Shipboard Power System Reconfiguration,” *Proceedings of the 13th International Conference on Intelligent Systems Application to Power Systems*, Doubletree Crystal City Hotel, Arlington, Virginia, USA, November 6-10, 2005.
25. Jian Wu, Yong Cheng, **Noel N. Schulz**, and Herbert L. Ginn, “The Impact of Standardized Models, Programming Interfaces, and Protocols on Shipboard Power System,” *Proceedings of the 2005 IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July, 2005.
26. **N.N. Schulz** and H.L. Ginn, and S. Mark Halpin, “Electric Ship Research Activities and Capabilities at Mississippi State University and Its Partners,” *Proceedings of the 2005 IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July, 2005.
27. Yanfeng Gong, Yan Huang, and **Noel Schulz**, “Integrated Protection System Design for Shipboard Power System,” *Proceedings of the 2005 IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July, 2005.
28. Antonello Monti, F. Ponci, E. Santi, and R. Dougal, G. Monnat, W. Shutt, and R. Hebner, D. Cartes, **N. Schulz**, H. Ginn, F. Wang and D. Boroyevich, S. Pekarek and S. Sudhoff, “Ship Power System Control: A Technology Assessment,” *Proceedings of the 2005 IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July, 2005.
29. Karen Miu, Dagmar Niebur, and Chika Nwankpa, Venkat Ajjarapu, Karen Butler-Purry, **Noel Schulz**, and Alex Stankovic, Testing of Shipboard Power Systems: A Case for Remote Testing and Measurement,” *Proceedings of the 2005 IEEE Electric Ship Technologies Symposium*, Philadelphia, PA, July, 2005.
30. Raju Brahmandhabheri, Vijaysimha Duvvuru and **Noel N. Schulz**, “Economical and Technical Feasibility of Biomass powered Distributed Generation in Mississippi,” *Proceedings of the 2004 Power Systems Conference on Distributed Generation And Advanced Metering*.

31. Thirupathi Venganti and **Noel N. Schulz**, "Next Generation Operation Strategies Using Advanced AMR Technologies," *Proceedings of the 2003 Power Systems Conference on Distributed Generation And Advanced Metering*, Clemson, SC, March 2003.
32. Raju Brahmmandhabheri and **Noel N. Schulz**, "Advanced Metering For Distributed Generation Operations," *Proceedings of the 2003 Power Systems Conference on Distributed Generation And Advanced Metering*, Clemson, SC, March 2003.
33. Sarika Khushalini And **Noel N. Schulz**, "Optimized Reconfiguration Of Distribution Systems With Distributed Generation," *Proceedings of the 2003 Power Systems Conference on Distributed Generation And Advanced Metering*, Clemson, SC, March 2003.
34. N.N. Schulz, "Tools and Techniques for Distribution Fault, Outage and Restoration Analysis," *Proceedings of the 2002 IEEE Power Engineering Society Winter Meeting*, New York, NY, January 2002, p 860.
35. Yan Liu and **Noel N. Schulz**, "Intelligent system applications in distribution outage management," *Proceedings of the 2002 IEEE Power Engineering Society Winter Meeting*., 2002, pp. 833-7.
36. Yan Liu, R.A. Fischer and **Noel N. Schulz**, "Distribution system outage and restoration analysis using a wireless AMR system," *Proceedings of the 2002 IEEE Power Engineering Society Winter Meeting*, 2002, pp. 871-5.
37. Haibin Wang and **Noel N. Schulz**, "A Load Modeling Algorithm for Distribution System State Estimation," *Proceedings of the 2001 IEEE Power Engineering Society (PES) Transmission and Distribution Conference*, 2001, pp. 102-106.
38. Xiaofeng Wang and **Noel N. Schulz**, "The Extension of Electric Power Research Institute's (EPRI's) Common Information Modeling (CIM) to Distribution Power Systems," *Proceedings of the 2000 North American Power Symposium*, University of Waterloo, Waterloo, Ontario Canada, 2000.
39. Lin Ye, Xiaofeng Wang, Adam MacEwen, **Noel N. Schulz** and Jean Mayo, "Implementation of a CORBA Based Publish/Subscribe System for Application Integration in an Outage Management System," *Proceedings of the 2000 North American Power Symposium*, University of Waterloo, Waterloo, Ontario Canada, 2000.
40. Xiaofeng Wang and **Noel N. Schulz**, "Development of Three-Phase Distribution Power Flow Using the Common Information Model," *Proceedings of the 2000 Summer IEEE Power Engineering Society Meeting*, Seattle, Washington, Vol. 4, 2000, pp. 2320-2325.
41. Yan Liu and **Noel N. Schulz**, "An Integrated Outage Information Filter for the Distribution System Using Intelligent Methods," *Proceedings of the 2000 Summer IEEE Power Engineering Society Meeting*, Seattle, Washington, Vol. 4, 2000, pp. 2344-2349.
42. Biao Li, **Noel N. Schulz**, Linda J. Murphy, Ronald W. Bijoch and Mark Wald, "Extending Electric Power Research Institute's (EPRI's) Common Information Modeling (CIM) into Distribution Systems," *Proceedings of the 2000 American Power Conference*, vol. 62, 2000, pp. 243-248.
43. Rochelle Fischer, **Noel N. Schulz** and Gordon H. Anderson, "Information Management for an Automated Meter Reading System," *Proceedings of the 2000 American Power Conference*, vol. 62, 2000, pp. 150-154.
44. Maria Padula, **Noel N. Schulz** and Dennis Wiitanen, "Comparing Field Data and the IEEE Standard for Loading Capability of Transformers," *Proceedings of the 2000 American Power Conference*, vol. 62, 2000, pp. 138-142.

