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Adjunct Professor, Washington State University  
<https://sqdril.eecs.wsu.edu/research-group/director/>

Senior Research Scientist, Pacific Northwest National Lab,  
[https://energyenvironment.pnnl.gov/staff/staff\\_info.asp?staff\\_num=3702](https://energyenvironment.pnnl.gov/staff/staff_info.asp?staff_num=3702)

Google Scholar: <https://scholar.google.com/citations?user=GtNYPMAAAAJ&hl=en>

January, 2024

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## I. Professional Profile

### • Research

- High impact research projects resulted in patented tools installed at the electric utility control center or used by utility/ vendors (e.g., Cordova Electric, Southern California Edison, AVISTA, EPRI, OPAL-RT, Idaho Power)
- Published 376 peer-reviewed research articles (165 Journals and 211 conference papers), 17 book chapters, 3 books, and 3 patents with *9643 citations* (i10-index: 173, h-Index: 48).
- Serving/Served as PI, Co-PI for research funding/grants of more than \$60 million total (*my research expenditure: ~\$12M till Spring 2023*) over 18 years supported by the National Science Foundation (NSF), Department of Energy (DOE), Power System Engineering Research Center (PSERC), Electric Power Research Institute (EPRI), Pacific Northwest National Lab, Idaho National Lab, National Renewable Energy Lab, Power Industry Members (AVISTA, PGE, SEL, Siemens, CISCO, RTE-France), Office of Naval Research (ONR), US Department of State and Department of Homeland Security (DHS).
- Technical Lead and Lead Co-I, \$30M UI-ASSIST Center
- Supervised/co-supervised 60 graduate theses (1 Ph.D.@ WVU, 22 Ph.D.+ 18 M.S.@ WSU; 3 Ph.D. + 16 M.S.@ MSU) and existing research group at WVU/WSU with 18 members (8 Ph.D. + 5 visiting Scholars + 2 M.S. + 3 Scientists/post-doc).
- 75+ Keynotes/ tutorials/ IEEE Distinguish Lecture in 18 countries and additional 180+ invited talks and panels at multiple conferences.
- Top 2% scientist, Stanford List, 2022 and 2023
- Fellow, IEEE, 2022 and WSU EECS Faculty Research Excellence Award, 2020

### • Teaching

- National Academy of Engineers (NAE) FOEE fellow, 2012
- Developed several new course materials and lab materials funded by DOE, NSF, PSERC, EPRI

### • Service

- Distinguished Lecturer, IEEE PES and IAS for PMU Applications, Energy Management with renewable energy, and Resiliency, 2014 (PES) and 2022 (IAS)- Present
- IEEE IAS Fellow Evaluating Committee, 2024
- IEEE PES Fellow nomination committee, 2022
- Serving/served as Associate Editor, IEEE Transactions on {Power Systems, Smart Grid, Industry Applications, Multiple Special Issues}
- Conference Chair, The International Conference on Smart Grid Synchronized Measurements and Analytics 2024 (SGSMA 2024), Washington DC, 2024
- Technical Co-Chair, IEEE SmartGridComm 2021
- Organizing Committee Member, NSF Sponsored “Forging Connections between Machine Learning, Data Science, & Power Systems Research”, 2020
- Co-Chair, Computational Challenges and Solutions for Implementing Distributed Optimization in the Power System WG, AMPS, CAMS, IEEE PES, 2020
- Co-Chair, TF on Operational Tools for Enabling Resiliency, PSOPE, IEEE PES, 2020
- Co-Chair, IEEE WS on “Modeling and simulation of Cyber-Physical Energy Systems”, 2016-2024

- Chair, Voltage stability working group, PSDP, IEEE PES, 2019
  - Chair, Bulk Power system operation SC, IEEE PES, 2023
  - Chair, NSF sponsored “Data analytics workshop for the power grid resiliency” 2018
  - Chair, Synchrophasor Applications for the Power Grid Operation TF, BPSO, IEEE PES, 2018
  - Chair, Siemens sponsored “Data analytics for the smart grid” workshop, 2017
  - Co-chair, Microgrid applications and implementation working group, IEEE PES, 2017
  - Chair, North American Power Symposium sponsored by NSF and IEEE, 2014
  - Chair, IEEE WS on Testing and validation of synchrophasor devices and applications, 2012
  - Member, CIGRE C2.25: Operational Resilience; C4.47: Power System Resilience; D2.52: AI Application and Technology in Power Industry; C4C2.58: Voltage Stability Assessment; C2.18: Wide Area Monitoring and Control for Decision Support.
- *Other Activities*
    - Developed SGDRIL/SG-REAL/GOLab worth more than \$4M
    - Certificate of highest standard for academic achievement during Doctoral Studies

## II. Research/ Teaching Interests

- My research interests mainly relate to ‘**Power System Operation and Control**’ in the context of the evolving **cyber-physical** smart grid. While the smart grid is a broad term, my goals relate to using smart grid data such as synchrophasor measurements to develop advanced computational algorithms for power system operation and control specifically towards resiliency. The approach developed by my research group include **physics-driven machine learning** for power grid operation and control. My existing research projects with external and internal collaborators relate to the followings:
  - **Power System Operation and Control for Enhanced Resiliency and Sustainability**
    - **Data-driven computational algorithms to enable security, resiliency, sustainability and voltage stability of the power grid (transmission systems with microgrid/ distribution)**
    - **Real-time modeling and analysis of cyber-power systems for quality-aware synchrophasor applications and resiliency analysis**
    - **Industry-grade tool development for electric grid resiliency, smart grid data analytics**
  - **Engineering Education for Broadening Minority Participation and Pre-Engineering Outreach**

## III. Work Experience

- *Raymond J. Lane Professor and Chairperson*
  - *Lane Department of Computer Science and Electrical Engineering, **West Virginia University**, Morgantown, WV 26506 (7/21-present)*
- *Adjunct Professor of Electrical Engineering*
  - *The School of Electrical Engineering and Computer Science, **Washington State University**, Pullman, WA, USA, (07/21-present)*
- *Technical lead and lead Co-PI, \$30M DOE/DST UI-ASSIST Center*
  - *WSU, Pullman, WA, USA, (10/17 – 10/23)*
- *Associate Professor of Electrical Engineering*
  - *The School of Electrical Engineering and Computer Science, **Washington State University**, Pullman, WA, USA, (08/15 – 06/21)*

- Professional leave for sabbatical (2016-2017 academic year)
- Senior Scientist
  - Energy and Environment Directorate, **Pacific Northwest National Laboratory**, Richland, WA, USA, (08/19 -present)
- Visiting Researcher/ Consultant
  - **Peak Reliability Coordinator**, Vancouver, WA, USA, (7/18 – 8/18)
- Guest Professor
  - E.ON Energy Research Center, **RWTH Aachen University**, Aachen, Germany (6/17 – 7/17)
- Visiting Researcher
  - R&D, **Schweitzer Engineering Lab**, Pullman, WA, USA, (4/17 – 5/17)
- Visiting Scientist
  - R&D, **Réseau de transport d'électricité (RTE)**, Versailles, France, (3/17 – 4/17)
- Visiting Scientist
  - Energy Infrastructure, **Pacific Northwest National Lab**, Richland, WA, USA, (1/17 – 2/17)
- Visiting Scientist
  - WAMS and Network Group, **GE Grid Solutions**, Redmond, WA, USA, (11/16 – 1/17)
- Visiting Research Scientist
  - Power and Energy Systems, **Idaho National Lab**, Idaho Falls, ID, USA, (06/16 – 10/16)
- Visiting Professor and Consultant
  - Applied Solutions, Operation and Market, **PJM Interconnections**, Audubon, PA, USA, (08/16)
- Visiting Professor of Power Engineering
  - Active Adaptive Control Lab, **Massachusetts Institute of Technology**, Cambridge, MA, USA, (07/16)
- Assistant Professor of Electrical Engineering
  - The School of Electrical Engineering and Computer Science, **Washington State University**, Pullman, WA, USA, (08/10 – 08/15)
- Assistant Research Professor of Electrical Engineering
  - Electrical and Computer Engineering Department, **Mississippi State University**, Mississippi State, MS, USA, (09/05-08/10)
- Graduate Research Assistant and Teaching Assistant
  - Electrical and Computer Engineering Department, **Illinois Institute of Technology**, Chicago, IL (08/01- 07/05)
- Senior Research Associate
  - Department of Electrical Engineering, **Indian Institute of Technology**, Kanpur, India (08/99-08/01)
- Research Fellow
  - School of Environment, Resources and Development, **Asian Institute of Technology**, Thailand (02/00 – 04/00 & 03/01- 05/01)
- Teaching Assistant
  - Department of Electrical Engineering, **Indian Institute of Technology**, Varanasi, India (01/98 – 05/99)
- Electrical Engineering Intern
  - **General Electric Company** (GEC)-ALSTOM, Allahabad, India (05/96-07/96)

#### IV. Educational Qualifications

- Illinois Institute of Technology (IIT), Chicago, IL, USA,
  - Ph.D., July 2005, GPA: 4.0/4.0, Distinction with Honor
  - Electrical Engineering, Power Systems, Advisor: Dr. Alexander J. Flueck
  - Dissertation: Voltage Collapse Contingency Screening and Power Grid Vulnerabilities
- Indian Institute of Technology, (Banaras Hindu University), Varanasi, UP, India
  - Master of Technology, July 1999, GPA: 3.7/4.0, Distinction with Honor
  - Electrical Engineering, Specialization in Control Systems, Advisor: Dr. T. Nagaraja
  - Thesis: Study of Relative Performance of Shrinking Span Fuzzy Logic Controller
- Harcourt Butler Institute of Technology (HBTI), Kanpur, UP, India
  - Bachelor of Technology, May 1997, GPA: 3.8/4.0, Electrical Engineering

#### V. Students Graduated/ Advising

##### V.A. Post-Doctoral Fellows and Visiting Scholars

###### Visiting Scholar at WVU

- [1]. Sagnik Basumallik, Engineering Scientist, May 2022 – Present
- [2]. Paramarshi Banerjee, Post-doctoral Fellow, Feb. 2023-present
- [3]. Niloy Patari, Post-doctoral Fellow, November. 2023-present

##### V.B. Existing Graduate Students

###### Ph.D. Students at WVU

- [1]. Md. Mustafa Hussain, May 2025
- [2]. Jannatul Adan, December 2025
- [3]. Md. Fazley Rafy, December 2025
- [4]. Paroma Chatterjee, December 2025
- [5]. Solmaz Nazaralizadeh, May, 2026 (co-advised with Prof. Parviz Famouri)
- [6]. Samuel Kidder, December, 2026
- [7]. Ellis Oti Boateng, December, 2026

###### M.S. Students at WVU

- [8]. Vasavi Sivaramakrishnan, May 2024
- [9]. Austin Wood, December, 2025

###### Ph.D. Students at WSU

- [10]. Ceeman Vellaithurai, December 2024

##### V.C. Visiting Scholars and Interns at WVU

- [1]. Pratyasa Bhui, Visiting Faculty (Nov, 2023-present)
- [2]. Vignesh Krishnan, Visiting Faculty (Feb, 2024-present)
- [3]. Kemal Aygul, Graduate Student (Summer 2023-Present)
- [4]. Samridhi Sajwan, Graduate Student (Fall 2023-Present)
- [5]. Ifenna Ekwenem, Undergraduate Researcher (Fall 2023-Present)

##### V.D. Former Visiting Faculty and Post-Doctoral Fellow

###### WVU

- [1]. Sajjan K. Sadanandan, Engineering Scientist, October 2021 – April 2022 (Working at the Dubai Electricity and Water Authority (DEWA), Dubai, UAE)

- [2]. Subir Majumder, Engineering Scientist, September 2021 – March 2023 (Working at the Texas A&M University, College Station, TX)

### WSU

- [1]. Sanjeev Pannala, Assistant Research Professor/ Post-Doc, July 2019 – July 2023 (*co-mentored with Dr. Schulz*), Working at National Renewable Energy Lab
- [2]. Subir Majumder, Post-Doc Fellow, Jan. 2020 – Aug. 2021 (supported by DOE and NSF), Working at the Texas A&M University, College Station.
- [3]. Sajjan K. Sadanandan, Post-Doc Fellow, December 2018 – September 2021
- [4]. Amirkhosoro Vosughi, Post-Doc Fellow, January 2020 – March 2021 (Supported by DOE), working at OpenEye, Liberty Lake, WA
- [5]. Pratim Kundu, Assistant Research Professor, 2018- 2019 (supported by EPRI, ARPA-E, PSERC), Working as a Faculty at Indian Institute of Tech., Mandi, India
- [6]. Illia Diahovchenko, Fulbright Post-Doctoral Fellow, December 2018-June 2019, (supported by Fulbright), Working as a Faculty at Sumy State University, Ukraine
- [7]. Ramyar Saeedi, Post-Doctoral Fellow, (Co-advised with Prof. Gebremedhin), October 2018-August 2019 (Supported by DOE), Working at Hitachi America
- [8]. Venkatesh Venkataramanan, Post-Doctoral Fellow, July 2019-August 2019 (Supported by DOE), Working at National Renewable Energy Lab.
- [9]. Vignesh Krishnan, Assistant Research Professor, July 2016- October 2018 (Supported by DOE, ARPA-E, Siemens, EPRI), - *Working as a Faculty at IIT Tirupati*
- [10]. Param Banerjee, Assistant Research Professor, July 2015 – June 2018 (Supported by DOE, NSF, PSERC, EPRI), Working at the AutoGrid R&D
- [11]. Chandrashekhar N. Bhende, Visiting Faculty from IIT Bhuvneshwar, May-July 2018 (Funded by Bhaskara Advanced Solar Energy (BASE) Fellowship)
- [12]. Anju Meghwani, Visiting Post-Doctoral Associate, Summer 2018 (Supported by DOE)
- [13]. Sandeep Anand, Visiting Faculty, Summer 2018 (Supported by DOE)
- [14]. Ramon Zamora, Post-Doctoral Associate, January 2016- July 2016 (Supported by NSF grant), working at the Auckland University of Technology as a Faculty
- [15]. Prabodh Bajpai, Visiting Faculty, May 2015 – July 2015 (Funded by Bhaskara Advanced Solar Energy (BASE) Fellowship, Indo-US Science and Technology Forum)
- [16]. Shaowei Huang, Post-Doctoral Fellow, January-March 2013 (Funded by Tsinghua University, China)

### V.E. Former Visiting Scholars and High School Interns

### WVU

- [1]. Hunter Lavender, Undergraduate Researcher (Fall 2023)
- [2]. Pratik Sharma, Graduate Student (Summer 2023)
- [3]. Dev Aggarwal, Highschool Student, (Summer 2023)
- [4]. Gauri Kshetry, Highschool Student, (Summer 2023)
- [5]. Srikar Kovvuri, Highschool Student, (Summer 2023)
- [6]. SIMRAN SALUJA, Highschool Student, (Summer 2023)
- [7]. Camil Coullon, Undergraduate (Summer 2022)
- [8]. Diksha Singh, Graduate Student (Summer 2023)
- [9]. Satabdy Jena, Graduate Student (Summer 2022)
- [10]. Mehdi Jabbari Zideh, Graduate Student (Summer 2022)
- [11]. Nethan Binu, Highschool Student, (Summer 2022)

- [12]. Rohith Madhuker, Highschool Student (Summer 2022)  
 [13]. Rajat Sengupta, Highschool Student (Summer 2022)

## WSU

- [14]. Ramyasai S. Bhavirisetty (Spring 2021- Fall 2021)  
 [15]. Rushabh Shah (Fall 2021)  
 [16]. Eshwar Nag Pilli, Graduate Intern (Spring 2021- Fall 2021)  
 [17]. Suhani Shukla, Highschool Intern as part of SPARK SIP (Summer 2021)  
 [18]. Rosie Shen, Highschool Intern as part of SPARK SIP (Summer 2021)  
 [19]. Rayna Bhattacharyya, Highschool Intern as part of SPARK SIP (Summer 2021)  
 [20]. Anshuman, Graduate Intern (Summer 2019-Spring 2021)  
 [21]. Tejas Ghanwat, Graduate Intern (Fall 2020- Spring 2021)  
 [22]. Nikhil Doppalapudi, Graduate Intern (Spring 2020- Fall 2020)  
 [23]. Ali Tamimi, Graduate Intern, Summer 2020 (Supported on NSF)  
 [24]. Amandeep Saini, Graduate Intern, Spring 2020- Fall 2020 (Supported on NSF/ DOE)  
 [25]. Aditya Jasuja, Graduate Intern, Fall 2019 (Supported on PSERC)  
 [26]. Dipankar Medhi, Graduate Intern, Fall 2019 (Supported on DOE GMLC)  
 [27]. Ehdieh Khaledian, Graduate Intern, Summer 2019 (supported on NSF and DOE)  
 [28]. James Park, High-school Intern, Summer 2019 (Supported on NSF)  
 [29]. Siyum Khan, High-school Intern, Summer 2019 (Supported on DOE)  
 [30]. Rajarshi Dutta, Graduate Intern, Summer 2019 (Supported by DOE)  
 [31]. Shreyasi Som, Graduate Intern, Summer 2019 (Supported by DOE)  
 [32]. Supnirun Suwannasorn, Visiting Graduate Intern, Summer 2019 (Funded by the Asian Institute of Technology (AIT), Bangkok)  
 [33]. Wasawat Sukrung, Visiting Graduate Intern, Summer 2019 (Funded by the AIT)  
 [34]. Sittinan Muanchaona, Visiting Graduate Intern, Summer 2019 (Funded by the AIT)  
 [35]. Chanatta Chaipakdee, Visiting Graduate Intern, Summer 2019 (Funded by AIT)  
 [36]. Yasmine Ben Miloud, Visiting Graduate Intern, July 2019, (Funded by Fulbright)  
 [37]. Harshit Bajpai, Visiting Researcher, Summer 2018 (Supported by ARPA-E, NSF)  
 [38]. Jayakumar Sreenath, Visiting Graduate Student, Summer 2018 (Supported by ARPA-E)  
 [39]. Darshil Shah, Highschool Research Intern, Summer 2018, 2019 (Supported by PSERC)  
 [40]. Kush Khanna, Visiting Graduate Student, Summer 2018 (Supported by DOE)  
 [41]. Jiranat Tangchittichariya, Visiting Student, September 2017- January 2018 (Supported by Thailand Government)  
 [42]. Kalpesh Joshi, Visiting Doctoral Scholar, July 2015- January 2016 (Funded by IIT Gandhinagar, India)  
 [43]. Frank A. Ibarra, Visiting Doctoral Scholar, January 2013- January 2014 (Partially funded by Sao Paulo University, Brazil)  
 [44]. Pornchai Chaweewat, Visiting Graduate Intern, Summer 2013 (Funded by Asian Institute of Technology, Bangkok)  
 [45]. Pathatai Dharmasaroj, Visiting Graduate Intern, Summer 2013 (Funded by Asian Institute of Technology, Bangkok)  
 [46]. Xiyu Xie (September 2015-December 2015) (Supported by Siemens)  
 [47]. Pradya Panyainkaew Visiting Graduate Intern, Summer 2017 (Funded by AIT)  
 [48]. Patthanapun Boonthong, Visiting Graduate Intern, Summer 2017 (Funded by Asian Institute of Technology, Bangkok)



### V.F. Former Graduate Students

#### Ph.D. students graduated at WVU

- [1]. Partha Sarkar, "Enabling Cybersecure and Resilient Smart Distribution Grid with Edge Devices", August 2023 (working at Dominion Energy, VA)

#### Ph.D. students graduated at WSU

- [1]. Srayashi Konar, "Distributed Discrete Optimization for Autonomous Restoration in DER-Rich Power Distribution Network", December 2023 (Working with General Electric, NY)
- [2]. Linli Jia, "Distribution Power System Resiliency in DER-Rich Environment", August 2023, (working at the Dominion Energy, VA)
- [3]. Amir Gholami, "Disturbance and Outage Root Cause Analysis in Distribution System Using Physics-aware Data-driven Approaches", September, 2022 (working at the Ulteig, CA)
- [4]. Chuan Qin, "Data-Driven Situational Awareness for Distribution System Resiliency", August 2022 (Working at the Pacific Northwest National Lab, Richland, WA)
- [5]. Arman Ahmed, "Data Driven Event Analysis for Cyber-Power System", August 2022 (Co-advised with Dr. Yinghui Wu) (WSU-PNNL Distinguished Graduate Research Fellow) (Working at Intel, Beverton, OR)
- [6]. Niloy Patari, "Distributed Voltage Control and Optimization for Distribution Power Systems", December 2021 (Working at National Grid, NY)
- [7]. Gowtham Kandaperumal, "Resiliency-Driven Situational Awareness and Decision Support For Cyber-Power Distribution Systems", July, 2021 (PNNL DGRP fellow co-advised with Dr. K. Schneider) (Working at the ComEd, Chicago, IL)
- [8]. S. Armina Foroutan, "Generator Model Validation and Calibration Using Synchrophasor Measurements", May 2021 (Working at the GE Grid Solutions, Redmond, WA)
- [9]. Syed Rizvi, "Data-Driven Algorithms for Power System Load Model Parameter Estimation and Voltage Stability Assessment", May 2021 (Working at the Dubai Electricity and Water Authority, Dubai, UAE)
- [10]. Zhijie Nie, "Cyber-Physical Resilience Analysis for Power Systems", December 2020 (Working at the GE Grid Solutions, Redmond, WA)
- [11]. Shikhar Pandey, "*Application-Aware Synchrophasor Estimation and Quality-Aware Applications*", May 2020 (Working at the ComEd, Chicago, IL)
- [12]. Yue Zhang, "*Data-Driven Algorithms for Distribution System Operation and Control*", Ph.D., August 2019 (Working at the GE Grid Solutions, Redmond, WA)
- [13]. Venkatesh Venkataramanan, "*Cyber-Physical Resilience Assessment for Active Power Distribution Systems*", August 2019 (Co-advised with Dr. Hahn) (Working as the National Renewable Energy Lab, Golden, CO)
- [14]. Krishnanjan G. Ravikumar, "*Adaptive Remedial Action Schemes using Synchrophasors*", Ph.D., December 2018, (Working at the Google, VA)
- [15]. Tushar, "*Measuring and Enabling Cyber-Physical Resiliency of Electric Transmission Systems*", Ph.D., December 2018, (Working at the GE Grid Solutions, Redmond, WA)
- [16]. Sayansom Chanda, "*Enabling Resiliency of the Electric Distribution Systems During Extreme Events*", December 2018, (Working at the National Renewable Energy Lab, Golden, CO)

