

Mohammed Ben-Idris (Benidris)

University of Nevada, Reno, Electrical & Biomedical Engineering
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SUMMARY VITAE

Present Position: Assistant Professor, [University of Nevada, Reno](#)

Education:

- Ph.D. in Electrical, [Michigan State University](#), December 2014
- M.Sc. in Electrical, [University of Benghazi \(formerly: Garyounis University\)](#), Libya, May 2005
- B.Sc. in Electrical, University of Benghazi, Libya, December 1998

Other Certifications: Certification in College Teaching, Michigan State University and Certificate in Effective College Instruction, Association of College and University Educators (ACUE)

Area of interest:

Power system reliability, stability, security and resilience, smart grid, microgrid control cyber-physical energy systems, parallel computation, integration of renewable energy sources.

Academic Experience:

- Assistant Professor, University of Nevada, Reno, (July 2016 – Present)
- Research Associate & Visiting Lecturer, Michigan State University, (Jan. 2015 – June 2016)
- Research Assistant, Michigan State University, (September 2009 – December 2014)
- Lecturer, University of Benghazi, Libya, (May 2005 – August 2009)

Industrial Experience:

- General Electric Company of Libya (GECOL), (January 1999 – May 2005)

Leadership Activities:

- Chair, IEEE Northern Nevada Section
- Chair, IEEE Taskforce on Power System Resilience Metrics and Evaluation Methods
- Secretary, IEEE PES Reliability, Risk and Probability Applications
- Director, E-RESILIENCE Research Laboratory

Grantsmanship Experience:

- PI, NSF CAREER Award: Reliability and Resilience Assurance of Cyber-Physical Energy Systems, 03/01/2019–02/29/2024; \$500,000
- PI, Five NSF CAREER Supplements: 01/01/2020–06/30/2024; \$275,000
- PI, NSF RET Site: Next-generation Clean Energy Sources and Storage (09/01/2021–08/31/2024; \$599,796)
- Co-PI, DOE: Optimization of Excess Solar and Storage Capacity for Grid Services; 08/01/2020–07/31/2023; \$5,000,000 (our share ~\$1,000,000)
- Co-PI, NSF: Data-Driven Situational Awareness for Resilient Operation of Distribution Networks; 09/01/2020–08/31/2023; \$400,000; our share \$250,000
- Co-PI, DOE: Quantifying the Resilience Value of Solar Plus Storage in Reno; 06/01/2020–05/31/2021; \$59,276

Awards:

- Seven teaching awards, IEEE chapter, University of Nevada, Reno, 2017, 2018, and 2019
- Two professional development awards, IEEE Region 6, 2017 and 2018
- Outstanding Research Performance, Michigan State University, Spring 2012

DETAILED VITAE

RESEARCH AREA OF INTEREST

Electric Power and Energy Systems

Present Research Focus

- Resilience and Reliability Enhancement of Cyber-physical Energy Systems
- Dynamic Clustering of Excess Solar and Storage Capacity for Grid Services
- Microgrid Stability and Control
- Power System Reliability and Security

Broad Area

- Power system reliability, stability, security and resilience
- Microgrid control
- Integration of renewable energy sources
- Reliability of power electronic converters
- Reduction of emissions from power generation
- Developing Power flow models
- Parallel Computations

EDUCATION

Doctor of Philosophy, Electrical Engineering (September 2009 – December 2014)

[Michigan State University](#), East Lansing, MI

Dissertation: “Applications of Sensitivity Analysis in Planning and Operation of Modern Power Systems”

Advisor: Prof. Joydeep Mitra

Master of Science, Electrical Engineering (September 2001 – May 2005)

[University of Benghazi \(formerly known as Garyounis University\)](#), Benghazi, Libya

Thesis: “High Voltage Direct Current Power Transmission”

Advisors: Prof. Abdulghader Al-Jaleel and Prof. Abdulhafid Al-Faituri

Bachelor of Science, Electrical Engineering (September 1993 – December 1998)

[University of Benghazi](#), Benghazi, Libya

Final Project: “Transient Modeling of a Steam Turbine Driven Generator”