45. Mrudhula Lakkakula and **Noel N. Schulz**, "Generic Data Models for Breaker-Oriented Network Representation," *Proceedings of the 2000 American Power Conference*, vol. 62, 2000, pp. 323-327.
46. Biao Li, **Noel N. Schulz**, Linda J. Murphy, Ronald W. Bijoch and Mark Wald, "An Electric Power Research Institute (EPRI) Common Information Modeling (CIM) based automated application for distribution devices and process automation," *Proceedings of the 2000 DistribuTECH Conference*, Miami, Florida, March 2000.
47. Krishna Sridharan, **Noel N. Schulz** and Jerry Hansen, "Outage Management Using Automated Meters," *Proceedings of the 61st American Power Conference*, April 1999, Vol. 61, pp. 425-428.
48. Lee Cooper, **Noel N. Schulz** and Terry Nielsen, "A Computer Program for the Estimation of Restoration Times During Storms" *Proceedings of 60th American Power Conference*, April 1998, Vol. 60, pp. 777-780.
49. Caroline Johansson, **Noel N. Schulz** and Elsie Meyers-Martin, "Improving the Work Management Process for Operations and Maintenance: Cooperation between Business and Academia," *Proceedings of 59th American Power Conference*, 1997, pp. 104-109.
50. **Noel N. Schulz** and Bruce F. Wollenberg, "Review and Evaluation of Planned Switching Sequences Using An Expert System," *Proceedings of 58th American Power Conference*, 1996, pp. 918-923.
51. **Noel N. Schulz** and Bruce F. Wollenberg, "An Expert System to Aid Evaluation and Generation of Switching Procedures," *Proceedings of 57th American Power Conference*, 1995, pp. 1481-1486.
52. **Noel N. Schulz**, Wendy C.C. Grebner, and Sally Gregory Kohlstedt, "A Proactive Approach to the Retention of Women Graduate Students," *Proceedings of the 1994 American Society for Engineering Education (ASEE) Annual Conference*, 1994, pp. 2458-2463.
53. **Noel N. Schulz**, Steve J. Beuning, and Bruce F. Wollenberg, "Utility Operations Switching Process: Review, Results and Improvements," *Proceedings of 56th American Power Conference*, 1994, pp. 1562-1567.
54. **Noel N. Schulz**, Michael T. Stawovy, Jinmyun Jo, Dilip Vijay, Robert W. Hendricks, and Aicha Elshabini-Riad, "Residual and Applied Stresses in Ceramic Substrate and Metallization of Thick Film Hybrid Circuit," *Residual Stresses-III: Science and Technology*, H. Fujiwara, T. Abe and K. Tanaka, editors, Amsterdam: Elsevier (1992) pp. 632-637.
55. **Noel N. Schulz** and Charles E. Nunnally, "From Prelab to Lab Reports: Computers Integrated in EE Laboratory Courses," *Proceedings of 1992 American Society for Engineering Education (ASEE) Annual Conference*, 1992, pp. 546-548.
56. **Noel N. Schulz**, Michael T. Stawovy, Jinmyun Jo, Robert W. Hendricks, and Aicha Elshabini-Riad, "The Effect of An Applied Load on the Electrical Engineering Characteristics of Thick Film Transmission Lines," *Proceedings of the 1991 International Symposium on Microelectronics*, 1991, pp. 551-555.
57. **Noel N. Schulz**, Aicha Elshabini-Riad, and Robert W. Hendricks, "More on the Role of Residual Stresses in Ceramic Substrate Materials and Metallizations," *Proceedings of the 1990 International Symposium on Microelectronics*, 1990, pp. 321-328.
58. **Noel N. Schulz**, Aicha Elshabini-Riad, and Robert W. Hendricks, "Role of Residual Stresses in Ceramic Substrate Materials for Hybrid Thick Film Applications," *Proceedings of the 1989 International Symposium on Microelectronics*, 1989, pp. 220-226.