- [17]. Bo Cui, “*Synchrophasor Based Failure Diagnosis and Asset Monitoring in Transmission Network Protection System*”, Ph.D., August 2018, (Working at Microsoft, Redmond, WA)
- [18]. Ren Liu, “*Cyber-Physical Security Analysis for Synchrophasor Applications*”, Ph.D., December 2017, (Working at Dominion Virginia Power, Richmond, VA)
- [19]. Hyojong Lee, “*Development, Modeling, and Applications of PMUs*”, Ph.D., December 2017 (Working at the Hitachi Energy, Cary, NC)
- [20]. Ramon Zamora, “*Energy Management and Multi-Layer Control of Networked Microgrids*”, Ph.D., December 2015, (Working as a faculty at Auckland University of Technology, New Zealand)
- [21]. Saugata Biswas, “*Synchrophasor Based Voltage Stability Monitoring and Control of Power Systems*”, Ph.D., September 2014 (\*Best Graduate Research Assistant Award) (Working at the GE Grid Solutions, Redmond, WA)
- [22]. Farshid Shariatzadeh, “*Energy Management and Control of Active Distribution Systems*”, Ph.D., August 2014 (Working at the Google, Seattle, WA)

#### M.S. students graduated at WSU

- [1]. M. Mustafa Hussain, “*Real-Time Testbed Development for Cyber-Power Analysis and Validation*”, July 2021, (co-advised with Dr. A. Hahn) (continued as a Ph.D. student)
- [2]. Arman Ahmed, “*PMUNET: Anomaly Detection Over Concept Drifting Synchrophasor Data Streams*”, May 2019 (Co-advised with Dr. Wu) (Continued as a PNNL Fellow)
- [3]. Matteo Menazzi, “*Enabling Resiliency Through Outage Management and Real-Time Data-Driven Aggregated DERs*”, EU Student with WSU Thesis, August 2018. (Working with ABB, Bergamo, Italy)
- [4]. Shikhar Pandey, “*A Real-Time Synchrophasor Data-Driven Approach for Event Detection in The Power Grid*”, December 2017 (Continued as a doctoral student at WSU and now working at the ComEd, Chicago, IL)
- [5]. Mengze Zhou, “*An Ensemble-based Algorithm for Synchrophasor Data Anomaly Detection*”, May 2017 (Working at the PacificCorp, Portland, WA)
- [6]. Guo Yu, “*Three-phase distribution state estimation using smart meter data*”, M.S., August 2016 (Working with 1898 and Co., Greater Boston, MA)
- [7]. Leslie Corson, “*Development and Integration of Three Phase Unbalanced Voltage Stability Index into Multi-Objective Optimization for Distribution System Planning*”, M.S., December 2015 (Working with Douglas County PUD, East Wenatchee, WA)
- [8]. Venkatesh Venkataramanan, “*A Real-Time Cyber-Physical Testbed for Microgrid Resiliency Analysis*”, M.S., August 2015 (Continued as a Doctoral Student, WSU)
- [9]. Sayansom Chanda, “*Measuring and Enabling Resiliency in Distribution Systems with Multiple Microgrids*”, M.S., August 2015 (Continuing as a Doctoral Student, WSU)
- [10]. Tushar, “*Data-Driven Load Modeling and Application in Voltage Stability*”, M.S., August 2015 (Continued as a Doctoral Student, WSU and at the GE)
- [11]. Arvind Malikeshwaran, “*Development and Testing of Synchrophasor Based Dynamic Remedial Action Schemes*”, M.S., August 2015, (Working with GE Grid Solutions, Redmond, WA)
- [12]. Pramila Nirbhavane, “*Data-Driven Load Modeling in Power Distribution System*”, M.S., December 2014 (Working with New York ISO, NY)
- [13]. Fransiska Anna Martina, “*Graph Theory and Particle Swarm Based Reconfiguration of Multiple Microgrids For Grid Resiliency*”, MS, Dec 2014 (Working at Chevron, Indonesia)

- [14]. Jie Wei, “*Distribution Locational Marginal Price Using Three-Phase Current Injection Based Optimal Power Flow*”, M.S., Dec. 2014, (Working at Monitoring Analytics LLC, PA)
- [15]. Rahul Anilkumar, “*Volt/Var Management for Transmission and Distribution Systems with Wind Energy*”, M.S., May 2014 (Working with Quanta Technology, CA)
- [16]. Ceeman Vellathurai, “*Cyber-Power System Analysis Using a Real-Time Test Bed*” M.S., August 2013 (Working with Schweitzer Engineering Lab, WA)
- [17]. Griet Devriese, “*Energy Savings and Volt/Var optimization using intelligent control*”, M.S., August 2013 (Working with Power Engineers, ID)
- [18]. Timothy Ernster, “*Power System Vulnerability Analysis: A Centrality Based Approach Utilizing Limited Information*”, M.S., August 2012 (Working with U.S. Army Corps of Engineers, OR)

#### Non-Thesis Students and Professional M.S. graduated at WSU

- [1]. Meshal Marzooq, December 2021 (SEL)
- [2]. Kevin Gowan, Professional Science Masters (PSM), May 2021 (Puget Sound Energy)
- [3]. Michael Montgomery, Professional Science Masters (PSM), December 2020 (E.C. Fennell, FL)
- [4]. Kelly McFarlane, Professional SM, May 2020 (Bonneville Power Administration)
- [5]. Dejene Mersha, Professional SM, May 2018 (Seattle City and Light, Seattle, WA)
- [6]. Abdur Rehman, Professional SM, December 2017 (Seattle City and Light, Seattle, WA)
- [7]. Sadiq Anod, PSM, May 2017 (Chelan County PUD, Chelan, WA)
- [8]. Brandon Powers, “*Model-based attack detection and mitigation for AGC*”, M.S., May 2016 (working with Army Corps of Engineer, Walla Walla, WA)
- [9]. Yipeng Zhou, “*Cyber-Physical Analysis for Reconfiguration of Multiple Microgrids*” M.S. (Non-Thesis), Engineering Sciences, August 2015 (National Institute of clean and low carbon energy (NICE), China)
- [10]. Alexander Anderson, PSM, December 2015 (Pacific Northwest National Lab, WA)
- [11]. Han Zhao, “*Fault Location for Power Distribution System*”, M.S. (Non-Thesis), May 2015
- [12]. Bhavana Mupalla, “*Distribution system restoration with Microgrid*”, M. S. (Non-thesis), August 2014 (Working at Electric Power Systems (EPS), St. Louis, MO)
- [13]. Amanvir Sudan, “*Data acquisition and monitoring in power grid*”, M. S. (Non-thesis), August 2013 (Working at Schweitzer Engineering Lab, CA)
- [14]. Shreya S Kodnadu, “*PMU performance and modeling*”, M. S. (Non-thesis), August 2012 (Working at Silicon Valley Power, San Francisco, CA)

#### Ph.D. Students graduated as Co-Advisor at Mississippi State University

- [1]. Y. Baez-Rivera, “*Control of Multi-generators for the All-Electric Ship*”, (co-advised with Dr. Noel Schulz) Ph.D., May 2011 (Best graduate student award from President’s Commission on the Status of Women) (Associate Chair, Undergraduate Programs & Program Director, Electrical Engineering Technology at University of North Carolina, Charlotte, NC)
- [2]. M. Lin, “*Static and Dynamic Voltage Stability Assessment of Hybrid AC/DC Power Systems*”, (co-advised with Dr. Noel Schulz), Ph.D., December 2010 (working at New York Independent System Operator (NYISO), NY)

- [3]. Q. Huang, “*Power System Distributed State Estimation with Phasor Measurement Units*”, (co-advised with Dr. Noel Schulz), Ph.D., December 2010 (with Focus PDM, CA)

#### M.S. Thesis Students graduated as Advisor at Mississippi State University

- [1]. Shilpa Toppo, “*Three-phase continuation power flow based on current injection algorithm for distribution systems*”, M.S., Dec. 2010 (Working with PacificCorp, Salt Lake City, UT)
- [2]. Ram Mohan Reddi, “*Development of smart grid testbed for operation, control and cyber-security analysis*”, M.S., Dec. 2010 (Working at the Penna Cement Industries, India)
- [3]. Doug Bowman, “*Impact of Wind farm with storage on Electric Grid*”, M.S., December 2010 (Working with Southwest Power Pool, AR),
- [4]. Shireesha Methuku, “*Modeling of the Biomass Power Generation and Techno-Economic Analysis*”, M.S., December 2009 (Working with ERCOT, Texas)
- [5]. Ankush Saran, “*Real-Time Modeling, Simulation and Validation of Protective Relays*”, M.S., December 2009. (Ph.D. student at Mississippi State University, MS)
- [6]. Sunil Palla, “*Development of overcurrent relay model and power system simulator using national instruments devices in real-time*”, M.S., December 2008. (\*Best Graduate Research Assistant Award) (Working with New York Power Authority, NY)
- [7]. Bharath Ravulapati, “*Development of corrective actions for higher-order contingencies*”, M.S., December 2008. (Working with Cross Texas Transmission, TX)
- [8]. Abhilash Reddy Masannagari, “*Optimizing the size and location of distributed generators to maximize the grid stability*”, M.S., December 2008. (Working with New York Power Authority, NY)
- [9]. Aarthi Asok Kumar, “*Technical and economic impacts of distributed generators and energy storage devices on the electric grid*”, M.S., December 2008. (Working with LCG Consulting, CA)
- [10]. Dina Khaniya, “*Development of three-phase continuation power flow for voltage stability analysis of distribution systems*”, M.S., Dec. 2008. (Working at Schneider Electric, SC)

#### M.S. Thesis Students graduated as Co-Advisor at Mississippi State University

- [11]. Vinoth Mohan, “*Advancements in Power System Monitoring and Inter-Operability*”, (with Dr. Noel Schulz) M.S., Dec. 2009, (Working with GE Grid Solutions, Redmond, WA),
- [12]. Padmavathy Kankanala, “*Optimal Control of Voltage and Power in MVDC Multi-Zonal Shipboard Power System*”, (with Dr. Noel Schulz), M.S., December 2009 (PSE&G, Newark, NJ)
- [13]. Seetharam Rudraraju, “*Small Signal and Transient Stability Analysis of MVDC Shipboard Power System*”, (with Dr. Noel Schulz), M.S., December 2009 (Working with Open System International, Minneapolis, MN)
- [14]. Venkata Pendurthi, “*Uncertainty in Measurements and Cognitive Engineering Analysis of a Decision Support System for Power System Reconfiguration*”, (with Dr. Noel Schulz), M.S., December 2009 (Working with CompuSharp, Jackson, MS)

- [15]. Krishnanjan Gubba Ravikumar, “*Distributed simulation of power systems using Real-Time Digital Simulator*”, M.S., August 2009. (with Dr. Noel Schulz) (\*Best Graduate Research Assistant Award) (Working with the Google, CA)
- [16]. Srinath Kamireddy, “*Comparison of state estimation algorithms considering phasor measurement units and major and minor data loss*”, M.S., December 2008. (with Dr. Noel Schulz) (Working with Entergy, Jackson, MS)

#### M.S. (Non-thesis) Students Graduated as Advisor at Mississippi State University

- [17]. Mounika Kurra, M.S., December 2010 (working with Siemens PTI, NY)
- [18]. Venkata Surya Subrahmanyam, M.S., December 2010 (Working with PWR Solutions, DNV GL Company, Dallas, TX)
- [19]. Sugam Patel, M.S., March 2010. (Working with American Electric Power, TX)
- [20]. Bala Ranganath Kondaveeti, M.S., August 2009. (Working with IK Power Systems Solutions, LA)
- [21]. Chenfeng Zhang, M.S., December 2008 (Working with Texas Instruments, IN)
- [22]. Bharath Annabathina, M.S., Dec. 2008. (Working with New York Power Authority, NY)

#### V.G. Former Undergraduate Research Students

##### *Undergraduate Students at Washington State University*

- [1]. Brian Ha, REU Student (Spring 2021- Fall 2021)
- [2]. Asmita Acharya, Undergraduate Intern on NSF REU (Summer 2021)
- [3]. Jayce Gaddis, Undergraduate Intern (September 2018-March 2020)
- [4]. Edgar Orozco, Undergraduate Intern (Summer 2020)
- [5]. Tori Elizabeth Warner, Undergraduate Intern (Summer 2020)
- [6]. Alexandra Beatrice King, Undergraduate Intern (Summer 2020)
- [7]. Jonah Davis, Undergraduate Intern on NSF REU (Summer 2020)
- [8]. Lauren Smith, NSF REU, Summer 2019
- [9]. Hyesun Cha, Research Intern, 2013- 2017 (Supported by DOE, PSERC, EPRI)
- [10]. Chuan Qin, Intern (January 2018-December 2018)
- [11]. Caroline L. Rublein, NSF REU (Summer 2018)
- [12]. Christopher Riedeman, NSF REU Intern (January 2018-May 2018)
- [13]. Jacob Greig Prine, Research Intern, (May 2016-May 2018)
- [14]. Darryl Hicks, Intern (August 2017-December 2017)
- [15]. David Bai, NSF REU (June 2017-August 2017)
- [16]. Darryl Hicks, NSF REU (June 2017-August 2017)
- [17]. Noble Stoneman, NSF REU (June 2017-August 2017)
- [18]. Linh Nguyen, NSF REU (June 2016-August 2016)
- [19]. Nathan VelaBorja (Summer, 2015-December 2015)
- [20]. Glory Obielodan, NSF REU (Summer 2015)
- [21]. Sebastian S. Rodriguez (Summer 2015)
- [22]. Douglas Rapier (Summer 2014-December 2014)
- [23]. Trey Ottaway (Summer 2014)
- [24]. Austin Irby (Spring 2013-Spring 2014)
- [25]. Alex Loper (Fall, 2013-Spring 2014)
- [26]. Matt Tabor (Spring, 2013- Summer, 2013)
- [27]. Rory Beckstorm, (Fall, 2012 - Fall 2013)
- [28]. Hyojong Lee, (Fall, 2012)
- [29]. Abdur Rehman (Fall 2012-Spring 2013)
- [30]. Rakesh Goyal (Summer 2012)

- [31]. Jared Bestbreuer (Summer 2011)
- [32]. Sadiq Anod (REU) (Summer 2011)

### *Undergraduate Students at Mississippi State University*

- [1]. Reginal Roby, Mississippi State University, B.S. Student, (Spring and Fall, 2010)
- [2]. Udita Singh, Indian Institute of Technology, Delhi, India, (Summer 2009)
- [3]. Sri Hari Krishna, Indian Institute of Technology, Kharagpur, India, (Summer 2009)
- [4]. Meenakshi Garg, Indian Institute of Technology, Delhi, India, (Summer 2008)
- [5]. Nikhil Kumar, Institute of Technology, BHU, Varanasi, India, (Summer 2007)

### *V.H. Undergraduate Senior Design Projects at WSU*

- [1]. "High Surge Impedance Loading of High Voltage Transmission Lines", Power Engineers and WSU EECS (2020-2021)
- [2]. "Designing Data Management Tool using OpenPDC for Smart Grid Control Application", Supported by DOE (2015-2016)
- [3]. "Design of Synchrophasor estimation, monitoring and visualization using PI server and PMU prototype", Supported by DOE (2015)
- [4]. "Designing a remedial action scheme using synchrophasors data", Supported by DOE (2014-2015)
- [5]. "Designing an open source phasor measurement unit", Supported by DOE (2014)
- [6]. "PMU design and prototype", Supported by SGDRIL, ESIC (2012-2013)
- [7]. "Feeder Voltage Optimization", Supported by Tacoma Power (2010-2011)
- [8]. "Synchrophasor Wide Area Control System", Supported by Schweitzer Engineering Laboratories, Inc., (2010-2011)

### *V.I. Graduate Thesis External Examiner*

- [1]. Delft University, Delft, Netherland
- [2]. Asian Institute of Technology, Bangkok, Thailand
- [3]. Aachen University, Germany
- [4]. Aalborg University, Denmark
- [5]. Indian Institute of Technology, Kanpur, India
- [6]. Indian Institute of Technology, Bombay, India
- [7]. Indian Institute of Technology, Roorkee, India
- [8]. Indian Institute of Technology, Chennai, India
- [9]. Indian Institute of Technology, Varanasi, India
- [10]. National Institute of Technology, Srinagar
- [11]. Faculty of Engineering and Technology, Multimedia University, Malaysia

## **VI. Teaching Experience**

### **VI.A. List of Courses Taught at WVU**

<b>Course Number</b>	<b>Course Name</b>	<b>Semester</b>	<b>Students</b>
CSEE 480/CSEE 481	"WVU Evansdale Model with Cybersecurity and Automation", Sponsored by DOE and DARPA	Fall 2023/Spring 2024	5

CSEE 480/CSEE 481	"Synchro-phasor based PQ & DTT Applications for DER Interconnects", Sponsored by Baltimore Gas and Electric	Fall 2023//Spring 2024	4
CSEE 480/481	Implementing a cybersecure IEC 61850 protocol-based substation network using Software Defined Networking (SDN), sponsored by SEL	Fall 2022/ Spring 2023	4
CSEE 380 Guest Lectures	Engineering Professionalism Seminar	Multiple semesters	100+

*VI.B. List of Courses Taught at WSU*

<b>Course Number</b>	<b>Course Name</b>	<b>Semester</b>	<b>Students</b>
EE 361	Electrical Power System	Spring 2021	15
EE 582	Cyber-Power Systems	Fall 2020	8
EE 536 Online	Power System Operation and Electricity Market	Fall 2020	6
EE 361	Electrical Power System	Spring 2020	34
EE 361 Everett	Electrical Power System (Partial)	Spring 2020	18
EE536	Power System Operation and Electricity Market	Fall 2019	18
EE 536 Online	Power System Operation and Electricity Market	Fall 2019	9
EE 582	Cyber-Power Systems	Spring 2019	25
EE 536 Online	Power System Operation and Electricity Market	Fall 2018	13
UI Guest Lecture	Resilient Controls for the Power Grid	Fall 2018	17
EE/ CptS 439	Critical Infrastructure Security: Emerging Smart Grid	Spring 2018	24
EE439 Online	Cyber Infrastructure for the Smart Grid	Spring 2018	1
EE536 Online	Power System Operation and Electricity Market	Fall 2017	16
EE536	Power System Operation and Electricity Market	Fall 2017	14
EE582/ EE439	Critical Infrastructure Security: Emerging Smart Grid	Spring 2016	18
EE439 Online	Cyber Infrastructure for the Smart Grid	Spring 2016	2

EE536 Online	Power System Operation and Electricity Market	Fall 2015	7
EE536	Power System Operation and Electricity Market	Fall 2015	12
EE361	Electrical Power System	Spring 2015	47
EE582/ EE439	Critical Infrastructure Security: Emerging Smart Grid	Spring 2015	28
EE582 Online	Cyber Infrastructure for the Smart Grid	Spring 2015	5
EE582/ EE483	Critical Infrastructure Security: Emerging Smart Grid	Spring 2014	9
EE536	Power System Economics and Electricity Market	Fall 2013	17
EE582/ EE483	Critical Infrastructure Security: Emerging Smart Grid	Spring 2013	26
EE491	Performance of Power System	Fall 2012	34
EE582/ EE483	Critical Infrastructure Security: Emerging Smart Grid	Spring 2012	29
EE361	Electrical Power System	Spring 2012	24
EE581/ EE536	Power System Economics and Electricity Market	Fall 2011	23
EE361	Electrical Power System	Spring 2011	35

*VI.C. List of Courses Taught at MSU*

<b>Course Number</b>	<b>Course Name</b>	<b>Semester</b>
ECE8990	Power system economics and deregulation	Spring 2006 and Fall 2008
ECE 8990	Power system operation and control	Fall 2006 and Fall 2009
ECE8990	Electric ship power system (partial)	Fall 2006
ECE8990	Power system modeling and simulation (partial)	Spring 2007
ECE8623	Power system stability, security and vulnerability	Fall 2007
ECE4613/6613	Power system transmission (partial)	Fall 2008



## VII. Research Funding/Grants

### VII.A. Active Research Grants at WVU

	Title	Source	Role and other PI's	WVU Amount	Time Period
1.	Augmenting and Advancing Cognitive Performance of Control Room Operators for Power Grid Resiliency (transferred)	NSF	Role: Lead-PI Co-PIs: Drs. Whitney, Hahn, Bose, Lotfifard	\$1.378M + \$16K REU (\$617,595 to WVU)	8/18-8/24
2.	CPS: DFG Joint: Medium: Collaborative Research: Data-Driven Secure Holonic control and Optimization for the Networked CPS (aDaption) (Transferred) + US-India Supplement	NSF/ DFG	Role: Lead PI Co-PIs: Drs. Hahn, Wu, Bakken. With MIT, Aachen U in Germany	\$810K + \$16K REU + \$100K (\$318,920 to WVU)	1/20-12/24
3.	Efficient Ultra Endpoint IoT-enabled Coordinated Architecture (EUREICA) (Transferred)	DOE	Role: WVU PI Lead: MIT, with Princeton, GE, NREL	\$279K (\$262,006 to WVU)	8/20-3/24
4.	SolarSTARTS: Solar-Assisted State-Aware and Resilient Infrastructure System (WVU)	DOE/ Univ. of Utah	Role: WVU PI Others: U of Utah (Lead), PacificCorp, INL, Utah Transit Authority	\$450,000 (\$299,699 to WVU)	1/20-3/24
5.	Solar Testbed	DOE/ WVHTF	Role: Technical PI	\$2.375M	10/23-9/25
6.	<u>CREATE: Cyber Range Sandbox for Data-driven Security Solutions</u>	WV/Dep. Of Education	Role: Co-PI	\$750K	8/23-7/25
7.	Prototype Development of Malicious Device Detection System Using Side-Channel Signals and Machine Learning Algorithms	DoD/ Marshall U.	Role: Co-PI	\$119,999	2/23-3/24
8.	Cybersecurity Program Training	The International Research & Exchanges Board	Role: PI	\$75K	3/23-8/24
9.	<b>Resilient Communities via Risk-driven Infrastructure Planning and Automated Restoration (Recuperat)</b>	US DoE/ WSU	Role: WVU PI	\$150K	8/23-3/26

10.	Developing a Multi-State Smart Grid Deployment Consortium	Appalachian Regional Commission/ TN Tech	Role: WVU PI	\$1,816,898	8/23-8/26
11.	STTR Phase I:Datapoint measurements of second life batteries for state of health and state of charge	Parthian/ NSF	Role: WVU PI	\$274,951	8/23-8/24
12.	Deployment of a Community-Oriented Interoperable Control Framework for Aggregating and Integrating DERs and Other Grid-Edge Devices (ICF)	DOE/ ComED	Role: WVU PI	\$1.7M	1/24-12/28
13.	Artificial Intelligence Cybersecurity Readiness and Future Training (AI-CRAFT)	DARPA/FIU	Role: WVU PI	\$1.75M	1/24-12/25

#### *VII.B. Active Research Grants at WSU*

	Title	Source	Role and other PI's	WSU Amount and My Share	Time Period
14.	Grid Ready Energy Analytics Training with Data	DOE/ EPRI	Role: co-PI  Lead PI: Dr. Dubey, Other Co-PI: Dr. Mehrizi-Sani	\$244K My Share: 20%	4/19-3/24