Advisors: Prof. Mohammed Boamoud and Prof. Mohammed Elmusrati

ACADEMIC EXPERIENCE

- **Appointments**

[University of Nevada, Reno](#), Reno, NV (July 2016 – Present)

Assistant Professor, [Department of Electrical and Biomedical Engineering](#)

[Michigan State University](#), East Lansing, MI (January 2015 – June 2016)

Research Associate, [Department of Electrical & Computer Engineering](#)

Visiting Lecturer, Department of Electrical & Computer Engineering (ECE)

Associate Director, [Energy Reliability & Security \(ERiSe\)](#) Research Laboratory

[Michigan State University](#), East Lansing, MI (September 2009 – December 2014)

Research & Teaching Assistant, ECE Department

University of Benghazi, Benghazi, Libya (May 2005 – August 2008)

Lecturer, Department of Electrical and Electronic Engineering

Chair, Engineering Departments of Elmaraj branch, University of Benghazi

Consultant, Engineering Research and Libyan Standards Center

University of Benghazi, Benghazi, Libya (September 2001 – April 2005)

Teaching Assistant, Department of Electrical and Electronic Engineering

- **Funded Research Projects**

University of Nevada, Reno

NSF CAREER Award: Reliability and Resilience Assurance of Cyber-Physical Energy Systems (03/01/2019–02/29/2024; \$500,000).

The overall objectives of this project are to (1) develop methods to model propagations of failures and attacks through system layers; and (2) determine key factors and establish algorithmic solutions that help prevent future power grids from catastrophic failures.

PI: Five supplements for my NSF CAREER Award: Non-Academic Research Internships for Graduate Students (INTERN).

NSF Grants (03/01/2019–02/29/2024; \$275,000)). These supplements support my PhD students to conduct research at non-academic research institutions: GEIRI North America, EnerNex LLC, Quanta Technology LLC, and National Renewable Laboratory.

PI, NSF Grant: RET Site: Next-generation Clean Energy Sources and Storage (09/01/2021–08/31/2024; \$599,796).

The main goals of this Research Experiences for Teachers (RET) Site project are to (1) immerse middle and high school science teachers in a hands-on research experience; (2) promote discoveries and innovations in this field among middle and high school students and expose them to STEM career opportunities; and (3) increase awareness of society's need for environmentally-friendly sustainable energy sources.

Co-PI, Optimization of Excess Solar and Storage Capacity for Grid Services. DOE Grant (08/01/2020–07/31/2023; \$5M (\$3M Federal & \$2M costshare)).

This project is led by NV Energy and our share is \$1M (\$800,000 Federal and \$200,000 costshare). This project will advance utility demand response (DR) operations through coordination and integration of behind-the-meter (BTM) photovoltaic systems (PV) and energy storage (ES) via novel machine learning software applications embedded in a distributed control architecture. The project seeks to unleash the capability of these distributed energy resource (DER) types to provide more flexible and faster acting grid services.

Co-PI, NSF Grant: Collaborative Research: Data-Driven Situational Awareness for Resilient Operation of Distribution.

NSF Grant (09/01/2020–08/31/2023; \$400,000). This is a collaborative project with University of Illinois at Chicago led by UNR. The objectives of this project include developing new methods to integrate multi-rate time-series data sets in distribution networks with inverter-based DERs for network events and situational assessment; establishing an enforced coherency-based aggregation for clustering inverter-based DERs, even if they are initially non-coherent; and developing a stability-based optimization framework for boundary identification of autonomously islanded stable clusters of heterogeneous DERs and flexible loads during grid outages.

Co-PI, DOE Grant: Quantifying the Resilience Value of Solar Plus Storage in Reno.

DOE Grant (06/01/2020–05/31/2021); \$59,276. This project is led by City of Reno and collaboration with Nevada Governor’s Office of Energy, NV Energy, Ameresco, and UNR. The team is working to quantify the financial value of resilience benefits from solar-plus-storage systems and apply that value to energy performance contracts. The project aims to create a highly transferable valuation model, develop a proof of concept for how the value of resilience can be incorporated into energy performance contracts, and advance city- and county-level policy direction for integrating solar-plus-storage applications into emergency response and public safety facilities and networks.