59. **Noel N. Schulz**, "MTU's Women in Electrical Engineering Program," *Proceedings of the 59th Annual American Society for Engineering Education (ASEE) North Midwest Section Meeting*, 1997, pp. V.A-4.1-4.4.
60. **Noel N. Schulz** and Leonard J. Bohmann, "Using Poster Presentations to Improve Students' Verbal Presentation Skills," *Proceedings of the 58th Annual American Society for Engineering Education (ASEE) North Midwest Section Meeting*, 1996, pp. IV.C-4.1-4.5.
61. **Noel N. Schulz**, "Methods to Stimulate Electrical Engineering Concepts to Non-Electrical Engineering Students," *Proceedings of Southeastcon '91*, 1991, pp. 412-415.
62. **Noel N. Schulz** and Charles E. Nunnally, "The Integration of Personal Computers into the Electrical Engineering Curriculum," *Proceedings of Southeastcon '91*, 1991, pp. 953-956.

Oral Presentations (over 400 technical and other presentations)

Off-Campus Professional Service, Professional Memberships and Activities

- Member, Washington STEM Board, 2017-2023.
- Advisory Board, Virginia Tech Department of Engineering Education, 2007-2015; 2019-2021.
- Advisory Board, University of Texas-Austin IGERT Project, 2010-2014
- Member, Electromagnetic and Electrical Systems Grant Selection Committee, National Sciences and Engineering Research Council of Canada, 2005-2007.
- National Science Foundation Panel Reviewer: January 1999, January 2000, April 2002 and October 2004.
- Associate Editor, *Electric Power Components & Systems*, Taylor and Francis, 2004-2006.
- IEEE EC2000 Accreditation Board of Engineering and Technology (ABET) Evaluator for Electrical Engineering and Computer Engineering programs, 2001-2009
 - Capitol College, 2001; United States Air Force Academy, 2002; Montana State University, 2003; University of Texas at San Antonio, 2004; Tarleton State University, 2005; NYIT, 2006; Polytechnic University, 2008; Arizona State, 2009;
- IEEE, member 1986 - present; Fellow, 2016-present; Senior Member August 2000-2015;
 - Member, IEEE Technical Activities Board & Society Presidents Forum, 2012-13
 - IEEE Power & Energy Society (PES) Governing Board and Executive Committee, 2004-2015; Secretary 2004-2007; Treasurer 2008-2009; President-Elect 2010-11; President 2012-13; Immediate Past President, 2014-15;
 - Chair, IEEE PES Award & Recognition Committee, 2000- 2003
 - Member, IEEE Technical Activity Board (TAB) Award Committee, 2001-2003
 - Member, IEEE Women in Engineering Committee, 2012
 - Member, IEEE PES Power Engineering Education Committee 1/96-Present;
 - Member, Power Engineering Career Promotion Subcommittee 1/96 – 1/02; Vice Chair 1/97-1/98, Chair 1/98-1/01
 - Member, Power Engineering Long Range Planning Subcommittee 1996 - 2000
 - PES Representative for the IEEE Intersociety Committee on Electric Ships, 2005-2009.
 - Organizing Committee of IEEE Electric Ship Technologies Symposium (ESTS), 2005, 2007 and 2009; Treasurer and Registration Chair, 2005 IEEE ESTS, July

- 2005; 2007 IEEE ESTS, July 2007; General Chair and Treasurer IEEE ESTS, April 2009.
- General Chair, 2009 North American Power Symposium, Starkville, Mississippi
- Member, IEEE Press Board, 2006-2007
- Organizer various PES Women in Engineering/Women in Power Events, 1997-Present
- American Society for Engineering Education (ASEE), member 1991-2014, Fellow 2014-present
 - ASEE Board of Directors Professional Interest Council IV Chair, 2008-2010.
 - New Engineering Educators Division, Member, 1991-present; Treasurer 1996-97; Vice Program Chair 1997-98; Program Chair 1998-99; Chair 1999-2000; Past Chair 2000-2001
 - Women in Engineering Division, Member 1991-present
 - Program Chair Elect, 2002-2004; Program Chair, 2004-2006; Division Chair, 2006-2008.
- Society for Women Engineers, member, 2005-2016
- Women in Engineering Programs & Advocates Network (WEPAN), Member, 1999-2000; 2003-2016.
- Paper Review for IEEE Transactions on Power Systems, IEEE Transactions on Power Delivery, Journal of Engineering Education, IEEE Transactions on Circuits and Systems and Proceedings of the IEEE Power Engineering Society (PES) General Meetings.