#### *VII.C. Completed Research Grants at WVU*

	Title	Source	Role and other PI's	Amount and My Share	Time Period
1.	UI-ASSIST: US-India collAborative for smart diStribution System wlth Storage (Transferred)	DOE/ DST	Role: WVU PI  Lead PI: Dr. Schulz, Co-PIs: 30 additional institutions	\$1.5M (Total: \$39M) (\$314,614 to WVU)	10/17-10/23
2.	Enabling Coal Transition	DOE/ PNNL	Multi-Lab Call	\$20K	7/22-10/22

*VII.D. Completed Research Grants at WSU*

	Title	Source	Role and other PI's	Amount and My Share	Time Period
1.	Federated Predictive Analysis for Power Grid Using Multi Agent Models	PNNL DGRP	Role: WSU PI	\$103,562	1/21-8/22
2.	Data-driven Control of DERs & Hybrid PV Plants for Enhancing Voltage Stability Over Multiple Timescales	NSF I/UCRC PSERC	Role: WSU PI Lead: Dr. Ajarapu (Iowa State)	\$220K My Share: 32%	7/21-7/23
3.	Tools for keeping your power ON during extreme events	WSU CGF	Role: WSU PI	\$37,948 My Share: 100%	01/21-12/21
4.	AGGREGATE: data-driven modeling preserving controllable DER for outage management and resiliency	DOE	Role: Lead PI  Co-PIs: Dr. Dubey With: MIT, GE, SCL, ANL, VT	\$900K (Total: \$2.29M) My Share: 40% of WSU part	10/17-06/21
5.	AGI Grid Sandbox	Pacific Northwest National Lab	Role: WSU PI	\$150,000 My Share: 80%	08/19-9/21
6.	Resilient Alaskan Distribution system Improvements using Automation, Network analysis, Control, and Energy storage (RADIANCE)	INL/ DOE	Role: WSU PI  With: INL (Lead) and 10+ partners	\$400,000 (Total: \$6.2M) My Share: 100% of WSU part	11/17-3/21
7.	Development of Prototypical Communications System Models for Cyber-Physical Resiliency Analysis	PNNL DGRP	Role: WSU PI	\$96,000 (Mainly for my student)	10/19-9/21
8.	Cyber Resilient Energy Delivery Consortium (CREDC)	Department of Energy	Role: Co-PI PI: Dr. Hahn Co-PI's: Dr. Bose	\$1.7M My share: 30%	10/15-9/20
9.	Smart Reconfiguration of Idaho Falls Power Distribution Network for Enhanced Quality of Service	Idaho National Lab/ Department of Energy (DOE)	Role: PI  Co-PI: Dr. Liu	\$150,000 My Share: 70% of WSU part	08/16-10/18
10.	NSF Workshop on Real-Time Data Analytics for Resilient Electric Grid	NSF	Role: Lead PI	\$49K My Share: 100%	5/18-3/19

11.	CPS: Synergy: Collaborative Research: Diagnostics and Prognostics Using Temporal Causal Models for Cyber-Physical Systems- A case of Smart Electric Grid	National Science Foundation (NSF)	Role: PI Co-PI: Dr. Liu With: Vanderbilt University (Lead) and North Carolina S. U.	\$400,000 +\$16K REU Supplement (Total: \$999,953) My Share: 60% of WSU part	10/13-09/18
12.	Kronos++: Dynamic Knowledge Inference for Real-Time Smart Grid Resiliency Analysis	Siemens	Role: Lead PI Co-PIs: Drs. Hahn, Wu	\$80K My Share: 40%	6/19-10/19
13.	CPS: TTP Option: Synergy: Collaborative Research: The Science of Activity-Predictive Cyber-Physical Systems (APCPS)	National Science Foundation (NSF)	Role: co-PI Lead PI: Dr. Cook Co-PIs: Dr. Doppa and Dr. Schmitter-Edgecombe	\$1,100,000 My Share: 27%	10/15-12/19
14.	Kronos: Knowledge Base of Real-time Power Event on Heterogeneous Data Streams	Siemens	Role: Lead PI Co-PIs: Drs. Hahn, Wu	\$100K My Share: 40%	7/18-5/19
15.	Collaborative Research: The Adoption of an Emerging Technology for Improving the Electrical Delivery System	National Science Foundation (NSF)	Role: Co-PI PI: Dr. Horne With: Brown U. (Lead)	\$130,303 My Share: 25% of WSU part	04/16-03/18
16.	Develop a Technique to Derive Static ZIP Load Model from Synchrophasor Data	Electric Power Research Institute (EPRI)	Role: Lead PI	\$220,000 My Share: 100%	10/15-9/18
17.	Data Analytics for the Smart Grid (DASG) Workshop	Siemens	Role: Lead PI	\$5000 My Share: 100%	7/17-12/17
18.	Advanced Cyber-Physical Analysis for Smart Grid Distributed ICT and IED Resources at RTE France	NSF IUCRC PSERC	Role: Co-PI PI: Dr. Bakken	\$311.5K My Share: 55% of WSU part	12/14-12/17
19.	Analyzing Cognitive Flexibility of Control Room Operator with Advanced Decision Support Tools in Extreme Contingencies	Energy Systems Innovation center	Role: Lead PI Co-PI: Drs. Lottifard, and Whitney	\$9,960 My Share: 30% of WSU part	07/16-10/17
20.	Cyber-Physical Security Analytics for Smart Grid	Siemens	Role: Lead PI Co-PI: Dr. Hahn	\$99K My Share: 60%	1/17-12/17
21.	Global RT-SuperLab	INL	Role: PI (Idaho National Lab)	In-kind Support	6/17-12/17

			(Lead) with partners)		
22.	Deployment and Evaluation of Energy Storage Integrated into the Pullman Smart Grid Community	Washington State Department of Commerce/ AVISTA/ PNNL	Role: Co-PI PI: Dr. Liu Co-PI: Dr. Bose With: AVISTA (Lead)	\$399,000 (WSU part) My Share: 30% of WSU part	12/15-12/16
23.	Analyzing the impact of NERC CIP on Power System Operations and Developing Techniques/ Business Plan for Optimal Cybersecurity Requirements	Energy Systems Innovation Center	Role: Co-PI Co-PI: Drs. Hahn, and Sahaym	\$10,000 My Share: 30% of WSU part	07/16-06/17
24.	Collaborative Research: Integrated Policy and Engineering Design for Complex Systems with Applications to Smart Distribution System	National Science Foundation (NSF)	Role: PI With: Purdue U. (Lead), (Started as Co-PI and change to WSU PI 09/12)	\$150,000 (Total: \$350,000) My Share: 100% of WSU part	08/12-08/17
25.	Smart City Testbed at WSU	Murdock Foundation	Role: Co-PI PI: Dr. Liu, Co-PI: Bose, Mani, Bakken, Hauser, Mehrizi-Sani	\$1M My Share: 6% (for students and testbed)	9/14-9/17
26.	A Collaborative Educational Program on Synchrophasor Applications for the Smart Electric Grid	Department of Energy (DOE)	Role: Lead PI Co-PIs: Dr. Liu, Dr. Mani and Dr. Bakken	\$200,000 (With industry match by OSI, SEL: \$1,368,611) My Share: 80%	07/13-12/15
27.	Collaborative Research: Smart Power Distribution System Curriculum - Multi-Institution Demonstration and Deployment	National Science Foundation (NSF)	Role: PI With: Drexel U. (Lead), Cornell U., U. of North Carolina and The College of New Jersey	\$87,057 (Total: \$599,679) My Share: 100% of WSU part	09/12-08/16
28.	Development of a Smart Phone App for Energy Sustainability	Energy Systems Innovation center	Role: PI	\$9,480 My Share: 20% of WSU part	08/15-06/16

			Co-PI: Drs. Horne, Kennedy, and Hahn		
29.	Real-Time Modeling and Simulation Module for the Smart Electric Grid	WSU VCEA Equipment program	Role: PI Co-PIs: Mehrizi-Sani, Hahn, Lotfifard	\$60K My Share: 0% (for test bed)	10/14-12/15
30.	Substation Automation and Trip Coil Health Monitoring	Schweitzer Engineering Lab (SEL)	Role: PI Co-PI: Dr. Hauser	\$450,000 My Share: 90%	05/11-12/15
31.	Adaptive and Intelligent PMU for Smarter Applications	Power System Engineering Research Center	Role: PI With: Georgia Tech and University of Illinois	\$80,000 (Total: \$140,000) My Share: 100% of WSU part	06/13-08/15
32.	Student Support for the 2014 North American Power Symposium (NAPS), held at Washington State University, Pullman, WA	National Science Foundation (NSF)	Role: Co-PI PI: Mehrizi-Sani, Co-PI: Bose	\$12,000 My Share: 0% (for students)	08/14-06/15
33.	Developing a Battery-Extender Auxiliary Power Unit (BE-APU) for Next-Generation Commercial Airplanes (with Boeing), Phase 3	Joint Center for Aerospace Technology Innovation	Role: Co-PI PI: Liu, Co-PIs: Drs. Ha, Norton, Mehrizi-Sani	\$100,000 My Share: 40%	07/14-06/15
34.	Trustworthy Cyber-Infrastructure for the Power Grid	Department of Energy (DOE)	Role: Senior Researcher PI: Dr. Hauser Co-PI: Dr. Bose, Bakken	\$194,118 (Total: 1,411,482) My Share: 13%	01/11-08/15
35.	Implementing Smart Meter Applications in Washington State: Institutional Analysis of an Emerging Technological Field	WSU Energy System Innovation Center Seed Grant	Role: Co-PI PI: Dr. Horne Co-PI: Dr. Frickel	\$9,200 My Share: 30%	3/14-9/14
36.	Engineering and Sociological Foundations for Smart Distribution Systems	CEA Strategic Investments for Research Excellence Grant	Role: Co-PI PI: Dr. Liu Co-PIs: Dr. Love, Dr. Horne, Dr. Cook	\$60,000 + in kind My Share: 40%	10/12-09/14
37.	AVISTA Smart Grid Demonstration Grant	AVISTA/ Department of Energy	Role: PI Co-PI: Dr. Bose (Transferred)	\$427,000 My Share: 75%	05/12-09/14

38.	Course Development "Critical Infrastructure Security: The Emerging Smart Grid"	Department of Energy through NSF IUCRC PSERC	Role: PI  Co-PIs: Dr. Hauser and Dr. Bakken	\$140,000 My Share: 42%	05/11- 07/14
39.	Feasibility of a Smart Distribution System for Microsoft Campus	Puget Sound Energy (PSE) and Microsoft	Role: Co-PI  PI: Dr. Liu	\$80,050 My Share: 50%	06/13- 07/14
40.	AVISTA Smart Grid Investment Grant	AVISTA/ Department of Energy	Role: PI  Co-PI: Dr. Bose (Transferred)	\$140,000 My Share: 60%	05/12- 12/13
41.	Developing a Battery- Extender Auxiliary Power Unit (BE-APU) for Next- Generation Commercial Airplanes (with Boeing), Phase 2	Joint Center for Aerospace Technology Innovation	Role: Co-PI  PI: Dr. Liu, Co- PIs: Drs. Ha, Norton, Mehrizi- Sani	\$127,500 My Share: 30%	07/13- 06/14
42.	Testing and Validation of Phasor Measurement- Based Devices and Algorithms	NSF I/UCRC Power System Engineering Research Center	Role: PI  With: Georgia Tech	\$80,000 (Total: \$150,000) My Share: 100%	06/11- 08/13
43.	Interconnection Level Transmission Planning Analysis	DOE/ WECC	Role: Senior Researcher  PI: Dr. Olsen, Dr. Bose	\$24,724 My Share: 100% of my expenditure	01/13- 07/13
44.	Training program in clean energy smart grid engineering	Department of Energy (DOE)	Role: Senior Personnel PI: Dr. Bose Co-PIs: Dr. Mani, Dr. Bakken, Dr. Hauser	\$46,643 (My expenditure) My Share: 100% of my expenditure	05/12- 07/13
45.	Social factors Influencing Implementation and Usage of Smart Grid Technologies	WSU IGIS Grant Application	Role: Co-PI  PI: Dr. Horne Co-PI: Dr. Frickel	\$5000 My Share: 30%	08/12- 06/13
46.	A Nationwide Consortium of Universities to Revitalize Electric Power Engineering Education by State-of-the- Art Laboratories	Department of Energy (DoE)	Role: PI  With: University of Minnesota	\$4,000 (WSU part) My Share: 100% of WSU part	07/10- 07/13
47.	Developing a Battery- Extender Auxiliary Power Unit (BE-APU) for Next- Generation Commercial Airplanes (with Boeing), Phase I	Joint Center for Aerospace Technology Innovation	Role: Co-PI  PI: Dr. Liu Co-PIs: Dr. Ha, Dr. Norton	\$84,930 My Share: 30%	02/13- 06/13

48.	Smart Energy Environments: Design for Human Interaction with Smart Grids	WSU ESIC Seed Grant	Role: Co-PI PI: Dr. Beyreuther Co-PIs: Drs. Cook & Love	\$50,000 My Share: 10%	01/13-06/13
49.	Real-Time Operation and Control of Microgrid	WSU Research Office New Faculty Seed Grant	Role: PI	\$18,000 My Share: 100%	08/11-08/12
50.	Computational Needs for the Next Generation Electric Grid	Department of Energy (DOE)	Role: PI Co-PI: Dr. Bose With: Vanderbilt University	\$5,000 My Share: 60%	10/10-06/11

### VII.E. Completed Research Grants at MSU

	Title	Source	Role and other PI's	Amount and My Share	Time Period
1.	Student Travel Support for the 2009 North American Power Symposium, MS	National Science Foundation	Role: PI Co-PI: Dr. Schulz	\$10,000 My Share: 0% (For students)	09/09-01/10
2.	Remote, nondestructive testing of power system, Multiple University Research Initiative	Office of Naval Research, through Drexel University	Role: PI Co-PIs: Drs. Schulz, Gao, Ginn (Transferred)	\$239,622 My Share: 20%	(5/09-08/10)
3.	Travel funding for attending American Society of Engineering Education, Pittsburgh, PA	MSU Office of Research,	Role: PI	\$1800 My Share: 100%	04/08-06/08
4.	Advanced Naval Power Systems through Electric ship system research and development	Office of Naval Research (Prime) through Florida State University	Role: Co-PI PI: Dr. Schulz Co-PIs: Dr. Gao and Dr. Ginn	\$600,000 My Share: 1s0%	10/07-9/10
5.	Study of interconnection benefits, strategies and impact of distributed	Department of Energy (DOE)	Role: Co-PI PI: Dr. Schulz	\$270,000 My Share: 100%	06/07 - 01/10



	generation on the electric power grid		Co-PI: Dr. Ginn		
6.	Adaptive reconfiguration for shipboard power and support systems	Office of Naval Research/ Florida State University	Role: Co-PI PI: Dr. Schulz Co-PI: Dr. Ginn	\$150,000 My Share: 100%	10/06-5/07
7.	The Western Interconnection Synchrophasor Project	DOE SGIG through Western Electricity Coordinating Council/ PGE	Role: Senior Researcher PI: Dr. King	\$30,000 My Share: 100%	05/10-12/10
8.	Semantic-driven knowledge discovery system for wide-area monitoring of electric power grid	Department of Homeland Security (DoHS)	Role: Senior Researcher PI: Dr. King	\$100,000 My Share: 100%	04/07-12/08
9.	High-performance real-time system for hardware in the loop testing and analysis of advanced power and control systems	Department of Defense (DoD), DURIP	Role: Senior Researcher PI: Dr. Schulz	\$60,000 My Share: 100%	04/06 - 03/07

### VIII. Publications

#### Publications\*\* Summary

	Journal	Conference	Books/ Chapters	Patents	Technical Reports/ White Paper
<b>Total Publications</b>	<b>165</b>	<b>211</b>	<b>17</b>	<b>3</b>	<b>30</b>

#### Citation Report

	Lifetime Citation Count	h-Index	i10-Index
<b>Google Scholar</b>	<b>9643</b>	<b>48</b>	<b>173</b>

#### VIII.A. Book/ Book Chapters

- [B1.] A. K. Srivastava, C. C. Liu and S. Chanda, "Resiliency of Power Distribution Systems", Edited Book, Wiley, 2024.
- [B2.] A. K. Srivastava, V. Venkataramanan, A. Hahn, and C. Hauser, "Cyber Infrastructure for The Smart Electric Grid", Wiley, 2023.
- [B3.] G. Kandaperumal, S. Majumder, and Anurag K. Srivastava, "Microgrids as a resilience resource in the electric distribution grid", chapter in the book title, Electric Power Systems Resiliency: Modeling, Opportunity, and Challenges, Elsevier Academic Press, 2022

\* Students authors advised or co-advised by me (includes collaborative paper resulted from students in my class or as graduate committee member)

# Authors including visiting students and post-doctoral fellow working in my lab

- [B4.] S. Sadanandan, A. Ahmed, S. Pandey, and Anurag K. Srivastava, “Synchrophasor Data Analytics for Anomaly and Event Detection, Classification and Localization”, *Intelligent Data Mining and Analysis in Power and Energy Systems: Models and Applications for Smarter Efficient Power Systems*, Book chapter, Wiley, 2022
- [B5.] A. K. Srivastava, V.V.G Krishnan<sup>#</sup>, S. Gopal, Shikhar Pandey<sup>\*</sup>, and D. Bakken, “Impact of Data Quality on Synchrophasor Based Control to Minimize Wind Curtailment”, in the book titled *Monitoring and Control using Synchrophasors in Power Systems with Renewables*, IET Publications, 2019.
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- [B10.] A. K. Srivastava, S. Chanda<sup>\*</sup>, N. Hatzigiargyriou, J. Wang, “Smart Grids and Microgrids”, McGraw-Hill Handbook, 2017.
- [B11.] A. K. Srivastava, “Analyzing Cyber Requirements for the Smart Grid Applications”, *Smart Grid Inspired Future Technologies*, Institute for Computer Sciences, Social Informatics and Telecommunications *Engineering 2017*.
- [B12.] P. Mandal, A. K. Srivastava, T. Senjyu, and M. Negnevitsky, “Electricity Price Forecasting Using Neural Network and Similar Days”, Book chapter for IEEE Press’s *Advances in Electric Power and Energy; Power Systems Engineering*, 2017.
- [B13.] R. Liu<sup>\*</sup>, R. Goodfellow, A. K. Srivastava, “A Testbed for Closed Loop Cyber-Physical-Social System Simulation and Security Analysis”, Book chapter in *Cyber-Physical-Social Systems and Constructs in Electric Power Engineering*, IET, 2016.
- [B14.] S. Biswas<sup>\*</sup> and A. K. Srivastava, “Synchrophasor Device Testing And Related Standards”, *Handbook of Smart Grid Development*, Wiley, 2015.
- [B15.] C. Vellaithurai<sup>†</sup>, S. Biswas<sup>\*</sup>, R. Liu<sup>\*</sup>, and A. K. Srivastava, “Real-Time Modeling and Simulation of Cyber-Power System”, Edited book by S. Khaitan, J. McCalley, C-C. Liu entitled “*Cyber-Physical Systems Approach to Smart Electric Power Grid*” for Book series on “*Understanding Complex Systems*”, Springer-Verlag Inc, December 2014.
- [B16.] A. K. Srivastava, N. Schulz, R. Zamora<sup>\*</sup>, K. G Ravikumar<sup>\*</sup>, V. M Mohan<sup>\*</sup>, “Real-Time Modeling and Control of Smart Grid Systems”, *Modeling and Control, Green Energy and Technology*, pp. 1–26, Springer Berlin Heidelberg 2012.
- [B17.] A. K. Srivastava and A. J. Flueck, “Contingency Screening Techniques and Electric Grid Vulnerabilities: Mathematical Modeling, Algorithm Development and Applications”, VDM Verlag, ISBN-10: 3836487012, June 2008.

### VIII.B. Patents/ Copyright

- [PT1]. S. Biswas<sup>\*</sup> and A. K. Srivastava, “PMU performance analyzer”, *U.S. Patent No. 9,910,081*. Washington, DC: U.S. Patent and Trademark Office, March 2018.
- [PT2]. S. Biswas<sup>\*</sup> and A. K. Srivastava, “Electric power system circuit breaker trip diagnostic”, Patent with SEL, *U.S. Patent No. 9,864,008*. Washington, DC: U.S. Patent and Trademark Office, January 2018.

- [PT3]. S. Biswas\* and A. K. Srivastava, "RT-VSMAP: A Real-Time Voltage Stability Monitoring", *U.S. Patent No. 9,876,352*. Washington DC, Patent and Trademark Office, January 2018.

### VIII.C. Journal Papers

#### **IEEE Transactions, IET Journals, and other IEEE Publications:**

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- [J3]. A. Ahmed, S. Basumallik, A. K. Srivastava, Y. Wu, S. Choudhury, "Federated Synchrophasor Data Prediction, Aggregation and Inference Using Deep Learning: A Case of Proactive Control for Short-Term Stability", *IEEE Transactions on Power Delivery*, December, 2023
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- [J6]. S. Jena, N. P. Padhy, and A. K. Srivastava, "On Securing the Global Economical Dispatch in DC Microgrid Clusters: An Event-Driven Approach", *IEEE Transactions on Automation Science and Engineering*, Nov. 2023.
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- [J8]. Tushar, Z. Nie, A. Srivastava, and S. Basumallik, "Measuring and Enabling Transmission Systems Resiliency with Renewable Wind Energy Systems", *IEEE Transactions on Industry Applications*, 2023
- [J9]. H. Lee, C. Qin, and A. K. Srivastava, "Energy Theory Based Dynamic Adaptive Phasor Estimation for Smart Electric Grid", *IEEE Transactions on Industry Applications*, 2023
- [J10]. M. Ganjkhani, A. Gholami, J. Giraldo, A. K. Srivastava, and M. Parvania, "Multi-Source Data Aggregation and Real-time Anomaly Classification and Localization in Power Distribution Systems", *IEEE Transactions on Smart Grid*, September 2023
- [J11]. S. Bajagain, C. Qin, S. Pannala, A. Srivastava and A. Dubey, "Integrating Solar Resources and Topology Estimation Modules in Industrial ADMS Environment", *IEEE Transactions on Industry Applications*, 2023
- [J12]. L. Vu, T. Vu, and T. L. Vu, "Multi-agent Deep Reinforcement Learning for Distributed Load Restoration", *IEEE Transactions on Smart Grid*, 2023
- [J13]. S. Konar, A. K. Srivastava, "MPC-based black start and restoration for resilient DER-rich electric distribution system", *IEEE Access*, 2023
- [J14]. A. Ahmed, S. Basumallik, A. Gholami, S. K. Sadanandan, M. H. N. Namaki, A. K. Srivastava, and Y. Wu, "Spatio-Temporal Deep Graph Network for Event Detection, Localization and Classification in Cyber-Physical Electric Distribution System", *IEEE Transactions on Industrial Informatics*, 2023
- [J15]. A Gholami, AK Srivastava, "ORCA: Outage Root Cause Analysis in DER-rich Power Distribution System Using Data Fusion, Hierarchical Clustering and FP-Growth Rule Mining", *IEEE Transactions on Smart Grid*, 2023

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- [J25]. C. Qin, A. K Srivastava, A. Y. Saber, D. Matthews, and K. Davies, "Geometric Deep Learning based Spatio-Temporal Forecasting for Inverter-based Solar Power", *IEEE Systems Journal*, 2023
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- [J29]. P. Sarkar, S. Sadanandan, and A. Srivastava, "Resiliency Metrics for Monitoring and Analysis of Cyber-Power Distribution System with IoTs", *IEEE Internet of Things Journal*, June 2022
- [J30]. W Pei, H Sun, T Logenthiran, AK Srivastava, "Guest Editorial: Special issue on application of new generation information technology in the smart power distribution and utilization system", *IET Smart Grid* 5 (6), 395-397, 2022
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- [WP12]. Noel N. Schulz, Anurag K. Srivastava. Suresh C. Srivastava, Santanu Mishra, Ankush Sharma, and Sanjeev Pannala, "Collaborations for Advanced Distribution Systems in India and US – UI-ASSIST", *IEEE Smart Grid E-Newsletter*, July 2021
- [WP13]. IEEE PES Technical report, Real Time Contingency Analysis (TR 85), 2021, [https://resourcecenter.ieee-pes.org/publications/technical-reports/PES\\_TP\\_TR85\\_PSOPE\\_021721.html](https://resourcecenter.ieee-pes.org/publications/technical-reports/PES_TP_TR85_PSOPE_021721.html)
- [WP14]. A. K. Srivastava, A. Hahn, S. Sadanandan<sup>#</sup>, V. Venkataramanan<sup>\*</sup>, P. Sarker<sup>\*</sup>, J.

- Sebastian, "Cyber-Physical Modeling and Visualization for Microgrid Resiliency", PSERC Publication 20-01, March 2020.
- [WP15]. Md. J. E. Alam, P. J. Balducci, T. D. Hardy, A. Bose, C.-C. Liu, A. K. Srivastava, Y. Xu, "Development and Analysis of Control Strategies for a 1 MW/3.2 MWh Energy Storage System at Avista Utilities", Report No. PNNL-29730. Pacific Northwest National Lab (PNNL), Richland, WA, 2020.
- [WP16]. S. C. Srivastava, N. Schulz, and A. K. Srivastava, "Smart Distribution Systems: Advancing the Energy Ecosystem", Connect, Joint Clean Energy Research and Development Center, Jan 2020.
- [WP17]. R. Arghandeh, M. Bariya, G. Cotter, D. Deka, D. Dietmeyer, L. Dunn, B. Johanneck, C. Lackner, P. Moutis, S. A. R. Konakalla, Y. Seyedi, A. Shasavari, A. K. Srivastava and A. von Meier, "Synchronized Measurements and their Applications in Distribution Systems: An Update", NASPI report, 2020.
- [WP18]. N. D. R. S. Nuthalapati, S. C. Savulescu, Y. Guo, A. K. Srivastava, "Real-time Contingency Analysis", IEEE PES Task Force on Real-time Contingency Analysis, 2019.
- [WP19]. M. Kezunovic, A. K. Srivastava, T. Overbye, S. Meliopoulos, D. Bakken, "Life-Cycle Management of Mission-Critical Systems through Certification, Commissioning, In-Service Maintenance, Remote Testing, and Risk Assessment", PSERC Publication 18-13, 2018.
- [WP20]. E. Farantatos, B. Amidan, R. Arghandeh, D. Bienstock, P. Etingov, S. Murphy, F. Omitaomu, M. Rhodes, T. Rizey, A. K. Srivastava, K. Sun, X. Zhou, "Data Mining Techniques and Tools for Synchrophasor Data", NASPI report, NASPI-2018-TT-007, 2018
- [WP21]. A. K. Srivastava, H. Lee, S. Biswas\*, A. Meliopoulos, G. Cokkinides, Z. Tan, R. Fan, P. Sauer, K. Reinhard, K. Kirihara, B. Pinte, M. Quinlan, Y. Liu, "Adaptive and Intelligent PMUs for Smarter Applications", Technical Report, PSERC Publication 16-01, January 2016.
- [WP22]. A. Hahn, A. K. Srivastava, C.-C. Liu, "Smart City Testbed", Tenth Carnegie Mellon Conference on The Electricity Industry: Testbeds for Smart Grids and Smart Cities, 2015.
- [WP23]. S. Zonouz, and A. K. Srivastava, "Cyber-Physical Educational Simulator for Cyber-Power Infrastructure Security", NSF Energy Cyber-Physical System Workshop, Washington DC, December 2013.
- [WP24]. A. K. Srivastava, G. Hemingway, A. Bose, J. Sztipanovits, S. Roy and C.-C. Liu, "Model-based Integration Technology to Enable Resilient Next-Generation Electric Grid", NSF Energy Cyber Physical System Workshop, Washington DC, December 2013.
- [WP25]. A. Dubey, G. Karsai, N. Mahadevan, A. K. Srivastava, C-C. Liu and S. Lukic, "Understanding Failure Dynamics in the Smart Electric Grid", NSF Energy Cyber Physical System Workshop, Washington DC, December 2013.
- [WP26]. A. K. Srivastava, S. Biswas\*, S. Meliopoulos, E. Polymeneas, and Y. Lee, "Testing and Validation of Phasor Measurement Based Devices and Algorithms", Technical project report, PSERC Publication 13-44, September 2013.
- [WP27]. A. K. Srivastava et. al, "IEEE Guide for Phasor Data Concentrator Requirements for Power System Protection, Control, and Monitoring", IEEE Std C37.244™-2013, IEEE Standards Association, May 2013.
- [WP28]. C. Singh, M. Kezunovic, R. Ayyanar, J. Bushnell, J. Momoh, and A. K. Srivastava, "Workforce Development - Meeting the Educational Challenge of the Smart Sustainable Grid", PSERC Publication 12-14, White Paper, May 2012.
- [WP29]. J. Sztopanovits, G. Hemingway, A. Bose, and A. K. Srivastava, "Model-based Integration Technology for Next Generation Electric Grid Simulations" DOE workshop on computational need for the next generation electric grid, Ithaca, NY, 2011.

- [WP30]. T. H. Morris, S. Abdelwahed, A. K Srivastava, R. Vaughn, and Y. Dandass, "Secure and Reliable Cyber Physical Systems", National Workshop on new research directions for future Cyber-Physical Energy Systems, Baltimore, Maryland, June 2009

### VIII.E. Refereed Conference Papers

- [C1]. S. Basumallik, R. Kumar, A. Chowdhury, C. Kumar, B. Mondal, B. Agarwal, D. Biswas, A. Raj, and A. Srivastava, "Strengthening Grid Resilience: Operator Training for Decision Support with Dispatcher Simulators", IEEE PES General meeting, July 2024
- [C2]. P. K Yegorov, A. Lackovitch, E. Dean, H. M Mustafa, S. Basumallik, and Anurag Srivastava, "Analyzing GOOSE Security in IEC61850-based Substation Using ML, SDN and Digital Twin", IEEE North American Power Symposium (NAPS), 2023
- [C3]. H. M. Mustafa, S. Basumallik, R. Fetsick, A. Srivastava, "Using SDN to Enhance Cyber Resiliency in IEC 61850-based Substation OT Networks", IEEE IAS ETFG, Australia, 2023
- [C4]. L. Jia, S. Pannala, A. Srivastava, "Enhancing Resilience in Islanded Microgrids with PV-Battery using Bi-level MILP Optimization", IEEE IAS ETFG, Australia, 2023
- [C5]. V. Patel, B. Mccornack, S. Pannala, A. Soni, A. Sharma, N. Schulz, and A. Srivastava, "Transnational Federated Testbed: Analyzing Impact of Network Parameters on T&D Co-Simulation", IEEE IAS ETFG, Australia, 2023
- [C6]. S. Pandey, A. K. Srivastava, A. Dubey, *F. Rahmatian*, "A Novel Architecture and Algorithm for Adaptive Synchrophasor Estimation in Renewable-Rich Electrical Distribution System", IEEE IAS ETFG, Australia, 2023
- [C7]. Linh Vu, Tuyen Vu, Thanh-Long Vu and A. Srivastava, "Safe Exploration Reinforcement Learning for Load Restoration using Invalid Action Masking", IEEE PES General Meeting, July 2023
- [C8]. J Buckelew, S Basumallik, V Sivaramakrishnan, A Mukhopadhyay, A. Dubey and A. Srivastava, "Synchrophasor Data Event Detection using Unsupervised Wavelet Convolutional Autoencoders", IEEE SmartSys, Nashville, TN, 2023
- [C9]. HM Mustafa, S Basumallik, S Kidder, A Srivastava, "CPGrid-OT: Cyber-Power Data Generation Using Real-Time Reconfigurable Testbed for Resiliency", 11th Workshop on Modelling and Simulation of Cyber-Physical Energy, San Antonio, TX, 2023
- [C10]. M.M. Hussain, S. Basumallik, A. K Srivastava and M. Hefeida, "Teaching Cyber Security of Critical Infrastructure to Undergraduate Students using Real-Time Hardware-in-the-Loop Cyber-Power Testbed", ASEE Northwest Meeting, Morgantown, WV, 2023
- [C11]. S Pannala, A Khan, N Schulz, A Srivastava, A Sharma, SC Srivastava, "Cooperative Framework For Mitigation of Voltage Limit Violations in a Rural Distribution System with Electric Vehicles Fleet", 22nd National Power Systems Conference (NPSC), 2022
- [C12]. PS Sarker, S Majumder, MF Rafy, AK Srivastava, "Impact Analysis of Cyber-Events on Distributed Voltage Control with Active Power Curtailment", IEEE International Conference on Power Electronics, Drives and Energy Systems, 2022
- [C13]. PA Sharma, A Mohapatra, A Sharma, S Pannala, N Schulz, A Srivastava, "Real Time Adjustment to Mitigate the SPV Forecasting Errors with BESS and EV-An Utility Case Study", IEEE 10th Power India International Conference (PIICON), 2022
- [C14]. S Jena, NP Padhy, A Srivastava, "Resilient Economical Operation of DC Microgrid Clusters with Heterogeneous Sources", IEEE 10th Power India International Conference (PIICON), 2022
- [C15]. S Jena, PS Sarker, S Pannala, NP Padhy, A Srivastava, "Real Time Modeling, Co-Simulation and Cyber-Physical Analysis for DC Microgrid Clusters", IEEE International Conference on Power Electronics, Drives and Energy Systems, 2022
- [C16]. H. Lee, C. Qin and A. K. Srivastava, "Adaptive Phasor Estimation for Smart Electric Grid Monitoring Applications", IEEE IAS Annual Meeting, October 2022

- [C17]. M. Menazzi, C. Qin, and A. K. Srivastava, "Enabling Resiliency Through Outage Management and Data-Driven Real Time Aggregated DERs", IEEE IAS Annual Meeting, October 2022
- [C18]. S. Bajagain, C. Qin, S. Pannala, A. Srivastava, A. Dubey, "Integrating Advanced Applications in Industrial ADMS for Estimating PV Resources and Topology", IEEE IAS Annual Meeting, October 2022
- [C19]. J. Adan, S. Majumder and A. K. Srivastava, "Distributed Optimization Approaches with Discrete Variables in the Power Distribution Systems", North American Power Symposium, 2022
- [C20]. D. Jonathan Sebastian-Cardenas, H. M. Mustafa, A. Hahn, and A. K. Srivastava, "Grid-ViDS: A Smart Grid Co-Simulation Platform for Virtual Device Simulation", Resilience Week, September, 2022
- [C21]. S. Knudsen, S. Majumder, and A. K. Srivastava, "Securely implementing and managing neighborhood solar with storage and peer to peer transactive energy", 2022 CIGRE Session, Paris, France, August 2022
- [C22]. A Gholami, C Qin, S Pannala, AK Srivastava, "D-PMU Data Generation and Anomaly Detection Using Statistical and Clustering Techniques", 10th Workshop on Modelling and Simulation of Cyber-Physical Energy Systems, May 2022
- [C23]. PS Sarker, N Patari, B Ha, S Majumder, AK Srivastava, "Cyber-Power Testbed for Analyzing Distributed Control Performance during Cyber-Events", 10th Workshop on Modelling and Simulation of Cyber-Physical Energy Systems, May 2022
- [C24]. J. Jacobs, C. Kumar, P. Gomes, A. Guarini and A. Srivastava, "Operating strategies and preparedness for system operational resilience", CIGRE Kyoto Symposium, Japan, April 2022
- [C25]. A. Acharya, S. Pannala, A. K. Srivastava, and S. R. Bhavirisetty, "Resiliency Planning and Analysis Tool for the Power Grid with Hydro Generation and DERs", North American Power Symposium, Texas A&M University, November, 2021
- [C26]. S. Konar, and A. K. Srivastava, "Look-Ahead Corrective Restoration for Microgrids with Flexible Boundary", North American Power Symposium, Texas A&M University, November 2021.
- [C27]. A. Vosughi, A. Gholami, A. K. Srivastava, "Denoising and Bad Data Detection in Distribution Phasor Measurements using Filtering, Clustering and Koopman Mode Analysis", IEEE IAS Annual Meeting, October 2021
- [C28]. G. Kandaperumal, S, Pandey, A. K. Srivastava, "Enabling Electric Distribution System Resiliency through Metrics-driven Black Start Restoration", IEEE IAS Annual Meeting, October 2021
- [C29]. M. Mustafa Hussain, D. Wang, K. S. Sajan, E. Nag Pilli, R. Huang, A. K. Srivastava, J. Lian, Z. Huang, "Cyber-Power Co-Simulation for End-to-End Synchrophasor Network Analysis and Applications", IEEE SmartGridComm, October 2021.
- [C30]. L. Jia, G. Kandaperumal, S. Pannala, and A. Srivastava, "Coordinating Energy Resources in an Islanded Microgrid for Economic and Resilient Operation", IEEE IAS Annual Meeting, October 2021
- [C31]. V. Venkataramanan, C. Qi, A. M. Annaswamy, C-C. Liu, A. K. Srivastava, "A Two-Step Restoration Scheme with DER Controllability for Resilient Distribution Systems", IEEE IAS Annual Meeting, October 2021
- [C32]. S. K. Singh, A. Sharma, S. Mishra, S. C. Srivastava, D. Mukherjee, A. Srivastava, N. Schulz, "A Rural Microgrid Field Pilot in India Ensuring Reliable Electricity Supply and Social Upliftment", IEEE GHTC 2021, September 2021
- [C33]. S. M. Hur Rizvi, S K. Sadanandan, A. K. Srivastava, "Data-Driven ZIP Load Parameter Tracking with Variable Elimination Using Synchrophasor Data", IEEE PES General Meeting, July 2021



- [C34]. S. Konar\* and A. K. Srivastava, “Energy Management and Control of Networked AC-DC Microgrids to Enhance Resiliency”, North American Power Symposium, April 2021.
- [C35]. Anshuman, G. Kandaperumal, L. Jia, S. Pannala, and A. K. Srivastava, “RT-RMS: A Real-Time Resiliency Management System for Operational Decision Support”, North American Power Symposium, April 2021.
- [C36]. H. M. Mustafa, M. Bariya, K. S. Sajan, A. Chhokra, A. Srivastava, A. Dubey, A. von Meier, and G. Biswas, “RT-METER: A Real-Time, Multi-Layer Cyber–Power Testbed for Resiliency Analysis”, IEEE/ ACM CPSWeek, MSCPES workshop, Nashville, TN, May 2021.
- [C37]. A. Gholami\*, A. K. Srivastava, “Comparative Analysis of ML Techniques for Data-Driven Anomaly Detection, Classification and Localization in Distribution System”, North American Power Symposium, April 2021.
- [C38]. A. Meghwani#, S. C. Srivastava, and A. K. Srivastava, “Development of Real-Time Distribution System Testbed Using Co-Simulation”, National Power Systems Conference (NPSC 2020) Gandhinagar, India, December 17-19, 2020.
- [C39]. P. S. Sarker\*, A. S. Saini\*, S. K. Sadanandan#, and A. K. Srivastava, “CP-SAM: Cyber-Power Security Assessment and Resiliency Analysis Tool for Distribution System”, Resiliency Week, Oct 2020.
- [C40]. G. Kandaperumal, Anshuman, S. Pannala, and A. K. Srivastava, “RMDT: Resiliency Monitoring and Decision-Support Tool for Distribution System During a Pandemic”, Resiliency Week, Oct 2020 (**second best paper award**).
- [C41]. Anshuman\*, Z. Nie\*, K. S. Sajan#, and A. K. Srivastava, “ML-based Data Anomaly Mitigation and Cyber-Power Transmission Resiliency Analysis”, SmartGridCom, November 2020.
- [C42]. N. Patari\*, A. K. Srivastava, G. Qu, and N. Li, “Distributed Optimal Voltage Control for Three Phase Unbalanced Distribution Systems with DERs”, IEEE IAS Annual Meeting, Detroit, MI, October 2020.
- [C43]. P.S. Nirbhavane\*, L. Corson\*, S. M. Hur Rizvi\*, and A. K. Srivastava, “TPCPF: A Three Phase Continuation Power Flow for Voltage Stability Analysis of the Distribution Systems with DERs”, IEEE IAS Annual Meeting, Detroit, MI, October 2020.
- [C44]. S. M. H. Rizvi\*, S. K. Sadanandan#, and A. K. Srivastava, “Real-time ZIP Load Parameter Tracking using Adaptive Window and Variable Elimination with Realistic Synthetic Synchronphasor Data”, IEEE IAS Annual Meeting, Detroit, MI, October 2020.
- [C45]. R. Dutta#, S. Som#, S. Chakrabarti, A. Sharma, and A. K. Srivastava, “Event Detection and Localization in Active Distribution Networks using PMUs”, IEEE PES General Meeting, Montreal, Canada, August 2020.
- [C46]. S. Pandey\*, A. K. Srivastava, S. Srivastava, M. U. Mohanpurkar, G. Kandaperumal, and R. Hovsopian, “Optimal Operation for Resilient and Economic Modes in an Islanded Alaskan Grid”, IEEE PES General Meeting, Montreal, Canada, August 2020.
- [C47]. S. Pandey\*, A. K. Srivastava, D. Ishchenko, M. Cintuglu, “Application-Aware Adaptive Reporting of Synchronphasor Measurements”, IEEE PES General Meeting, Montreal, Canada, August 2020.
- [C48]. P. Sarker\*, V. Venkataramanan\*, D. S. Cardenas, A. K. Srivastava, A. Hahn, and B. Miller, “Cyber-Physical Security and Resiliency Analysis Testbed for Critical Microgrids with IEEE 2030.5”, IEEE/ ACM CPSWeek, MSCPES workshop, Sydney, Australia, April 2020.
- [C49]. K. S. Sajan#, M. Bariya, S. Basak, A. K. Srivastava, A. Dubey, A. Von Meier, and G. Biswas, “Realistic Synchronphasor Data Generation for Anomaly Detection and Event Classification”, IEEE/ ACM CPSWeek, MSCPES workshop, Sydney, Australia, April 2020.

- [C50]. M. H. Namaki, X. Zhang, S. Singh, A. Ahmed\*, A. Foroutan\*, Y. Wu, A. K. Srivastava, and A. Kocheturov, "Kronos: Lightweight Knowledge-based Event Analysis in Cyber-Physical Data Streams", International Conference on Data Engineering (ICDE), Dallas, TX, May 2020.
- [C51]. R. Dutta\*, P. Kundu#, and A. K. Srivastava, "Dynamic State and Parameter Estimation of Distributed Generators using Constraint Recursive Least Square Algorithm and PMU Data", IEEE International conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE), Kerala, India, January 2020.
- [C52]. S. Pannala#, N. P. Padhy, and A. K. Srivastava, "Effective Power Management Scheme for Isolated DC Microgrid", IEEE International conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE), Kerala, India, January 2020.
- [C53]. S. Paul, N. P. Padhy, S. K. Mishra, A. K. Srivastava, "UUCA: Utility-User Cooperative Algorithm for Flexible Load Scheduling in Distribution System", International Conference on Power Systems, Jaipur, India, 2019.
- [C54]. C. N. Bhende#, A. K. Srivastava, "Control of PV-Battery System for Resiliency Improvement", Intelligent Systems Application in Power, Delhi, India, 2019.
- [C55]. A. Gholami\*, M. Mousavi, A. K. Srivastava, and A. Mehrizi-Sani, "Cyber-Physical Vulnerability and Security Analysis of Power Grid with HVDC Line", North American Power Symposium, Wichita, KS, 2019.
- [C56]. S. M. H. Rizvi\*, A. K. Srivastava, "Comparative Analysis of PMU Based Corridor Voltage Stability Indices and Enhanced Approach", North American Power Symposium, Wichita, KS, 2019.
- [C57]. Y. Zhang\*, C. Qin, and R. K. Sharma, and A. K. Srivastava, "Data-Driven Day-Ahead PV Estimation Using Hybrid Deep Learning", IEEE Industrial Application Society Annual Meeting, Baltimore, MD, 2019.
- [C58]. V. Venkataramanan\*, P. S. Sarker\*, K. S. Sajan#, A. K. Srivastava, and A. Hahn, "A Real-Time Transmission-Distribution Testbed for Resiliency Analysis", IEEE Industrial Application Society Annual Meeting, Baltimore, MD, 2019.
- [C59]. C. Qin\*, J. Greig-Prine\*, Z. Nie\*, P. Banerjee#, A. K. Srivastava, "Remote PMU Testing using Low-cost FPGA Platform and PPA following IEEE TSS", IEEE Industrial Application Society Annual Meeting, Baltimore, MD, 2019.
- [C60]. S. A. Foroutan\*, A. K. Srivastava, "Generator Model Validation and Calibration using Synchrophasor Data", IEEE Industrial Application Society Annual Meeting, Baltimore, MD, 2019.
- [C61]. A. Saber and A. K. Srivastava, "Deep Learning based Load Forecasting in Python", 22nd International Conference on Computer and Information Technology, Dhaka, Bangladesh, 2019
- [C62]. S. Pandey\*, N. Patari\*, A. K. Srivastava, "Cognitive Flexibility of Power Grid Operator and Decision Making in Extreme Events", IEEE PES General Meeting, Atlanta, GA 2019.
- [C63]. A. Y. Saber, T. Khandelwal, and A. K. Srivastava, "Fast Feeder PV Hosting Capacity using Swarm Based Intelligent Distribution Node Selection", IEEE PES General Meeting, Atlanta, GA, 2019
- [C64]. Y. Zhang\*, S. Eisele, A. Dubey, A. Laszka, A. K. Srivastava, "Cyber-Physical Simulation Platform for Security Assessment of Transactive Energy Systems", MSCPES, CPS Week, 2019.
- [C65]. PS Sarker\*, S. Biswas, A. Mehrizi-Sani, A. K. Srivastava, "Modeling and Analysis of Transient Interactions in AC/DC Interconnected Microgrid", IEEE 28th International Symposium on Industrial Electronics (ISIE), 141-146, 2019.
- [C66]. A. Hahn, V. Venkataramanan\*, J. Waite, A. K. Srivastava, "TOMATo: Threat Observability & Monitoring Assessment Tool for Resilience", D2 Colloquium, CIGRE, Helsinki Finland, 2019.