On-Campus Service

University Level

Washington State University First Lady 2016-Present

- University lead with Schweitzer Engineering Laboratories, 2016-2023
- Development and University Promotion Activities through the President's Office, 2016-Present
 - a. WSU lead for \$1.5M gift for EECS endowed chair, 2017
- Various presentations on campus and in community, 2016-Present
- Member, WSU Jordan Schnitzer Museum of Art Advisory Board, 2018-2021.

Kansas State First Lady 2009-2016.

- Development and University Promotion Activities through the President's Office, 2009-2016.
- Various presentations on campus and in community, 2009-2016
- Chair, K-State Women of K-State Leadership Committee, 2009-2016
- Board Member, Kansas State University Friends of McCain Board 2009-2015.
- Board Member, Kansas State University Friends of Beach Museum, 2009-2015.
- Board Member, Kansas State University Friends of International Programs, 2009-2011
- Member, Kansas State University Women's Studies Advisory Council, 2009-2014
- Co-Chair, Manhattan/Kansas State University Take Charge Energy Challenge Leadership Team, 2009

Mississippi State University

Director, MSU Electric Ship Research and Development Consortium, 05/2005-08/2009.

Member, Office of VP for Research Responsible Conduct of Research Committee,

January 2005-August 2009

University Faculty Development Committee Chair, Fall 2004.

Mississippi Energy Task Force, 2004-2009

Faculty Research Advisory Committee (FRAC) for Vice President for Research, March 2003-2004

College of Engineering Representative, University Faculty Recruitment, Screen, Selection Committee, March 2003-Summer 2003.

Volunteer, MSU Staff Appreciation Day, May 2002; May 2003.

Michigan Tech

Research Advisory Board for Vice Provost for Research, Member, 1998-2000

Childcare Board, Member, 1999-2001

Organizer and Facilitator of Women in Science and Engineering Faculty Group, Fall 1997- 2001

Panelist, "Dual Career Issues," Michigan Technology University (MTU) Graduate Student Council, April 1999

College of Engineering Level

College of Engineering, Kansas State University

Director, Electrical Power Affiliates Program, 01/10-2016

Bagley College of Engineering, Mississippi State University

Director, Women in Engineering and Faculty Development (25% time) 2003-2004

Co-Chair, Untenured Faculty Seminar Program, 2002-2004

Co-Chair, Women Faculty Network, 2001-2004

Member, Energy Working Group, 2005-2016

College of Engineering, Michigan Tech

Co-Coordinator Research Seminar for Untenured Faculty Members, 1999-2001

American Society for Engineering Education (ASEE) Campus Representative, 1998-2001.

College of Engineering Task Force on Diversity, Co-chair, 2000-2001.

School of Engineering and Mines, University of North Dakota

Faculty Coordinator, First Annual Engineering Open House, 1991-92

Departmental Level

Electrical & Computer Engineering, Kansas State University

Member, Promotion & Tenure Document Review, 2011-2012

Electrical & Computer Engineering, Mississippi State University

Chair, Power & Controls Group, 2002-2004, 2005-2008; Member, 2001-2002, 2004-05, 2008-2009

Member, Undergraduate Curriculum Committee, 2001-2016

Chair, Awards Committee, 2001-2002

Electrical & Computer Engineering, Michigan Tech

Promotion and Tenure Committee, Member, 2000-2001

Assessment Committee, Member, 2000-2001

Outreach Committee, Chair, 1997-1999
Chair Search Committee, Member, 1998-1999
Appointments Committee, Member, 1995-1996; Chair 1999-2000
Executive Committee, Member, 1996-2000
Graduate Program Committee, Member 1996-97
Graduate Seminar Coordinator 1996-97
Faculty Coordinator, Women in Engineering/Minorities in Engineering (WIE/MIE)
Summer Programs, 1996 – 2000
Faculty Coordinator, Women in Electrical Engineering Program, 1995-2001
Coordinator, "Girls+Math+Science = Choices," Spring 1996-2000
Coordinator, "Take Our Daughters to Work" Spring 1996, Spring 1997

Community or other Service

Member, Pullman Regional Hospital Foundation Next Era of Excellence Campaign
Committee, 2019-2020
Trustee, Manhattan Community Foundation, 2010-2016
Boy Scouts of America, Assistant Cubmaster, 2003-2004; Troop Committee, 2004-
2005; Assistant Den Leader, 2001-03; Committee Member 1999-2001
Starkville Youth Soccer Coach, 2001-2003.
Sudduth Elementary Parent Teacher Association (PTA) Teacher Appreciation Week Co-
Coordinator, 2002 and 2003
Ward-Stewart PTA Volunteer, "Hard Work Café", January 2005
Elementary Math Tutor and Classroom Volunteer, 1996-2003