- [C67]. I. Diahovchenko<sup>#</sup>, G. Kandaperumal<sup>\*</sup>, A. K. Srivastava, "Distribution Power System Resiliency Improvement Using Distributed Generation and Automated Switching", IEEE 6th International Conference on Energy Smart Systems (ESS), 126-131, 2019.
- [C68]. V. Venkataramanan<sup>\*</sup>, A. K. Srivastava, A. Hahn, and S. Zonouz, "Enhancing Microgrid Resiliency Against Cyber Vulnerabilities", IEEE Industry Applications Society Annual Meeting (IAS) (pp. 1-8). IEEE, 2018.
- [C69]. A. Ahmed<sup>\*</sup>, V. G. Krishnan<sup>#</sup>, S. Foroutan<sup>\*</sup>, M. Touhiduzzaman, A. K. Srivastava, Y. Wu, A. Hahn, and S. Sindhu, "Cyber Physical Security Analytics for Anomalies in Transmission Protection Systems", IEEE Industry Applications Society Annual Meeting (IAS) (pp. 1-8). IEEE, 2018.
- [C70]. Y. Guo<sup>\*</sup>, Y. Zhang<sup>\*</sup>, and A. K. Srivastava, "Data-Quality Aware State Estimation in Three-Phase Unbalanced Active Distribution System", IEEE Industry Applications Society Annual Meeting (IAS) (pp. 1-7). IEEE, 2018.
- [C71]. V. Aravinthan, T. Balachandran, M. Ben-Idris, W. Fei, M. Heidari-Kapourchali, A. H. Don, J. Jiang, H. Lei, C.-C. Liu, J. Mitra, M. Ni, M. Papic, M. Parvania, M. Sephary, Mojtaba and C. Singh, A. K. Srivastava, A. Stefanov, H. Sun, and S. Tindemans, "Reliability Modeling Considerations for Emerging Cyber-Physical Power Systems", IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS) (pp. 1-7). IEEE, 2018.
- [C72]. A. Arman<sup>\*</sup>, V. G. Krishnan<sup>#</sup>, A. K. Srivastava, Y. Wu, and S. Suresh, "Cyber Physical Security Analytics for Transactive Energy Systems Using Ensemble Machine Learning", North American Power Symposium (NAPS) (pp. 1-6). IEEE, 2018.
- [C73]. V. G. Krishnan<sup>#</sup>, S. Gopal, R. Liu<sup>\*</sup>, Z. Nie<sup>\*</sup>, A. K. Srivastava, and D. Bakken, "Resilient Information Architecture Platform for Distributed Linear State Estimation", IEEE Power & Energy Society General Meeting (PESGM) (pp. 1-5). IEEE, 2018.
- [C74]. P. Banerjee<sup>#</sup>, S. Rizvi<sup>\*</sup>, A. K. Srivastava, P. Markham, and M. Patel, "Data-Driven Static Load Model Parameter Estimation with Confidence Factor", IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS) (pp. 1-6). IEEE, 2018.
- [C75]. V. G. Krishnan<sup>#</sup>, S. Gopal, Z. Nie<sup>\*</sup>, A. K. Srivastava, "Cyber-power testbed for distributed monitoring and control", Workshop on Modeling and Simulation of Cyber-Physical Energy Systems (MSCPES) (pp. 1-6). IEEE, 2018.
- [C76]. K. G. Ravikumar<sup>\*</sup>, A. Upreti, A. K. Srivastava, "Zero-Setting Algorithm for High-Speed Open Line Detection Using Synchrophasors", IEEE T&D conference and Expo, Denver, CO, April 2018.
- [C77]. T. J. Morrell, V. Venkataramanan<sup>\*</sup>, A. K. Srivastava, A. Bose, and C.-C. Liu, "Modeling of Electric Distribution Feeder Using Smart Meter Data", IEEE T&D conference and Expo, Denver, CO, April 2018.
- [C78]. V. V. G. Krishnan<sup>#</sup>, Y. Zhang<sup>\*</sup>, K. Kaur, A. Hahn, A. K. Srivastava and S. Sindhu, "Cyber-Security Analysis of Transactive Energy Systems", IEEE T&D conference and Expo, Denver, CO, April 2018.
- [C79]. S. Chanda<sup>\*</sup> and A. K. Srivastava, "Measuring and Enabling Resiliency of the Cyber-Physical Power Grid", Power and Energy Automation Conference, Spokane, WA, March 2018.
- [C80]. V. Venkataramanan<sup>\*</sup>, P. Wang, A. K. Srivastava, A. Hahn, and M. Govindarasu, "Interfacing Techniques in Testbed for Cyber-Physical Security Analysis of the Electric Power Grid", MSCPES Workshop, CPS Week, Pittsburgh, 2017.
- [C81]. M. Ni, A. K. Srivastava, R. Bo, and J. Yan. "Design of A Game Theory Based Defense System for Power System Cyber Security." In 2017 IEEE 7th Annual International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (CYBER), pp. 1049-1054, 2017.

- [C82]. Y. Zhang\*, Y. Xu, A. K. Srivastava, and C.-C. Liu, "Voltage Control Strategy in Distribution System with Energy Storage and Distributed Generations", in Proceedings of the 2017 IEEE Industry Applications Society Annual Meeting (IAS), Cincinnati, OH, 1-4 October 2017
- [C83]. V. V. G. Krishnan#, R. Liu\*, A. Askerman, A. K. Srivastava, D. Bakken, and P. Panciatici, "Resilient Cyber Infrastructure for the Minimum Wind Curtailment Remedial Control Scheme", in Proceedings of the 2017 IEEE Industry Applications Society Annual Meeting (IAS), Cincinnati, OH, 1-4 October 2017.
- [C84]. D. Bakken, A. Askerman, A. K. Srivastava, P. Panciatici, M. Seewald, F. Columbus, and S. Jiang, "Towards Enhanced Power Grid Management via More Dynamic and Flexible Edge Computations", Fog World Congress, Santa Clara, CA, Oct. 30-Nov. 1, 2017.
- [C85]. S. Chanda\*, A. K. Srivastava, M. Mohanpurkar, and R. Hovsapian, "Quantifying Power Distribution System Resiliency Using Code Based Metric", IEEE PEDES, Kerala, India, December 2016.
- [C86]. Tushar\*, S. Pandey\*, A. Srivastava, P. Markham, and M. Patel, "Data-Driven Parameter Estimation of Steady State Load Models", IEEE PEDES, Kerala, India, December 2016.
- [C87]. R. Liu\*, A. K. Srivastava, A. Askerman, D. Bakken, and P. Panciatici, "Decentralized State Estimation and Remedial Control Action for Minimum Wind Curtailment Using Distributed Computing Platform", IEEE Industrial Application Society Annual Meeting, Portland, OR October 2016.
- [C88]. H. Lee\*, S. Niddodi, A. K. Srivastava, and D. Bakken. "Decentralized Voltage Stability Control in the Smart Grid using Distributed Computing Architecture", in Proceedings of the 2016 IEEE Industry Applications Society Annual Meeting (IAS), Portland, OR 2-6 October 2016
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- [C206]. S. Kamalasan and A. K. Srivastava, 'A novel multiagent supervisory loop-based control algorithm for fighter aircraft pitch rate tracking', Proceedings of 21<sup>st</sup> International conference on computers and their application, Seattle, WA, March 23-25, 2006.
- [C207]. A. K. Srivastava and A. J. Flueck, 'A Novel and Fast Two-Stage Right Eigenvector Based Branch Outage Contingency Ranking', IEEE/PES General Meeting, San Francisco, CA, 12-16 June, 2005.
- [C208]. S. C. Srivastava, B. K. Barnwal, A. K. Srivastava, D. Paul, P. Gupta, R. M. Shrestha, and R. Shrestha, "A Study on Environmental & Utility planning implications of Distributed power generation for a regional Electricity Board in India" Power System Conference (PSC), Clemson, SC, September, 2002.
- [C209]. S. C. Srivastava, A. K. Srivastava, U. K. Rout, B. K. Barnwal, M. Sharma, D. Paul, P. Gupta, R. M. Shrestha, and R. Shrestha "A Study on Environmental Impact of Independent Power Producers in Northern Regional Electricity Board of India" IASTED International Conference on Power and Energy Systems, FL, November 19-22, 2001.
- [C210]. S. C. Srivastava, A. K. Srivastava, U. K. Rout, M. Sharma, D. Paul, P. Gupta, R. M. Shrestha, and S. Karki "Identification of Projects under Clean Development Mechanism

- for A Regional Electricity Boards of India”, IEEE sponsored North American Power Symposium (NAPS), TX, October 15-16, 2001.
- [C211]. S. C. Srivastava, A. K. Srivastava, U. K. Rout, D. Paul, P. Gupta, and R. M. Shrestha “Least Cost Generation Expansion Planning for a Regional Electricity Board in India Considering Green House Gas Mitigation”, IEEE International Conference on Power System Technology, POWERCON, vol. 1, pp. 31-36, Australia, 4-7 December, 2000.

### **IX. Keynotes/ Invited Talks/ Presentations/ Tutorial**

#### **Keynotes/ Plenary/Tutorials/ IEEE Distinguished Lecture:**

- [ITP1]. A. Srivastava, “Physics-Informed Machine Learning for Enabling Grid Resiliency”, Keynote, IEEE International Conference on Energy Technologies for the Future Grid, Wollongong, Australia, December 2023
- [ITP2]. A. Srivastava, “Enabling Power Grid Resiliency in DER-Rich Environment”, IEEE IAS Distinguished Lecture, Auckland, New Zealand, December 2023
- [ITP3]. A. Srivastava, “Physics-Aware AI for Enabling Grid Resiliency”, IEEE PES Distinguished Lecture, Indian Institute of Science, Bangalore, India, November 2023
- [ITP4]. A. Srivastava, “Power system dispatch, energy management, cyber security and resilience”, WePOWER-SAR100, Large Systems Training Program for mid-career women engineering professionals, August 2023
- [ITP5]. A. Srivastava, “Challenges and Solutions with Integration of Electric Transportation and Electric Grid”, 3<sup>rd</sup> Sustainable Smart Applications in Cities (SARA Conference), Egypt, May 2023
- [ITP6]. A. Srivastava, “ML-based Approaches for Enabling the Cyber-Power Grid Resilience”, AUT IEEE Student Branch and University of Auckland IEEE Student Branch, May 2023
- [ITP7]. A. Srivastava, “AI and Power Grid”, Mississippi State University, April 2023
- [ITP8]. A. Srivastava, “Enabling Security and Resiliency of the Cyber-Power Grid”, Florida Polytechnic University, FL, April 2023
- [ITP9]. A. Srivastava, “Trends in Power System Operation and Control,” *Workshop in honor of Prof DM. Vinod Kumar, NIT Warangal, January 2023*
- [ITP10]. A. Srivastava, “AI and Power Grid: Are we ready?”, NPSC, Keynote, December, 2022
- [ITP11]. A. Srivastava, “Tools for Enabling Cyber-Power Grid Resiliency”, *University of Pittsburgh ECE Webinar, December, 2022*
- [ITP12]. A. Srivastava, “Distributed Power Grid Operation and Control to Enable Resilience”, *4th International Conference on Electrical Engineering and Control Technologies (CEECT 2022), Shanghai, China, December 2022*
- [ITP13]. A. Srivastava, “Data-Driven Operation for Cyber-Power-Human Resiliency”, *Case Western Reserve University, November 2022*
- [ITP14]. A. Srivastava, “Building Cyber-Physical-Human Resiliency for the Power Grid”, *Keynote at the Second Annual Hybrid Cyber Security Research Symposium (CARS'22), UND, October 2022*
- [ITP15]. A. Srivastava, “Enabling Cyber-Physical Resilience of Microgrids”, *Invited talk, DOE NETL, Sep, 2022*
- [ITP16]. A. Srivastava, “Tools for Enabling Cyber-Power Resiliency”, *Keynote at the Power Engineering Research and Applications (PERA), October 2022, IITK*
- [ITP17]. A. Srivastava, “AI and Power Grid: Limits, Applications and Path Forward”, Tutorial, International Conference on Next-Generation Intelligent Systems, July 2022
- [ITP18]. A. Srivastava et. al., “Distributed Optimization for Electric Power Systems: Needs, Algorithmic Developments, and Use Cases”, Tutorial at the 2022 IEEE Power & Energy Society General Meeting, July 2022

- [ITP19]. A. Srivastava, "Distributed Optimization and Control for the Resilient Power Grid", IEEE PES University of Puerto Rico Mayaguez Chapter Distinguished Lecturer Seminar, May 23<sup>rd</sup>, 2022
- [ITP20]. A. Srivastava and D. Molzahn, "Distributed Optimization and Control for Enabling Power grid resiliency", IEEE PES CAMS Webinar, January 18, 2022
- [ITP21]. A. Srivastava, "Enabling Resilient Cyber-Physical Electric Grid", Workshop on Smart cities: A Road Map for Future Development, BITS Pilani Hyderabad, January 12, 2022
- [ITP22]. A. Srivastava, "Event Detection and Classification for Cyber-Power Grid", IEEE International Conference on Smart Technologies for Power, Energy and Control (STPEC 2021), India, December 21, 2021
- [ITP23]. A. Srivastava, "Enabling Resilience for the DER-rich Power Distribution System", International Conference on Power Systems (ICPS), IIT Kharagpur, India, December 2021
- [ITP24]. A. K. Srivastava, "Enabling Resilient Cyber-Power Grid", Keynote IIT Roorkee IEEE PES/ IAS Student Chapter, October, 2021
- [ITP25]. A. K. Srivastava, "Microgrid as a Resilience Resource", Keynote at International Online Conference on Power Engineering Research & Applications, Theme: Future Perspective of Microgrid, IIT Roorkee, September, 2021
- [ITP26]. A. K. Srivastava, "Career in Academia", Keynote at International SPARC Course on "Enabling Technologies for Electric Transportation", Jaipur, Rajasthan, September, 2021
- [ITP27]. A. K. Srivastava, "AI Driven Solutions for the Smart Grid Operation and Control", Keynote at International Online Conference on Smart Grid Energy Systems and Control, National Institute of Technology, Kurukshetra, March, 2021
- [ITP28]. A. K. Srivastava, "Utilizing Microgrid as a Resilience Resource in the Sustainable Electric Distribution System", Keynote at IEEE ICPEE, Bhubaneshwar, India, January 2021
- [ITP29]. A. K. Srivastava, "Challenges and Solutions with Integration of Electric Transportation and Electric Grid", Keynote at IEEE SEFET, Hyderabad, India, January 2021
- [ITP30]. A. K. Srivastava, "Cyber-Physical Resiliency of the Future Electric Grid", Tutorial at the IEEE NPSC, Gandhinagar, India, December 2020.
- [ITP31]. A. K. Srivastava, "Data-Driven Cyber-Physical Resiliency of the Electric Grid", Tutorial at the IEEE ICIT, Buenos Aires, Argentina, February 2020.
- [ITP32]. A. K. Srivastava, "Data-Driven Tools to Enable Cyber-Physical Resiliency of the Electric Grid", Keynote at the UPCON, Allahabad, India, November 2020.
- [ITP33]. A. K. Srivastava, "What's Next in Smart(er) Grid", IEEE Distinguished Talk, International workshop on "Electric Power Grid Modernization: Trends, Challenges and Opportunities", Mysore, India, 20-24th July 2020.
- [ITP34]. A. K. Srivastava, "Challenges and Opportunities in Smart(er) Grid", Keynote at the Five-day Faculty Development Program on Challenges and Opportunities in smart grid, Bangalore, India, July 2020.
- [ITP35]. A. K. Srivastava, "Three Lessons from Smart Grid for Your Professional Success", Plenary at IEEE Young Professional Program, IEEE International conference on Power Electronics, Smart Grid and Renewable Energy, Kerala, India, January 2020.
- [ITP36]. A. K. Srivastava, "Integrating Physics with Machine Learning for Enabling the Resilient Electric Power Grid", IEEE Distinguished Lecture, National University of Singapore, Singapore, January 2020.
- [ITP37]. A. K. Srivastava, "Data-Driven Resiliency Monitoring and Control of the Electric Grid", (with S. Kamalasadana) Tutorial at IEEE International conference on Power Electronics, Smart Grid and Renewable Energy, Kerala, India, January 2020.

- [ITP38]. A. K. Srivastava, "Situational Awareness and Decision Support for the Renewable-Rich Electric Grid", Keynote at the Albertian Knowledge Summit (AKS), St. Albert College, Kerala, India, December 2019.
- [ITP39]. A. K. Srivastava, "Situational Awareness and Decision Support for the Renewable-Rich Electric Grid", Keynote at the International Conference on Advances in Energy Management, (ICAEM), JIET, Jodhpur, India, December 2019.
- [ITP40]. A. K. Srivastava, "Tools for Enabling the Resilient Electric Grid", Keynote at the International Conference on Power Systems, ICPS, Jaipur, India, December 2019.
- [ITP41]. A. K. Srivastava, "Integrating Physics with Machine Learning for Enabling the Resilient Electric Power Grid", IEEE Distinguished Lecture, Florida International University, Miami, FL, November 2019.
- [ITP42]. A. K. Srivastava, "Secure, but Not Resilient", Plenary Talk at the North American Power Symposium, Wichita, KS, October 2019.
- [ITP43]. A. K. Srivastava, "Quality-Aware Synchrophasor Applications for the Resilient Power Grid Operation and Control", Keynote, SICI Conference, Quito, Ecuador, June 2019.
- [ITP44]. A. K. Srivastava, "Cyber-Physical Data Analytics to Enable Resilient Electric Grid", IEEE Big Data Tutorial Webinar, June 2019.
- [ITP45]. A. K. Srivastava, "Data-Driven Resilient Operation and Control of the Cyber-Physical Electric Grid", Keynote, International Conference on Smart Grid and Smart City, Berkeley, CA, June 2019.
- [ITP46]. A. K. Srivastava, "Resiliency Analysis for the Data-Rich Cyber-Physical Electric Grid", IEEE Distinguish Lecture at Beijing Jiaotong Technical University, Beijing, China, May 2019.
- [ITP47]. A. K. Srivastava, "Measuring and Enabling Electric Grid Resiliency", University of Hawaii, IEEE Distinguished Lecture, January 2019.
- [ITP48]. A. K. Srivastava, "Enabling Electric Grid Resiliency: Can Data Analytics Help?", Keynote at IEEE National Power System Conference, India, December 2018.
- [ITP49]. A. K. Srivastava, "Measuring and Enabling Grid Resiliency Against Weather or Cyber events", Invited Tutorial on IEEE T&D Latin America, Lima, Peru, September 2018.
- [ITP50]. A. K. Srivastava, A. Hahn, S. Chanda, and J. Hong, "Data-Driven Tools for Cyber-Physical Security and Resiliency Assessment: Part 1 and 2", Invited Tutorial at ISGT, Washington DC, February 2018.
- [ITP51]. A. K. Srivastava, "What's Next in Smart(er) Grid", Keynote at International Conference on Eco-Smart Sustainable Development in Engineering Technology and Management (ESDETM), Udaipur, India, June 2018.
- [ITP52]. A. K. Srivastava "Resilient and Flexible Electric Grid", Invited Tutorial at IEEE Power Africa, Cape Town, South Africa, June 2018.
- [ITP53]. A. K. Srivastava, "Applications of Synchrophasors in Power System Operation and Control", IEEE Distinguished Lecture, Singapore, July 25<sup>th</sup>, 2017.
- [ITP54]. A. K. Srivastava, "Applications of Synchrophasors in Power System Operation and Control", IEEE Distinguished Lecture, Manila, Philippines, July 26<sup>th</sup>, 2017.
- [ITP55]. A. K. Srivastava, "Applications of Synchrophasors in Power System Operation and Control", IEEE Distinguished Lecture, Hyderabad, India, July 31<sup>st</sup>, 2017.
- [ITP56]. A. K. Srivastava, "Cyber-Physical Security and Resiliency Analysis of the Electric Grid", Tutorial, North American Power Symposium, Morgantown, WV, September, 2017
- [ITP57]. A. K. Srivastava, "Cyber-Physical Security and Resiliency of the Electric Grid", Plenary talk, ICPS, Pune, December, 2017.
- [ITP58]. A. K. Srivastava, "Data-Driven Algorithms for Electric Grid Operation and Control", IEEE Distinguished Lecture, IIT Kanpur, India, August 4<sup>th</sup>, 2017.
- [ITP59]. A. K. Srivastava, "What's Next in Smart(er) Grid", IEEE Distinguished Lecture, Integral University, Lucknow, India, August 3<sup>rd</sup>, 2017.

- [ITP60]. A. K. Srivastava, "Defining and Enabling Resiliency with the Multiple Microgrid", IEEE Distinguished Lecture, Rolls Royce, Singapore, July 25<sup>th</sup>, 2017.
- [ITP61]. A. K. Srivastava, "What's Next in Smart(er) Grid", Keynote, International Conference on Smart Grid and Smart Cities (ICSGSC), Singapore, July 24<sup>th</sup>, 2017.
- [ITP62]. A. K. Srivastava, "Defining and Enabling Resiliency with Microgrids", University of Lorraine, France, IEEE Distinguished Lecture, April 14<sup>th</sup> 2017.
- [ITP63]. A. K. Srivastava, "Analyzing Cyber Requirements for the Smart Grid Applications", Invited Plenary Talk, SmartGift, London, UK, March 2017.
- [ITP64]. A. K. Srivastava, "Meeting Synchrophasors Data Quality Requirement for Critical Applications", Keynote, National Power Systems Conference, Orissa, India, December 2016.
- [ITP65]. A. K. Srivastava, "Defining and enabling microgrid resiliency", Tutorial, IEEE Power Electronics, Drives and Energy Systems, Kerala, India, December 2016.
- [ITP66]. A. K. Srivastava, "Application of Synchrophasors for Power Grid Operation and Control", IEEE Innovative Smart Grid Conference, Bangkok, Thailand, Full Day Tutorial, November 2015.
- [ITP67]. A. K. Srivastava, "Synchrophasor Applications for the Smarter Electric Grid", Plenary Talk, IEEE National Power System Conference, Guwahati, India, 18-20 December 2014.
- [ITP68]. A. K. Srivastava "Synchrophasor Applications for the Smart Electric Grid", IEEE Distinguished Lecture, University College of Dublin, Dublin, Ireland, June 12<sup>th</sup>, 2014.
- [ITP69]. A. K. Srivastava "Modeling and Simulation for the Analysis of the Cyber-Power System", IEEE Distinguished Lecture, Cardiff University, Cardiff, Wales, June 9<sup>th</sup>, 2014.
- [ITP70]. A. K. Srivastava "Cyber-Physical Modeling and Co-Simulation for the Smart Electric Grid", IEEE Distinguished Lecture, Strathclyde University, Glasgow, Scotland, June 6<sup>th</sup>, 2014.
- [ITP71]. A. K. Srivastava "Cyber-Physical Modeling and Analysis of the Smart Electric Grid", IEEE Distinguished Lecture, University of Aberdeen, Aberdeen, Scotland, June 5<sup>th</sup>, 2014.

**Other Talks (Panels, Invited):**

- [ITP1]. A. Srivastava, "PMU Data Analytics for Event Detection, Classification and Root Cause Analytics", C-DAC, Bangalore, India, November 2023
- [ITP2]. A. Srivastava, "Challenges and Strategies in Enabling Resilient Cyber-Power-Electric Mobility Systems", Urban Tech Academy Day, Cornell Tech, November 2023
- [ITP3]. A. Srivastava, "Multiverse and Grid Resiliency", CREPES workshop, University of Texas, El Paso, September 2023
- [ITP4]. A. Srivastava, "Physics-Informed Machine Learning for Enabling Grid Resiliency", LIDS-EESG Seminar, Massachusetts Institute of Technology, August 2023
- [ITP5]. A. Srivastava, "Challenges and Solutions with Integration of Electric Transportation and Electric Grid", Cyber Resilient Electric Vehicle Charging Station & Critical Infrastructure Workshop, University of Memphis, August 2023
- [ITP6]. A. Srivastava, "Enabling Cyber-Power Grid Security and Resiliency", CIGRE-NGN Webinar, August 2023
- [ITP7]. A. Srivastava, "Federated Inference and Distributed Optimization for Scalable AI", Clearwater Clean Energy Conference, July 2023
- [ITP8]. A. Srivastava, "Voltage stability assessment methods – adequacy of existing methods", IEEE PES General Meeting Panel, July 2023
- [ITP9]. A. Srivastava, S. M. H. Rizvi, "Real-time Parameter Estimation of Power-electronics Interfaced Resources", IEEE PES General Meeting Panel, July 2023

- [ITP10]. A. Srivastava, S. Pannala and S. Basumallik, "Adaptive Resilience Metrics Framework for Distribution System", *IEEE PES General Meeting Panel, July 2023*
- [ITP11]. A. Srivastava, "Academic Institutes' Roles in the Education of Cybersecurity Experts", *IEEE PES General Meeting Panel, July 2023*
- [ITP12]. A. Mohapatra, A. Srivastava, S. Pannala, A. M. Annaswamy "Volt-Var Control Schemes for US and India Test Cases", *IEEE PES General Meeting Panel, July 2023*
- [ITP13]. S. Pannala, A. Vosughi, A. Srivastava, "Event Detection, Classification and Localization in an Active Distribution Grid using Data-Driven System Identification, Weighted Voting and Graph", *IEEE PES General Meeting, July 2023*
- [ITP14]. A. Srivastava, "Tools for Enabling Cyber-Power Grid Resiliency with IoT Services", *Smart Energy Systems Security Workshop, The University of Warwick, March 2023*
- [ITP15]. V. Sivaramakrishnan, M. Mustafa Hussain, S Basumallik, P Banerjee and A. K Srivastava, "A High-Fidelity Real-Time Cyber-Power Operation Testbed for Grid Resiliency and Security", *RTDS Applications and Technology Conference, May 2023*
- [ITP16]. A. Srivastava, "Physics-Informed Machine Learning for Enabling Grid Resiliency", *The Alan Turing Institute for Data science and artificial intelligence, March, 2023*
- [ITP17]. A. Srivastava and A. Saxena, "Integrating DERs into Active Power Distribution: Challenges and Solutions", *PSEG, NJ, April, 2023*
- [ITP18]. A. Srivastava, "AWR Metrics for Operational Resilience Monitoring using RT-RMOD", *IEEE PES Grid Resilience Workshop, University of Utah, September 2022*
- [ITP19]. A. Srivastava, "Validating Cyber-Physical Resilience Metrics and Tools using Testbed", *IEEE PES Grid Resilience Workshop, University of Utah, September 2022*
- [ITP20]. A. Srivastava, "Cyber-physical Energy resilience", *Panel at the Evolving Energy, Morgantown, August, 2022*
- [ITP21]. M. M. Hussain, S. Basumallik and A. Srivastava, "Cyber Power Test-bed Development & Cyber Security Analytics for Smart grid resiliency", *RTDS User Spotlight Series 2.0, July 2022*
- [ITP22]. A. Srivastava and S. Majumder, "Proactive Control to Minimize Impact of Extreme Events on the Power Grid", *Super Session panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP23]. A. Srivastava, S. Rizvi and C. Qin, "Estimating IBR Model Parameters, Aggregated Model and Impact on Voltage Stability", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP24]. A. Srivastava, A. Ahmed, and S. Basumallik, "Physics-inspired ML for Power Grid Data Anomalies and Events Detection", *Super Session panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP25]. A. Srivastava, "Teaching data-driven power grid operation through real time testbed", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP26]. A. Srivastava, S. Konar, J. Adan and S. Majumder, "Distributed Optimization for the Resilient Power Grid", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP27]. P. Sarker, S. Sadanandan and S. Basumallik, "Microgrid Resiliency Assessment Tool with IoT Devices", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP28]. N. Schulz, S. Pannala and A. Srivastava, "Federated Testbed: Collaboration for Transitioning Research Validation to Field Implementation", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*
- [ITP29]. A. Srivastava, S. Pannala and S. Majumder, "Real-Time Resiliency Monitoring and Decision Support (RT-RMOD)", *panel presentations for the 2022 IEEE Power & Energy Society General Meeting, July 2022*



- [ITP30]. A. Srivastava, “*Measuring and Enabling Power Grid Resiliency in DER-Rich Environment*”, John Hopkins University, May 27<sup>th</sup>, 2022
- [ITP31]. A. Srivastava, “*Measuring and Enabling Power Grid Resiliency*”, Virginia Tech Northern Virginia Campus, May 26<sup>th</sup>, 2022
- [ITP32]. A. Srivastava, “Situational Awareness and Decision Support for Enabling Power Grid Resiliency”, MIT LIDS/EESG 2022 Spring Seminar Series “Changing Electric Energy Systems: Challenges and Opportunities, April 20<sup>th</sup>, 2022
- [ITP33]. A. Srivastava, “Enabling Power Grid Resiliency”, The Department of Electrical and Computer Engineering, Cullen College of Engineering, University of Houston, March 28<sup>th</sup>, 2022
- [ITP34]. C. Qin, A. K. Srivastava, K. Davies, A. Y. Saber, “Estimating behind the meter DER and Analyzing impact on Load”, DOE UI-ASSIST Webinar, March 24<sup>th</sup>, 2022
- [ITP35]. A. Srivastava, “Distributed Optimization and Control for the Resilient Power Grid,” IIT Palakkad Technology IHub Foundation (IPTIF) Oorja Webinar, February 9<sup>th</sup>, 2022
- [ITP36]. A. Srivastava, “*Adaptive Power Grid with Increasing EVs*”, NSF Workshop on Adaptable Transportation and Power Systems, University of Washington, WA, December 2021
- [ITP37]. A. Srivastava, “*Introduction to Smart(er) Grid and Path Forward*”, IEEE PES Student Branch, BMSCE, Bangalore, December 2021
- [ITP38]. A. K. Srivastava, “Physics-Inspired ML for Cyber-Physical Event Detection, Classification and Root Cause Analytics”, NSF/ IEEE ML workshop, November 2021
- [ITP39]. A. K. Srivastava, “Cyber-Power Data Analytics to Enable Resilient Electric Grid”, Clarkson University, NY, November 2021
- [ITP40]. A. Srivastava and S. Sadanandan, “Tools for Cyber-Resiliency of the Power Grid with DERs”, IEEE PESGM 2021
- [ITP41]. N. Schulz, A. Srivastava, S. Pannala, “Lessons Learned from University Microgrid Updates and Implementations”, IEEE PESGM 2021
- [ITP42]. A.K. Srivastava, “Enabling Operational Resilience for the DER-rich Active Power Distribution System”, IEEE PES Day Webinar, Columbus, OH, April 2021
- [ITP43]. N. Schulz and A. Srivastava, “Enabling Operational Resilience for the DER-rich Active Power Distribution System”, Edison Electric Institute, April 2021
- [ITP44]. A. K. Srivastava, “Epistemology of Electric Grid Resilience”, ComEd, March 2021
- [ITP45]. A. K. Srivastava, “Cyber-Power Interdependence Modeling and Resiliency Analysis”, Webinar for IEEE PES TF on Cyber-Physical Interdependence for Power System Operation and Control, February, 2021.
- [ITP46]. Z. Huang, A. Srivastava and D. Wang, “GridSandbox: End-to-end Analytics for Grid Architectural Design and All-hazard Assessment”, PNNL-WSU AGI Day, February, 2021.
- [ITP47]. A. K. Srivastava, “Microgrid as a Resilience Resource in the Distribution System”, IEEE PES Tech Talk, Palouse Section, November 2020.
- [ITP48]. A. K. Srivastava, “Synchrophasor Data Analytics for Anomaly Detection, Classification, and Localization in the Electric Grid”, Grid Science Winter School and Conference, Lawrence Livermore National Lab, January 2021.
- [ITP49]. A. K. Srivastava, “Enabling the Resilient Electric Grid”, PSERC Webinar, November 2020.
- [ITP50]. A. K. Srivastava, “AI Driven Solutions for the Power Grid Operation and Control”, ATAL FDP on 'Application of Artificial Intelligence in Power System Operation and Control', NIT Calicut, India, November 2020.
- [ITP51]. A. K. Srivastava, E. Andersen, and A. Ashok, “Enabling Power Grid Resiliency: Tools for Operators and Cognitive Analysis”, Advanced Grid Institute/ ESIC Webinar, October 2020

- [ITP52]. D. Wang, J. Lian, S. Sadanandan, and A. K. Srivastava, "GridSandbox: End-to-end Analytics for Grid Architectural Design and All-hazard Assessment", Advanced Grid Institute/ ESIC Webinar, September 2020.
- [ITP53]. S. Pannala, S. Partha, K.S. Sajan and A. K. Srivastava, "Tools for Measuring and Enabling Operational Resiliency with DERs", IEEE PES General Meeting Panel Session, August 2020.
- [ITP54]. A. K. Srivastava, S. M. H. Rizvi, K. G. Ravikumar, "Impact of Active Distribution System on Transmission System Voltage Stability and Control for FIDVR", IEEE PES General Meeting Panel Session, August 2020.
- [ITP55]. A. K. Srivastava, "Anomaly and Event Detection, Classification, Localization and Root Cause Analytics for the Decision Support", PSERC Summer Workshop, July 2020.
- [ITP56]. A. K. Srivastava, "Challenges and Opportunities in Smart(er) Grid", FDP on Challenges and Opportunities in Smart Grid, Ramaiah Institute of Technology, 20-24 July 2020.
- [ITP57]. A. K. Srivastava, "What's Next in Smart(er) Grid," International workshop on Electric Power Grid Modernization: Trends, Challenges and Opportunities, NIE Mysore, 20-24 July 2020.
- [ITP58]. A. K. Srivastava, "Data-Driven Tools for Cyber-Physical Resiliency of the Electric Grid", Advanced Grid Institute Meeting, April 2020.
- [ITP59]. A. K. Srivastava, "IEEE PES Synchrophasor Applications in Power System Operations and Control", NERC Synchronized Measurement Subcommittee (SMS) Meeting, April 2020.
- [ITP60]. A. K. Srivastava, "Integrating Physics with Machine Learning for Enabling the Resilient Electric Power Grid", IIT Roorkee, India, December 2019 .
- [ITP61]. A. K. Srivastava, "Integrating Physics with Data Analytics for Cyber-Physical Event Detection, Classification and Root Cause Analysis", Workshop on Cyber-physical Security Analytics for the Power Grid by Siemens and Princeton University, Princeton, October 2019.
- [ITP62]. A. K. Srivastava, "Tools for Enabling the Resilient Electric Grid", EMS Working Group, North American Electric reliability Corporation, Atlanta, GA, October 2019.
- [ITP63]. A. K. Srivastava, "Measuring and Enabling the Cyber-Physical Resiliency of the Electric Grid", Panel on Enhancing Cyber-Physical Security and Resilience of Smart Grid, INFORMS Annual Meeting, Seattle, WA, October 2019.
- [ITP64]. A. K. Srivastava, "Challenge and solutions with electrification of transportation and electric grid integration", Workshop on Research challenges in Smart and Connected Communities presented by the rapid integration of mobility and electrical infrastructure, NSF PI Meeting, Alexandria, VA, October 2019.
- [ITP65]. A. K. Srivastava, "Measuring and Enabling Resiliency of the Electric Grid", National Renewable Energy Lab, August 2019.
- [ITP66]. A. K. Srivastava and A. Hahn, "Enabling Cyber Physical Resilience of the Electric Grid", PSERC Meeting, Sedona, AZ, July 2019.
- [ITP67]. A. K. Srivastava and M. Kezunovic, "PMU Data Quality-Aware Applications and Applications Aware Sensing", PSERC Meeting, Sedona, AZ, July 2019.
- [ITP68]. A. K. Srivastava, "Enabling the Resilient Cyber-Physical Electric Grid", Arizona State University, July 2019.
- [ITP69]. A. K. Srivastava, "Data Analytics for the Resilient Cyber-Physical Electric Grid", Panel, ISGT Asia, Chengdu, China, May 2019.
- [ITP70]. A. K. Srivastava, "Augmenting and Advancing Cognitive Performance of Control Room Operators for Power Grid Resiliency", JSIS Meeting, Salt Lake City, UT, May 2019.
- [ITP71]. A. K. Srivastava, "Enabling Resilient Electric Grid", Opening Plenary for Resiliency Workshop, ISGT Asia, Chengdu, China, May 2019.

- [ITP72]. V. Venkataraman, A. K. Srivastava, and A. Hahn, "Cyber-Physical Resiliency Experimentation using RTDS", RTDS User conference, May 2019.
- [ITP73]. A. K. Srivastava, "PMU Data Analytics for the Resilient Electric Grid", PSERC Webinar, April 2019.
- [ITP74]. A. K. Srivastava, "Data-Driven Resiliency Analysis for the Cyber-Physical Electric Grid", University of Nevada, Reno, April 2019.
- [ITP75]. A. K. Srivastava and S. Pandey, "PMU Metrology and Quality-Aware Power Grid Applications", PMU Metrology Workshop, Pacific Northwest National Lab, Richland, WA, April 2019.
- [ITP76]. A. K. Srivastava, "Measuring and Enabling Electric Grid Resiliency: A data-driven approach", University of California Berkley, February 2019.
- [ITP77]. A. K. Srivastava, "Enabling Resilient Electric Grid", Invited talk at NSF Workshop and Data Analytics and DER integration, IIT Mumbai, January 2019.
- [ITP78]. A. K. Srivastava, "Cyber-Physical Security and Resiliency of the Electric Grid", Invited talk at regional Power System Operation Corporation (POSOCO), Bangalore, December 2018.
- [ITP79]. A. K. Srivastava, "Smart Grid Operation and Control", IEEE Workshop on the Smart Grid, Bhubaneshwar, Orissa, December 2018.
- [ITP80]. A. K. Srivastava, "Smart Grid Begins with You", Invited talk at IEEE IAS Young Professional Program, Chennai, India, December 2018.
- [ITP81]. A. K. Srivastava "Power Up Your Future", WSU Freshman/ Sophomore Outreach Event, September 2018.
- [ITP82]. A. K. Srivastava, "Measuring and Enabling Resiliency in Microgrids", Invited talk at Microgrid Symposium, Bucharest, Romania, September 2018.
- [ITP83]. D. Bakken, A. K. Srivastava, A. Askerman, and V. Krishnan, "Resilient Distributed Control Using Fog Computing", Invited panel at IEEE PESGM 2018, Portland, August 2018.
- [ITP84]. A. K. Srivastava, V. V. G Krishnan, S. Suresh, "Cyber-Physical Simulation Architecture for Distributed Control and Transactive Energy", Invited panel at IEEE PESGM 2018, Portland, August 2018.
- [ITP85]. A. K. Srivastava, "Meeting Synchrophasor Data Quality Requirement for Critical Applications", PEAK Reliability Coordinator, Vancouver, WA, July 2018.
- [ITP86]. A. K. Srivastava, "Electric Power Grid and Energy issues", Pacific Northwest Economic Region Annual Summit, Spokane, WA, July 2018.
- [ITP87]. A. K. Srivastava, "Defining and Enabling Resiliency in the Electric Power Grid", Invited talk at Workshop on Smart Grid and Computational Approaches, Kadir Has University, Istanbul, Turkey, May 2018.
- [ITP88]. A. K. Srivastava, "Quality-Aware Synchrophasor Applications in Power System Operation", Invited talk at Workshop on Smart Grid and Computational Approaches, Kadir Has University, Istanbul, Turkey, May 2018.
- [ITP89]. P. Banerjee, A. K. Srivastava, E. Farantatos, and M. Patel "Model validation with PMU Emulator and using PNNL EKNF tool", JSIS, May 2018.
- [ITP90]. A. K. Srivastava, "Data Quality-Aware Synchrophasor Applications in Power System Operation and Control", University of Porto, Porto, April 2018.
- [ITP91]. Tushar, V. Vignesh, P. Banerjee, and A. K. Srivastava, "Enhancing the System Resiliency using PMU based RAS Scheme", NASPI Meeting, April 2018.
- [ITP92]. A. K. Srivastava, A. Hahn, V. V. G. Krishnan, Y. Zhang, K. Kaur, A. Ahmed, J. Pi, S. Suresh, "Cyber Physical Security Analysis for Transactive Energy Systems", IEEE Smart Grid Webinar, March 2018.
- [ITP93]. A. K. Srivastava, "Measuring and [Enabling] Resiliency of the Cyber-Physical Power Grid", Power and Energy Automation Conference (PEAC), Spokane, March 2018.

- [ITP94]. A. K. Srivastava, "Mitigation, Remedial Actions and Resiliency of the Electric Grid", Invited talk at Department of Homeland Security, FEMA Region X Power Grid Risk Workshop, February 2018.
- [ITP95]. A. K. Srivastava, "Wide Area Monitoring and Control of Cyber Power Systems", Short course sponsored by GIAN, NIT Warangal, India, December 2017.
- [ITP96]. A. K. Srivastava, A. Hahn, V. V. G. Krishnan, Y. Zhang, K. Kaur, P. Jiaying, and S. Suresh, "Data Analytics for Cyber Physical Security Analysis", The Cyber Resilient Energy Delivery Consortium (CREDC) Northwest Workshop, Richland, WA, November 28-29, 2017.
- [ITP97]. V. Venkataramanan, A. K. Srivastava, A. Hahn, and S. Zonouz, "Metrics and Tools for Measuring Cyber Resiliency of Electric Grids", The Cyber Resilient Energy Delivery Consortium (CREDC) Northwest Workshop, Richland, WA, November 28-29, 2017.
- [ITP98]. A. K. Srivastava, "Enabling Electric Grid Resiliency", Panel On: Long-term Challenges and Directions to Achieve Grid Security and Resiliency, NSF CPS PI meeting, Arlington, VA, November 14, 2017.
- [ITP99]. A. K. Srivastava, "PMU Emulator for Power System Dynamics Simulators", Joint Synchronized information Subcommittee, Westminster, CA, October 11-13, 2017.
- [ITP100]. A. K. Srivastava, "SyncAD: Ensemble Based Data Mining Tool for Anomaly Detection In PMU data and Event Detection", Joint Synchronized information Subcommittee, Westminster, CA, October 11-13, 2017.
- [ITP101]. A. Hahn, A. K. Srivastava, J. Pi, and S. Suresh, "Cyber-Security Analytics for Transactive Energy Systems", Data Analytics in Smart Grid (DASG) Workshop, Pullman, WA, 28<sup>th</sup> August 2017.
- [ITP102]. Y. Wu and A. K. Srivastava, "Ensemble based Technique for Synchrophasor Data Anomaly and Events Detection", Data Analytics in Smart Grid (DASG) Workshop, Pullman, WA, 28<sup>th</sup> August 2017.
- [ITP103]. A. K. Srivastava, "Data Analytics for Synchrophasor Data Anomaly Detection and Cybersecurity", Panel Session: Data Science Education and Research in Power System, IEEE PESGM, Chicago, IL, July 19<sup>th</sup>, 2017.
- [ITP104]. A. K. Srivastava, "Cyber-Resilient Remedial Control Action Schemes to Manage Wind Curtailment", Panel Session: Security Analysis and Control of Cyber-Physical Systems (CPS), IEEE PESGM, Chicago, IL, July 20<sup>th</sup>, 2017.
- [ITP105]. A. K. Srivastava, "Fault-Tolerant Distributed Computing Platform for Resilient Control in Cyber-Power System", Panel Session: Resilient Control Systems for Cyber Physical Power and Energy Systems, IEEE PESGM, Chicago, IL, July 20<sup>th</sup>, 2017.
- [ITP106]. A. K. Srivastava, "Data-Driven Algorithms for Power Grid Operation and Control", Delft University of technology, TU-Delft, Netherland, July 14<sup>th</sup>, 2017.
- [ITP107]. A. K. Srivastava, "Data-Driven Algorithms for Power System Operation and Control", RWTH Aachen University, Aachen, Germany, June 30<sup>th</sup>, 2017.
- [ITP108]. A. K. Srivastava, "Data-Driven Algorithms for Power System Operation and Control", IIT Kharagpur, India, June 13<sup>th</sup>, 2017.
- [ITP109]. A. K. Srivastava, "Defining and Enabling Resiliency in the Active Distribution System", IIT Kharagpur, India, June 13<sup>th</sup>, 2017.
- [ITP110]. A. K. Srivastava, "What's Next in Smart(er) Grid", TCS Bangalore, India, June 2<sup>nd</sup>, 2017.
- [ITP111]. A. K. Srivastava, "Defining and Enabling Resiliency of the Electric Grid", Indian Institute of Science, Bangalore, India, June 1<sup>st</sup>, 2017.
- [ITP112]. A. K. Srivastava, "Data Mining based Anomaly Detection In PMU Measurements and Event Detection", Joint Synchronized information Subcommittee, Salt Lake City, UT, May 2017.

- [ITP113]. A. K. Srivastava, "Data-Driven Algorithms for Power System Operation and Control", RTE-France, April 13<sup>th</sup>, 2017.
- [ITP114]. A. K. Srivastava, "Defining and Enabling Resiliency of Electric Power Systems with renewable Energy and Microgrids", North American Electric Reliability Corporation, Atlanta, GA, March 3<sup>rd</sup>, 2017.
- [ITP115]. A. K. Srivastava, "Ensemble Based Technique for Synchrophasor Data Quality and Analyzing its Impact on Applications", NASPI, March 2017.
- [ITP116]. A. K. Srivastava, "Failure Diagnosis and Cyber Intrusion Detection in Transmission Protection System Assets using Synchrophasor Data", NASPI, March 2017.
- [ITP117]. A. K. Srivastava, "Cyber-Physical Analysis for PMU Data Quality and Synchrophasor Applications", WSU Tri-Cities, February 22<sup>nd</sup>, 2017.
- [ITP118]. A. K. Srivastava, "Data-Driven Algorithms for Power System Operation and Control", Pacific Northwest National Lab, Richland, WA, February 1<sup>st</sup>, 2017.
- [ITP119]. A. K. Srivastava, "Microgrid HIL Simulation and Defining and Enabling Resiliency with Multiple Microgrids", MIT Lincoln Lab, January 20<sup>th</sup>, 2017.
- [ITP120]. B. Cui, P. Banerjee, and A. K. Srivastava, "Failure Diagnosis in Transmission Protection System Using Synchrophasor Data", NASPI, Seattle, October 2016.
- [ITP121]. H. Lee, P. Banerjee, A. K. Srivastava, E. Farantatos, and M. Patel, "PMU Emulator for Power System Dynamics Simulators and Model Validation", NASPI, Seattle, October 2016.
- [ITP122]. A. Hahn and A. K. Srivastava, "Cyber-Physical Smart Grid Testbeds at Washington State University", Panel, IEEE ISGT, September 2016.
- [ITP123]. A. K. Srivastava, "Synchrophasor Applications and Impact of Data Quality", Rutgers University, Princeton, NJ, August 19, 2016.
- [ITP124]. A. K. Srivastava, "Cyber-Physical Analysis of Synchrophasor Applications", Drexel University, Philadelphia, PA, August 17, 2016.
- [ITP125]. A. K. Srivastava, "Energy Management and Control Algorithms for Microgrids", Harvard University, Cambridge, MA, July 29, 2016.
- [ITP126]. A. K. Srivastava, "Research Activities at Smart Grid Demonstration and Research Investigation Lab (SGDRIL)", Online Webinar to Siemens, June 2016.
- [ITP127]. A. K. Srivastava, "Cyber-Physical Analysis of Synchrophasor Applications", Power Engineering Forum, Schweitzer Engineering Lab, April 27, 2016.
- [ITP128]. A. K. Srivastava, "PMU Data Quality and Impact on Critical Smart Grid Applications", IEEE PES Young Professionals Webinar Series, April 25, 2016.
- [ITP129]. A. K. Srivastava, H. Lee, M. Zhou, P. Banerjee, E. Farantatos, and M. Patel, "Making Dynamic Simulations Output Comparable to Synchrophasor Measurements of PMUs", NASPI International Symposium, Atlanta, GA, March 2016.
- [ITP130]. A. K. Srivastava, "Advances in Power System Operation and Control Using Synchrophasors (PMUs)", Full Day Workshop, Central Power Research Institute/IEEE, January 8<sup>th</sup>, 2016.
- [ITP131]. A. K. Srivastava, "Analyzing Impact of PMU Data Quality on Critical Smart Grid Applications", Indian Institute of Technology, Kanpur, India, December 18<sup>th</sup>, 2015.
- [ITP132]. A. K. Srivastava, "What's Next After the Smart Grid", ICAER, Mumbai, December 17<sup>th</sup>, 2015.
- [ITP133]. A. K. Srivastava, "Meeting PMU Data Quality Requirements for Mission Critical Applications" Webinar for Power Systems Engineering Research Center (PSERC), November 17<sup>th</sup>, 2015.
- [ITP134]. A. Mallikeswaran, P. Banerjee, A. K. Srivastava, D. Bakken, and P. Panciatici, "ERKIOS: In-field Testing and Validation of Synchrophasor based Remedial Action Scheme (RAS)", NASPI, Chicago, IL, October 2015.

- [ITP135]. Tushar and A. K. Srivastava, "Real Time Voltage Stability Monitoring & Control (RTVSMAC)", Joint Synchronized Information Subcommittee, WECC, Salt Lake City, UT September 2015.
- [ITP136]. Tushar and A. K. Srivastava, "Data Mining Application for PMU bad data detection", Joint Synchronized Information Subcommittee, WECC, Salt Lake City, UT September 2015.
- [ITP137]. A. K. Srivastava, "Real Time Voltage Stability Monitoring and Control (RTVSMAC)", Idaho Power, Boise, ID August 22<sup>nd</sup>, 2015.
- [ITP138]. A. K. Srivastava, "Synchrophasor Research Work at Smart Grid Demonstration and Research Lab", Hydro-Quebec IREQ, Montreal, Canada, July 10<sup>th</sup>, 2015.
- [ITP139]. A. K. Srivastava, "CYBER-Physical and smart grid fundamentals", TCIPG Summer School, Chicago, IL, June 15<sup>th</sup>, 2015
- [ITP140]. C. -C. Liu, A. K. Srivastava, and A. Hahn, "Smart City Testbed", Energy Systems Workshop, Carnegie Mellon University, PA, March 2015.
- [ITP141]. H. Lee, R. Liu, and A. K. Srivastava, "PMU Emulator and Animation for Synchrophasor Education (SynchroEd)", NASPI Meeting, March 2015.
- [ITP142]. A. K. Srivastava, "Analyzing Impact of PMU Performance on Wide Area Applications Using Modeling and Simulations", Webinar at Electric Power Research Institute (EPRI), February 2015.
- [ITP143]. A. K. Srivastava, "Applications of Synchrophasors for Power Grid Operation and Control", Synchrophasor workshop at Central Power Research Institute (CPRI), Bangalore, India, January 6<sup>th</sup>, 2015.
- [ITP144]. A. K. Srivastava, "Smart grid demonstration and research investigation lab", Information Science Institute (ISI), Marina Del Rey, CA, December 12<sup>th</sup>, 2014.
- [ITP145]. A. K. Srivastava, "Synchrophasor Device Testing and Voltage Stability Applications for the Electric Grid", Electric Reliability Council of Texas (ERCOT), Austin, TX, October 24<sup>th</sup>, 2014.
- [ITP146]. A. K. Srivastava, "Real Time Voltage Stability Monitoring & Control (RTVSMAC) and PMU Performance Analyzer (PPA) for Control Center Applications", Lower Colorado River Authority, Austin, TX, October 24<sup>th</sup>, 2014.
- [ITP147]. A. K. Srivastava, "Real Time Voltage Stability Monitoring of Power Systems Using 'RT-VSM Tool'", New York Power Authority (NYPA), October 17<sup>th</sup>, 2014.
- [ITP148]. A. K. Srivastava, "Real Time Voltage Stability Monitoring of Power Systems Using 'RT-VSM Tool'", Webinar to PJM Interconnection, October 2<sup>nd</sup>, 2014.
- [ITP149]. A. K. Srivastava, "Energy Management and Control Algorithms for Active Distribution Systems", Oregon State University, Corvallis, OR August 14<sup>th</sup>, 2014.
- [ITP150]. A. K. Srivastava, "A Cyber-Power Security Course at Washington State University for Smart Grid Workforce Development", Panel Session: Educational Tools for the Workforce Development for the Future Grid to Enable Sustainable Energy Systems, IEEE Power and Energy Society general Meeting, Washington DC, July 31<sup>st</sup>, 2014.
- [ITP151]. A. K. Srivastava, "Robust Control and Energy Management Algorithms for Microgrid", Panel Session, IEEE Power and Energy Society general Meeting, July 29<sup>th</sup>, 2014.
- [ITP152]. A. K. Srivastava, "Modeling, Simulation and Analysis of Cyber-Power Systems", NSF US-China workshop, Nanjing, China, May 15<sup>th</sup>, 2014.
- [ITP153]. A. K. Srivastava, "Testing and Validation of Synchrophasor Devices and Applications", PSERC Public Webinar, May 6<sup>th</sup>, 2014.
- [ITP154]. A. K. Srivastava, "Cyber-Physical System Security for the Smart Electric Grid", University of Texas, El Paso, TX, March 21<sup>st</sup>, 2014.
- [ITP155]. A. K. Srivastava, "Modeling and Analysis of Cyber-Power System", New Mexico State University, Las Cruces, NM, March 21<sup>st</sup>, 2014.

- [ITP156]. A. K. Srivastava, "Smart Grid and Renewable Integration", ICUE preconference workshop, Pattaya, Thailand, March 18<sup>th</sup>, 2014.
- [ITP157]. A. K. Srivastava, "Smart Grid Technology and Synchrophasor Applications", Asian Institute of Technology, Bangkok, Thailand, March 17<sup>th</sup>, 2014.
- [ITP158]. A. K. Srivastava "Educational Program on Synchrophasor Applications", Washington State University", Power System Conference, Clemson, SC, March 13<sup>th</sup>, 2014 (panel).
- [ITP159]. A. K. Srivastava, "Robust Control and Energy Management Algorithms for Microgrid", Power System Conference, Clemson, SC, March 13<sup>th</sup>, 2014 (panel).
- [ITP160]. A. K. Srivastava, "Testing PMUs using the PMU Performance Analyzer (PPA)", North American Synchrophasor Initiative (NASPI) meeting, Knoxville, TN, March 12<sup>th</sup>, 2014.
- [ITP161]. A. K. Srivastava, "Online Wide-Area Voltage Stability Monitoring and Control: RT-VSMAC", North American Synchrophasor Initiative (NASPI) meeting, Knoxville, TN, March 12<sup>th</sup>, 2014.
- [ITP162]. A. K. Srivastava, "Smart Grid and Smart City Pullman", Washington Utilities and Transportation Commission, January 2014 (Tutorial)
- [ITP163]. A. K. Srivastava, "Research Activities Related to Microgrid and Distribution System", Brown bag seminar, National Renewable Energy Lab (NREL), October 21<sup>st</sup>, 2013.
- [ITP164]. A. K. Srivastava, "Smart Grid technology", IEEE Toronto Section Seminar Series, Toronto, Canada, October 10<sup>th</sup>, 2013.
- [ITP165]. A. K. Srivastava, "Security Analysis with Incomplete Information and Cyber-Physical Simulation for Power Grid", University of Toronto, Toronto, Canada, October 11<sup>th</sup>, 2013.
- [ITP166]. A. K. Srivastava, "The WSU Microgrid", Santiago, Chile, September 2013 (Panel).
- [ITP167]. A. K. Srivastava, "Control Algorithms for Active Distribution Systems", IIT Delhi, India, July 8<sup>th</sup>, 2013.
- [ITP168]. A. K. Srivastava, "Energy Management and Control for Active Distribution Systems", IIT Kanpur, July 16<sup>th</sup>, 2013.
- [ITP169]. A. K. Srivastava, "RT-VSMAP: A 'Non-recursive' Algorithm for Real Time Voltage Stability Analysis", Symposium on Electric Power Control Center, Bedford Springs, PA, June 2013.
- [ITP170]. A. K. Srivastava, "Power System Fundamentals", TCIPG Summer School, Chicago, IL, June 2013 (Tutorial).
- [ITP171]. A. K. Srivastava, "Cyber-Physical Simulation and Security Analysis with Incomplete Information", University of West Virginia and IEEE Pittsburgh Section Seminar Series, Morgantown, WV, June 5, 2013.
- [ITP172]. A. K. Srivastava, "RT-VSMAP: A 'Non-recursive' Algorithm for Real Time Voltage Stability Analysis", JSIS meeting, Salt Lake City, UT, June 2013.
- [ITP173]. A. K. Srivastava, "Synchrophasor based Voltage Stability and Real Time Implementation", Argonne National Lab, Chicago, IL, May 28<sup>th</sup> 2013.
- [ITP174]. A. K. Srivastava, "Phasor Measurement (Estimation) Units", Relay School, Pullman, WA, March 2013 (Tutorial).
- [ITP175]. A. K. Srivastava, "Education in workforce development", PSERC Public Webinar in collaboration with 5 other faculty members, March 2013.
- [ITP176]. A. K. Srivastava, "Northwest Smart Grid Demonstration and Implementation Projects", NSF Workshop on US-China Collaboration for Smart Grid, Arlington, VA, February 28<sup>th</sup>, 2013 (panel).
- [ITP177]. A. K. Srivastava, "Testing of Power Engineering Algorithms and Devices for Smart Grid", Power and Energy Conference, Sanya, China, January 1<sup>st</sup>, 2013.
- [ITP178]. A. K. Srivastava, "Operation and Control of Active Distribution Systems", Tsinghua University, Beijing, China, January 3<sup>rd</sup>, 2013.

- [ITP179]. A. K. Srivastava, "Applications of Synchronphasors and Microgrid Control", Zhejiang University, Hangzhou, China, December 2012.
- [ITP180]. A. K. Srivastava, "Smart Grid Status in Washington", Smart Grid Forum, Seattle, WA, November 13<sup>th</sup>, 2012 (Invited Panel).
- [ITP181]. A. K. Srivastava, "Technical and Economical Impact of Energy Storage Devices on Electric Grid", Great Lakes Smart Grid Symposium, Chicago, IL, September 2012 (Invited Panel).
- [ITP182]. A. K. Srivastava, "Synchronphasor Applications and Microgrid Control" Montana State University, Bozeman, MT, July 2012.
- [ITP183]. A. K. Srivastava, "Testing and Validation of Power Engineering Algorithms and Devices for Smarter Electric Grid", Northwest Public Power Association (NWPPA) Conference, Spokane, WA, April 2012.
- [ITP184]. A. K. Srivastava and S. S. Biswas, "Overview of Synchronphasor Test Bed @ SGDRIL, WSU", Workshop on Testing and Validation of Synchronphasor Devices and Algorithms, WSU, Pullman, WA, March 2012.
- [ITP185]. A. K. Srivastava, "Modeling and Simulation for the Smart Grid", Arizona State University, Phoenix, AZ, September 10<sup>th</sup>, 2011.
- [ITP186]. A. K. Srivastava, "2<sup>nd</sup> year faculty panel", New faculty Orientation, WSU, August 15<sup>th</sup>, 2011.
- [ITP187]. A. K. Srivastava, "Real Time Modeling and Simulation for Smart Grid", Indian Institute of Technology, New Delhi, India, June 10<sup>th</sup>, 2011.
- [ITP188]. A. K. Srivastava, "Testing and Validation of Smart Grid Algorithms and Devices", Indian Institute of Technology, Kanpur, India, May 30<sup>th</sup>, 2011.
- [ITP189]. A. K. Srivastava, "Smart Grid Modeling and Simulation", Royal Institute of Technology, KTH, Stockholm, Sweden, May 18<sup>th</sup>, 2011.
- [ITP190]. A. K. Srivastava, "Validation of Smart Grid Algorithms and Devices Using Real Time Simulation", University of Idaho, Moscow, ID, February 24<sup>th</sup>, 2011.
- [ITP191]. A. K. Srivastava, "Real-time Modeling and Simulation for Future Power Grid", University of Idaho, IEEE Palouse Section Meeting, November 18<sup>th</sup>, 2010.
- [ITP192]. A. K. Srivastava, "Power up your Future", Imagine U, Middle School and High School, November 23<sup>rd</sup>, 2010.
- [ITP193]. A. K. Srivastava, "Technical and Environmental Impact of Integrating Distributed Generation with Electric Grid and Microgrid", University of Washington, Seattle, WA, October 14<sup>th</sup>, 2010.
- [ITP194]. A. K. Srivastava, "Smart Power Grid: Research Opportunities and Making it Reality", Vanderbilt University, Nashville, TN, November 13<sup>th</sup>, 2009.
- [ITP195]. A. K. Srivastava, "Modeling and Simulation of Next Generation Smarter Electric Grid", Tennessee Tech University, Cookeville, TN, November 13<sup>th</sup>, 2009.
- [ITP196]. A. K. Srivastava, "Engineering the Future Power Grid with Increased Security Measures", Indian Institute of Science, Bangalore, India, May 15<sup>th</sup>, 2009.
- [ITP197]. A. K. Srivastava, "Application of Real Time Modeling and Simulation in Power System Research", Central power research institute (CPRI), Bangalore, India, May 15<sup>th</sup>, 2009.
- [ITP198]. S. K. Srivastava, A. K. Srivastava, A. Minerick, and N. N. Schulz, "International students' challenges in U.S. graduate schools", MAIE Annual Conference, Mississippi State University, MS, Feb 2009.
- [ITP199]. S. Kamireddy, V. Mohan, A. K. Srivastava, and N. N. Schulz, "Improved State Estimation and Development of Real Time Wide Area Monitoring and Control Test Bed", North American Synchro-phasor Initiative, Charlotte, NC, October 16-17, 2008.
- [ITP200]. A. K. Srivastava, "Self-Describing and Controllable Power Grid", PMU application user group meeting, Entergy, New Orleans, LA, September 19<sup>th</sup>, 2007.



- [ITP201]. A. K. Srivastava, "Power System Research Activities at Mississippi State University", ECE Distinguished Speaker Seminar Series, Concordia University, Montreal, Canada, 31<sup>st</sup> August 2007.
- [ITP202]. A. K. Srivastava, "Voltage Collapse Contingency Screening", IEEE invited lecture seminar series, Electrical Engineering department, IIT, Kanpur, India, 5<sup>th</sup> July 2006.
- [ITP203]. A. K. Srivastava, "Voltage Collapse Contingency Screening and Power Grid Vulnerabilities", ECE Distinguished Speaker Seminar Series, Department of ECE, Illinois Institute of Technology, Chicago, IL, 15<sup>th</sup> April 2005.

## X. Awards/ Honors/ Scholarships

- IET Smart Grid Paper Award, 2023
- IEEE Fellow for the Power Grid Resiliency, 2021
- Fellow, Asia-Pacific Artificial Intelligence Association, 2022
- EECS Research Excellence Award in the School of Electrical Engineering and Computer Science, Washington State University, 2020
- Student paper award, runner-up, Resilience Week, September 2020
- IEEE PES Service Recognition Award as a Chair of Award Subcommittee, IEEE PES, 2019
- WSU research office for continued relationship with Industry recognition, 2019
- Fellow, Frontiers of Engineering Education, National Academy of Engineering (NAE), Santa Ana, CA, September 2012
- Student won 1<sup>st</sup> award in Poster Contest, PSERC, December 2018
- Student won 2<sup>nd</sup> award in Undergraduate category Poster Contest, PESGM, 2017
- Student won the second prize in oral presentation graduate category, Wiley WSU Academic Showcase, Pullman, WA, 2015
- Student won 1<sup>st</sup> and 2<sup>nd</sup> award in Graduate category Poster Contest, IEEE T&D, Chicago, IL, 2014
- Student won 1<sup>st</sup> award in Undergraduate category Poster Contest, IEEE T&D, Chicago, IL, 2014
- Student won 2<sup>nd</sup> award in Poster Contest, IEEE PESGM, Vancouver, BC, 2013
- Student won 2<sup>nd</sup> award in Poster Contest, IEEE PES T&D, Orlando, FL, 2012
- Student won 2<sup>nd</sup> award in Poster Contest, IEEE PES PSCE, Phoenix, AZ, 2011
- Best paper prize award, "An Effort to Optimize Similar Days Parameters for ANN Based Electricity Price Forecasting", Energy Systems Committee, IEEE Industry Application Society, 2009
- Technical Committee working group recognition award, working group on multi-agent systems, IEEE PES Power system analysis, computing and economics committee, 2008
- Young engineer award, Young Engineer Poster Competition (YPC), IEEEJ Annual meeting, University of the Ryukyus, Japan, 2006
- Best Teaching Assistant Award, Star of the Month, IIT, Chicago, IL, 2005
- Certificate of highest standards of academic achievement from Graduate College, IIT, Chicago, IL, 2005
- Clinton Stryker Distinguished Service Award, Nominee, IIT, Chicago, IL, 2005
- Dean's Tuition Scholarship, IIT, Chicago, IL, 2001

## XI. Service Activities

### XI.A. Professional Service

**Conference Chair/Technical Chair/ Co-Chair**

- Conference Chair, IEEE/CIGRE The International Conference on Smart Grid Synchronized Measurements and Analytics 2024 (SGSMA 2024), Washington DC, 2024
- IEEE SmartGridComm 2021

**Technical Program Committee Member**

- IEEE SmartGridComm 2012, 2013, 2019 and 2020
- MSCPES, CPSWeek, 2012-2022
- Power System Computation Conference (PSCC), Poland 2014
- International Conference and Utility Exhibition on Green Energy (ICUE), Thailand, 2014
- International Conference on Modern Power and Energy System (ICMPES), India, 2013
- International Conference on Diagnostics, Czech Republic, 2013
- Power and Energy Engineering Conference, Sanya, Hainan, China, 2013
- IEEE South East Conference, Memphis, TN, USA, 2006

**Editorial Board Member**

- IEEE Transactions on Industrial Applications, 2019-Present
- Elsevier Sustainable Computing: Informatics and Systems: SUSCOM, 2018-2021
- Past Editor, IEEE Transactions on Power Systems, 2018-2021
- Past Editor, IEEE Transactions on Smart Grid, 2015-2019
- Past Editor, IET Generation, Transmission and Distribution, 2016-2019
- Past Editor, Journal of Modern Power Systems and Clean Energy, 2018-2019

**Guest Editor for Special Issues**

- IET GTD special issue on “Next Generation of Synchrophasor-based Power System Monitoring, Operation and Control”, 2020
- IEEE TII special issue on, “Deep learning and data analytics to support the smart grid operation with renewable energy”, 2020
- IET Generation, Transmission and Distribution, “Emerging Trends in System Integrity Protection Schemes (SIPS) for Improving the Performance of Smart Grid”, 2019
- IEEE Transaction on Industry Applications, “Security, Reliability, Privacy, and Quality in Industrial Automation and Control”, 2019
- IET Smart Grid, “Machine Learning in Power Systems”, 2019
- IET Smart Grid, “Definition, Quantification, Analysis and Enhancement of Grid Resilience”, 2019
- IEEE Transactions on Industrial Informatics, “Cloud Computing in Smart Grid Operation and Management”, 2018
- IET Smart Grid, “Cyber Physical Systems for Power Distribution Systems”, 2018

**Reviewer*****Journal and Conferences:***

- IEEE Transactions on Power System
- IEEE Transactions on Smart Grid
- IEEE Transactions on Power Delivery
- IEEE Transactions on Sustainable Energy
- IEEE Transactions on Energy Conversion
- IEEE Transactions on Industrial Electronics

- IEEE Transactions on Education
- IEEE Power Engineering Society Letters
- IEE Proc. on Generation, Transmission & Distribution
- European Transactions on Electric Power
- International Journal of Engineering Education

**Research Proposal Reviewer:**

- National Science Foundation, USA
- Department of Energy, USA
- Science Foundation, Croatia
- National Science and Engineering Research Council, Canada
- Canada Foundation for Innovation, Canada
- National Research Fund, Qatar
- Bonneville Power Administration, USA
- The Implementation Group, Inc, USA
- King Fahd University of Petroleum and Minerals, Saudi Arabia
- Oak Ridge Associated Universities, USA and Kazakhstan

**External P&T Reviewer:**

- University of Vermont,
- Stony Brook University
- Indian Institute of Technology, Chennai, India
- University of Connecticut
- Oregon State University
- Texas Tech University
- Syracuse University
- Stonybrook University
- Arizona State University
- Clarkson University
- Iowa State University
- University of Houston
- Michigan State University

**Other Professional Service:**

- IEEE Fellow Evaluating Committee, 2023-Present
- IEEE PES Fellow Nomination Committee, 2022-present
- Advisory Board, WVU Tech, 2021-Present
- Advisory committee, IEEE International Conference on Industrial Electronics: Developments & Applications (ICIDeA-2023), Sep. 2023
- Session Chair, "Distribution Grid Resilience: Metrics and Integration into Planning/Operation", IEEE PES General Meeting, July 2023
- Session Chair, "Microgrid Applications and Demonstrations: Lessons learned", IEEE PES General Meeting, July 2023
- Chair Professorship Review Committee, WVU, 2022 and 2023
- IEEE PES Graduate Scholarship Review Committee, 2020-2022
- Industry Liaison, SmartGridCom, 2020
- Advisor, ERIGrid2: European Research Infrastructure supporting Smart Grid, 2020-
- Post-COVID lab reopening preparation committee, EECS, VCEA, 2020

- Session Co-Chair, “Opportunities and challenges for voltage stability with power-electronics interfaced components”, IEEE PESGM Panel 2022
- Session Co-Chair, “Tools and Metrics for Microgrid Design and Evaluation”, IEEE PESGM Panel 2022
- Session Co-Chair, “Utilizing distribution system assets and DER for transmission system voltage stability”, IEEE PES General Meeting, August 2020
- Session Co-Chair, “Data-Quality Aware Synchrophasor Applications”, IEEE PES General Meeting, August 2020
- Session Chair, “Power System Dynamic Performance 2”, IEEE PES General Meeting, August 2020
- Session Co-Chair, “Research and Education in Distribution Management System with DERs for Resilient Grid”, IEEE PES General Meeting, August 2020
- Session Chair, IEEE International conference on Power Electronics, Smart Grid and Renewable Energy, “Management and Control in Smart Grid”, Kerala, India, January 2020
- Session Chair, IEEE North American Power Symposium (NAPS), “DER Management”, Wichita, KS, October 2019
- Session Chair, IEEE IAS Annual Meeting, “Management and Control in the Smart Grid”, Baltimore, MD, October 2019
- Session Co-Chair, “Integrating Resiliency into Operational Practice”, IEEE PES General Meeting, Atlanta, GA 2019
- Session Co-Chair, “Microgrid Tools: Design, Optimization, Business Case and Resiliency”, IEEE PES General Meeting, Atlanta, GA 2019
- Session Co-Chair, “Challenges and solutions for Synchrophasor Data Quality in Power System Operation”, IEEE PES General Meeting, Atlanta, GA 2019
- Session Chair, IEEE T&D Latin America, Lima Peru, September 2018
- Session Chair, North American Power Symposium, Fargo, North Dakota, September 2018
- Session Chair, IEEE IAS Annual Meeting, Portland, OR, September 2018
- Session Co-Chair, “Measuring and Enabling Resiliency using Microgrid”, IEEE Power and Energy Society General Meeting, Portland, OR, August 2018
- Session Co-Chair, “Challenges and Solutions in Implementing Synchrophasor Applications at the Control Center”, IEEE Power and Energy Society General Meeting, Portland, OR August 2018
- Session Co-Chair, “Computational Infrastructure for Distributed Control in the Power Grid”, IEEE Power and Energy Society General Meeting, Portland, OR August 2018
- Session Co-Chair, “Cyber Physical Power System Simulation: Technology and Practice”, IEEE Power and Energy Society General Meeting, Portland, OR August 2018
- Review Committee Member, WSU Academic Showcase, 2018
- Session Co-Chair, “Security Analysis and Control of Cyber-Physical Systems (CPS)”, IEEE Power and Energy Society General Meeting, Chicago, IL, July 2017
- Session Co-Chair, “Lessons Learned from Implementing Portable and Reconfigurable Microgrids for Resilient Operation” IEEE Power and Energy Society General Meeting, Chicago, IL, July 2017.
- Session Co-Chair, “Measuring and Enabling Resiliency using Microgrid”, IEEE Power and Energy Society General Meeting, Boston, MA, July 2016
- Session Chair, “Integrating Synchrophasor Research into Education”, IEEE Power and Energy Society General Meeting, Boston, MA, July 2016
- Session Chair, International Conference on Advances in Energy Research (ICAER), Mumbai, India, December 2015

- Session Co-Chair, “Power System Control I”, IEEE Industrial Application Society, Addison, TX, October 2015
- Session Co-Chair, “Power System Stability II”, North American Power Symposium, Charlotte, NC, October 2015
- Session Co-Chair, “Cyber-Physical Educational Modules”, IEEE Power and Energy Society General Meeting, Denver, CO, July 2015
- Session Co-Chair, “Microgrid as a Resource for Resiliency”, IEEE Power and Energy Society General Meeting, Denver, CO, July 2015
- Session Co-Chair, “Lessons-Learned from Microgrid Implementation”, IEEE Power and Energy Society General Meeting, Denver, CO, July 2015
- Session Co-Chair, “Microgrid Operation in Contingencies and Recovery”, IEEE Power and Energy Society General Meeting, Washington DC, July 2014
- Session Chair, “Intelligent Controls for Microgrids”, Power System Conference, Clemson, SC, March 2014
- Session Chair, ‘Microgrid’, North American Power Symposium, Manhattan, KS, September 2013
- Session Chair, ‘Hands-on Activities for Pre-Engineering Outreach’, IEEE PES General Meeting, Vancouver, BC, July 2013
- Session Chair, ‘Synchrophasors and Smart Meters’, North American Power Symposium, Urbana, IL, September, 2012
- Session Co-Chair, ‘Military Microgrid’, IEEE PES General Meeting, San Diego, CA, July 2012
- Member, IEEE PES Scholarship review committee, 2011-2016
- Session Chair, ‘Protection II’, North American Power Symposium, Boston, MN, August 5-6, 2011
- Session Chair, ‘Educational Research Methods Potpourri II’, American Society of Engineering Education Annual Conference, Vancouver, BC, Canada, June 26-29, 2011
- Session Chair, ‘Resources for K-12 Outreach’, IEEE PES General Meeting, Detroit, MI, July 24-28, 2011
- Session Chair, ‘Power Electronics in Power System II’, North American Power Symposium, Arlington, TX, September 26-28, 2010
- Member, DG integration Committee, ASME, 2010-11
- Member, PDC-PMU communication committee, NASPI, 2010-11
- Student Paper/ presentation Judge, North American Power Symposium, Arlington, TX, September 26-28, 2010
- Session Chair, ‘Dynamic Performance of HVDC and FACTS’, IEEE Power and Energy Society General Meeting, Minneapolis, MN, July 25-29, 2010
- Student Poster Judge, IEEE Power and Energy Society General Meeting, Minneapolis, MN, July 25-29, 2010
- Session Chair, ‘Modeling student data’, American Society of Engineering Education, Louisville, KY, June 20-23, 2010
- Student Poster Judge, IEEE Transmission and Distribution Conference and Exposition, T&D, April 2010
- Student Program Chair and member of Organizing Committee, North American Power Symposium, NAPS, Mississippi State, MS, October 2009
- Judge, Conrad Spirit of Innovations Award, 2009
- Session Chair, ‘System Identification and Model Predictive Control’, IEEE Power Engineering Society General Meeting, Calgary, July 26-30, 2009
- Judge, Mississippi Science Fair, Mississippi State University, March 26<sup>th</sup>, 2009

- Judge, Student Poster Contest, IEEE PES General Meeting, Calgary, Canada July 26-30, 2009
- Session Co-Chair, 'Power System Dynamic Performance I', Power System Conference and Exposition (PSCE), Seattle, WA, March 15-18, 2009
- Session Chair, 'Power System Dynamic Performance II', Power System Conference and Exposition (PSCE), Seattle, WA, March 15-18, 2009
- Session Chair, 'Voltage Stability and Contingency Analysis', North American Power Symposium (NAPS), Calgary, Canada, September 28 – 30, 2008
- Judge, Student paper competition, North American Power Symposium (NAPS), Calgary, Canada, September 28 – 30, 2008
- Secretary, NAPS steering committee, 2008
- Chair, Student support program, IEEE PES T&D conference, April 20-24, 2008, Chicago, IL
- Session Chair, 'Control of Power System Components', NAPS, Las Cruces, NM, September 30 –October 2, 2007
- Judge, Student paper competition, NAPS, Las Cruces, NM, Sep. 30 - Oct. 2, 2007
- Judge, Student poster competition, PES, Tampa, FL, June 24-28, 2007
- Judge, Student presentation, ESCAPE, MSU, Mississippi State, MS, March 2-3, 2007
- Judge, Student paper competition, PSCE, Atlanta, Georgia, Oct. 29-Nov. 1 2006
- Session Chair, 'Distributed Generation and Renewable Energy I', NAPS, Carbondale, IL, Sep. 17-19, 2006
- Judge, Student paper competition, NAPS Carbondale, IL, Sep. 17-19, 2006
- Judge, Student poster competition, IEEE PES General Meeting, Montreal, Canada, June 2006
- Judge, Student poster competition, IEEE Transmission & Distribution Conference, Dallas, TX, May 2006
- Judge, Student poster competition, ISAP, Washington DC, November 2005
- Judge, Mississippi Region V Elementary and Secondary Science and Engineering Fair, Mississippi State, MSU February 28 - March 1, 2007
- Judge, Mississippi Region V Elementary and Secondary Science and Engineering Fair, MSU, March 2006
- Judge, Ethics competition, SECON, Memphis, TN, April 2006
- Chaired electrical engineering, computer and embedded system engineering and general engineering track at IEEE South East Conference, Memphis, TN March 30-April 2, 2006
- Judge, Mississippi State Science and Engineering Fair, MSU, April 2006

#### **XI.B. Conference/ Workshop/ Tutorial Organization**

- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, Hongkong China, May 2024
- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, San Antonio, TX, April 2023
- Workshop Co-Chair, "Measuring and Enabling Power Grid Resilience: Challenges and Solutions", ResilienceWeek, October, 2021: <https://resilientpowergrid.ai/resilienceworkshop>
- Steering committee member, NSF/ PSERC Executive Forum on Grid at the "Edge": Interfacing Legacy Grids operated by Utilities with Emerging Grid Components Owned and Operated by Third Parties, 2020-2021
- Workshop Co-Chair, WS-2: Machine Learning and Big Data Analytics in Power Transmission Systems, IEEE SmartGridComm, AZ, 2020

- Organizing Committee Member, NSF Sponsored, “Forging Connections between Machine Learning, Data Science, & Power Systems Research, NSF, Alexandria, VA, March 2020.
- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, Sydney, Australia, April 2020
- Symposium Co-Chair, Communications and Networking, IEEE SmartGridComm, China, 2019
- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, Montreal, Canada, April 2019
- NSF sponsored “Data analytics workshop for the power grid resiliency”, Portland, OR, 2018
- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, Portugal, March 2018
- Data Analytics Workshop in Smart Grid, Sponsored by Siemens, Pullman, WA, August 2017
- Workshop on Modeling and Simulation of Cyber-Physical Energy System, CPSWeek, Pittsburgh, PA, March 21, 2017
- IEEE Workshop on Synchrophasors Applications, Singapore, Philippines and India, July 2017
- North American Power Symposium, technically sponsored by IEEE, Washington State University, September 2014 (attendees: 229)
- Tutorial on Phasor Measurement Unit, WSU Relay School, March, 2013 and 2014
- Workshop on Testing and Validation of synchrophasor devices and applications, Pullman, WSU, March 2012 (around 80 attendees)

#### *XI.C. Professional Affiliations*

- IEEE (Student Member, 2000-2005, Member, 2005-2009, Senior Member, 2009-present)
  - IEEE Power Engineering Society (2002-Present)
    - Bulk Power System Operation Subcommittee (BPSO), PSOPE (Chair: 2022-present, Vice-Chair, 2020-2022, Secretary: 2018-2019)
      - IEEE Task Force on Synchrophasor Applications in Control Center (Chair: 2017-Present)
        - Operational Tools for Enabling Resiliency, PSOPE, (co-Chair: 2020-Present)
    - Power and Energy Education Committee (PEEC) (Past-Chair: 2022-2023, Chair: 2020-2021, Vice-Chair: 2018-2019, Secretary: 2016-2017)
      - Student Meetings Subcommittee (Secretary: 2009, Vice-Chair: 2011, Chair: 2013, Past-Chair: 2015)
      - Power Engineering Career Promotion Subcommittee (Vice Chair: 2009, Chair: 2011, Past-Chair: 2013)
      - Awards Committee (Secretary: 2014 – 2015, Vice-Chair: 2016, Chair: 2017-Present)
    - Power System Dynamic Performance (PSDP)
      - IEEE Voltage Stability Working Group (Secretary: 2015-2016, Vice-Chair: 2017-2018, Chair: 2019-Present)
    - Energy Development & Power Generation Committee (2009-Present)
      - Energy Development Subcommittee (2009-Present)
        - Distributed Generation and Energy Storage Subcommittee (Member: 2009-Present, Webmaster: 2010, Awards Liaison: 2011-Present)
          - Microgrid Implementation Working Group (Co-Chair: 2012-Present)
    - Analytic Methods for Power Systems (AMPS) Committee, CAMS

- Computational Challenges and Solutions for Implementing Distributed Optimization in the Power Systems (Co-Chair: 2019-Present)
- Intelligent Grid and Emerging Technologies Coordinating Committee, iGET
  - IEEE Industrial Application Society (2012-Present)
  - IEEE Industrial Electronics Society (2014-Present)
- ASEE (2005-2012, 2021-present)
- Sigma Xi Honor Society (2004-2011)
- Eta Kappa Nu Honor Society (2004-2011)
- IEEE ICAP Synchrophasor Conformance Subcommittee (Past Vice-Chair, 2013)
- North American Synchrophasor Initiative (NASPI) (2006-Present)
  - Phasor benefits and metrics working group
  - PMU for control Application (Chair: 2018-Present)
- Joint Synchronized Information Subcommittee, Western Electricity Coordinating Council (2012-Present)
- Synchronized Measurement System, NERC, (2019-Present)
- CIGRE: Conseil International des Grands Réseaux Electriques
  - Member, C2.25, Operational Resilience
  - Member, C4C2.58, Voltage Stability Assessment in Transmission System
  - Member, C4.47, Power System Resilience
  - Member, D2.52, Artificial Intelligence Application and Technology in Power Industry
  - Member, C2.18, Wide area monitoring and Control

## ***XII. In Media***

2024

- [West Virginia getting ahead of the curve with Artificial Intelligence](#)

2023

- [Prof. Srivastava interviewed for All sides with Ann Fisher, WOSU NPR, BBC World Service on Attacks on Critical infrastructure](#)
- [Prof. Srivastava part of the Cybersecurity Grant to Help Develop Hands-On Activities](#)
- [Prof. Srivastava part of the DOE funding for Grid Resilience](#)
- [Department of Education Supports new Cyber Range co-led by Dr. Srivastava](#)
- [New Cybersecurity Educational Activities planned at WVU](#)
- [Prof. Srivastava to lead a new project for Battery Integration into the Grid](#)
- [WVU Statler College to host energy systems lab and learning space dedication](#)
- [Prof. Srivastava elected as fellow of the Asia-Pacific Artificial Intelligence Association](#)
- [From AI to electric snowplows, WVU researcher explores ways to modernize](#)
- [Prof. Srivastava to give distinguished lecture at the Mississippi State University](#)
- [Prof. Srivastava co-authors a book on Cyber Infrastructure for the Smart Electric Grid](#)
- [SG-REAL students win at the second annual Statler Graduate Student Research Symposium](#)
- [Prof. Srivastava interviewed on grid resiliency with John Dickerson, CBS News Prime Time](#)
- [Prof. Srivastava interviewed for NC Substation Attack with ABC News](#)
- [Prof. Srivastava Interviewed with WFAE, Charlotte NPR news](#)



- [SG-REAL launched open-source cyber-power systems data](#)
- [Prof. Srivastava co-authored paper, winning the 2022 Institution of Engineering Technology Best Paper Premium Award](#)
- [Prof. Srivastava co-organized the 11th Workshop on Modeling and Simulation of Cyber-Physical Energy Systems](#)
- [WVU solar-power test site in Fairmont given greenlight](#)
- [Clouds part for solar energy's prospects in West Virginia as WVU and partners build a solar-power test site in Fairmont](#)

## 2022

- [Prof. Srivastava to give keynote at the NPSC](#)
- [Prof. Srivastava to give keynote at the CARS 2022](#)
- [How to prevent power grid failures](#)
- [Prof. Srivastava interviewed with NSF Discovery Files](#)
- [SG-REAL students contribute to team efforts to the DOE CyberForce Competition](#)
- [WVU engineer aims to increase the resiliency of the power grid against cyberattacks](#)
- [Key stakeholders across the state during first industry day](#)
- [WVU Engineer Aims to Increase the Use and Reliability of Carbon Free Electricity Systems](#)
- [WVU professor develops advanced solutions for human-machine coordination](#)
- [West Virginia University researchers looking to transform power grid crisis response](#)
- [Dr. Srivastava to offer tutorial on distributed optimization at the PESGM, 2022](#)
- [Dr. Srivastava to co-chair supersession on Artificial Intelligence in Power Systems, PESGM 2022, Denver, 2022](#)
- [Dr. Srivastava to be speaker in supersession on Extreme Events and Their Impact on Power Systems at the PESGM, 2022](#)
- [WVU to join US Cyber Command Academic Engagement Network](#)
- [WVU redesignated as cybersecurity center of excellence](#)
- [Srivastava to co-chair 10th Workshop on Modeling and Simulation of Cyber-Physical Energy Systems, May 2022](#)
- [Srivastava to give webinar at MIT LIDS/ EESG, April 2022](#)
- [Partha Sarker, Graduate student in SG-REAL won the first-place award in LCSEE graduate student poster presentations](#)
- [Srivastava to give IEEE PES talk on distributed optimization for power grid, January 2022](#)
- [Srivastava to give a keynote talk, Workshop on Smart cities, January 2022](#)

## 2021

- [Srivastava to give a keynote at \*IEEE International Conference on Smart Technologies for Power, Energy and Control \(STPEC 2021\)\*](#)
- [Anurag Srivastava to give keynote at the \*International Conference on Power Systems \(ICPS\), December, 2021\*](#)
- [Srivastava Co-Chaired Workshop on Power Grid Resilience](#)
- [Srivastava Named IEEE Fellow for Power Grid Resilience Technology](#)
- [Srivastava named Chair of the Lane Department of Computer Science and Electrical Engineering](#)
- [Dr. Srivastava to Give IEEE PES Day Webinar in Columbus, Ohio](#)

- [Dr. Srivastava to give webinar for IEEE Task Force on Cyber-Physical Interdependence for Power System Operation and Control](#)
- [WSU researchers receive the 2021 Commercialization Gap Fund](#)
- [Dr. Srivastava promoted to Full professor](#)
- [Dr. Srivastava to give a keynote at the IEEE International conference on Sustainable Energy](#)

## 2020

- [Grid resilience in the face of a pandemic](#)
- [Dr. Srivastava to serve in user selection panel, ERIGrid2.0](#)
- [AI startup for electric grid resilience](#)
- [Dr. Srivastava to have a joint Appointment as a research scientist with the PNNL AGI Institute](#)
- [Dr. Srivastava to deliver IEEE Distinguish lecture at the National University of Singapore](#)

## 2019

- [Dr. Srivastava to give IEEE Distinguish Lecture at Miami, FL](#)
- [Dr. Srivastava to give keynote at CEEPE/ ICSGSC, Berkley, CA](#)
- [Energy resilience research from Dr. Srivastava featured by EnergyCentral](#)
- [Dr. Srivastava to give IEEE Big data tutorial](#)
- [Dr. Srivastava interviewed by Associated Press for Venezuela's Blackout](#)
- [Dr. Srivastava interviewed by The Seattle Times for Venezuela's Blackout](#)
- [Dr. Srivastava interviewed by SF Gate for Venezuela's Blackout](#)
- [Prof. Srivastava to give IEEE Distinguish Lecture at University of Hawaii](#)

## 2018

- [IEEE Smart grid interviews Prof. Srivastava](#)
- [Prof. Srivastava organized data analytics for the power grid workshop supported by NSF](#)
- [WSU professor works to improve smart power grids](#)
- [Faster, Smarter Decisions in Power Grid Extreme Events Aim of Research](#)

## 2017

- [WSU part of the grid distributed simulation team in two continents](#)
- [Dr. Srivastava to co-lead \\$30M international partnership to advance power grid](#)
- [Dr. Srivastava will co-lead a new \\$2.3M grant to improve U.S. power grid design](#)
- [Dr. Srivastava part of the International Energy Project](#)
- [Dr. Srivastava is part of the team to develop distributed and resilient control for the power grid](#)
- [WSU to lead international research to advance the DER integration](#)
- [WSU part of the Global RT-SuperLab for electric grid simulation](#)
- [Jacob Greig-Prine working with Dr. Srivastava wins award at the international conference](#)

## 2016

- [Dr. Srivastava was invited for IEEE PES webinar on synchrophasor applications](#)
- [Out the Hack door](#)

## 2015

- [Dr. Srivastava to participate in a new DOE ARPA-E project](#)
- [WSU to participate in National Cybersecurity Project](#)
- [SGDRIL featured in Washington State Magazine](#)
- [Dr. Srivastava is part of the \\$28.1M DOE grant to help with Cyber Security in Energy Delivery System](#)

## 2014

- [Creating a smart city by focusing on grid efficiencies](#)
- [WSU hosts major power industry event](#)
- [Sept. 7-9: Power symposium highlights stability, security](#)
- [Students take top prizes at world power, energy conference](#)

## 2013

- [Driven by energy, fueled by philanthropy](#)
- [WSU students earn the most IEEE power scholarships](#)
- [The Next Phase for Distributed Energy](#)
- [Graduate student receives top poster award](#)

## 2012

- [K-12 Outreach and Educational Initiatives Within the Power Industry](#)
- [WSU Student Receives Second Place in Annual Power Engineering Conference](#)
- [Anurag Srivastava Selected to Participate in Leading Engineering Education Symposium](#)
- [Conference the first to look at synchrophasor testing for smart grid](#)
- [IEEE Conformity Assessment Program \(ICAP\) and Washington State University Laboratory Host First Synchrophasor Conference Focusing on Testing for the Smart Grid](#)
- [First-Ever Conference Looks at Synchrophasor Testing for Smart Grid](#)

## 2011

- [IEEE Conformity Assessment Program \(ICAP\) and Washington State University Laboratory Sign Memorandum of Understanding to Develop Conformance Framework for Synchrophasors](#)
- [WSU to become a smart grid testing lab](#)
- [Smart Grid Lab Gets Underway](#)