[Michigan State University](#) (October 2012 – March 2016)

Post-doc: A Lyapunov Function Based Remedial Action Screening Tool Using Real-Time Data,

supported by US Department of Energy; \$1,85,000 (\$1,500,000 Federal and \$350,000 Costshare) and lead PI Prof. Joydeep Mitra. The objectives of this project were (i) to develop a composite Lyapunov function based method of transient stability analysis that can be solved at real-time speed without the use of massively parallel computation resources, and (ii) to apply the developed method to perform remedial action screening at real-time speed.

• Mentoring and Student Advising

- Md Kamruzzaman (PhD., January 2017 – December 2020)
- Michael Abdelmalak (PhD., August 2018 – present)
- Narayan Bhusal (PhD., January 2019 – August 2021)
- Mukesh Gautam (PhD., August 2019 – present)
- Jitendra Thapa (PhD., January 2021 – present)
- Ramkrishna Mishan (PhD., January 2021 – present)
- Rakib Hossain (PhD., Co-advised with Dr. Hanif Livani, January 2021 – present)
- Mohammad Mansour (PhD., Co-advised with Dr. Hanif Livani, January 2021 – present)
- Nia Alexander (MSc., June 2021 – Present)
- Phillip Pratt (MSc., January 2020 – Present)

- Michael Reed (BSc., August 2017 – May 2018)
- Michelle Falcon Mujica (BSc., January 2019 – May 2020)
- Benjamin Fritz (BSc., January 2019 – May 2020)
- Rachael Young (BSc., August 2019 – December 2019)
- Matthew Egan (BSc., August 2019 – May 2021)
- David Nichols (BSc., August 2019 – May 2021)
- Antonio Robles (BSc., August 2019 – December 2020)
- Jonathon Stauffer (BSc., August 2019 – December 2020)
- Andrew Harris (BSc., January 2021 – Present)

- **Alumni**

- Narayan Bhusal (PhD., August 2021)
- Md Kamruzzaman (PhD., December 2020)
- Michelle Falcon Mujica (BSc., May 2020)
- Michael Reed (BSc., May 2018)
- Benjamin Fritz (BSc., May 2020)
- Matthew Egan (BSc., May 2021)
- David Nichols (BSc., May 2021)
- Antonio Robles (BSc., December 2020)
- Jonathon Stauffer (BSc., December 2020)

- **Courses Taught**

- At University of Nevada, Reno:
 - * EE 768: Power System Stability and Control, Fall 2021
 - * EE 769: Power System Reliability and Resilience, Fall 2020
 - * EE 768: Power System Stability and Control, Fall 2019
 - * EE 221: Circuits II: Fall 2019
 - * EE 362: Signals and Systems: Fall 2016, Fall 2017, Spring 2018, Fall 2018, Spring 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2021
 - * EE 645/EE 445: Power System Operation and Control with Renewable Energy Sources: Spring 2017
 - * MINE 425/MINE625: Engineering Power, Spring 2020, Guest Lecturer
 - * ENGR 110: Introduction to Renewable Energy, Fall 2019, Guest Lecturer
 - * EE 330: Engineering Electromagnetics, Spring 2018, Guest Lecturer
- Online:
 - * Resilient Controls for the Power Grid; led by Mr. Tim McJunkin and Dr. Craig Rieger from Idaho National Laboratory (INL) and Prof. Brian K. Johnson from University of Idaho; Fall 2018, Fall 2019, Fall 2020, and Fall 2021
- At Michigan State University (Visiting Lecturer):
 - * ECE 345 Electronic Instrumentation and Systems: Spring 2015, Fall 2015, and Spring 2016
- At Michigan State University (Teaching Assistant):

- * ECE 345 Electronic Instrumentation and Systems: Fall 2014

- At University of Benghazi (Lecturer):

- * EE 211 Circuits and Systems I: Fall 2005 – Spring 2008
- * EE 212 Circuits and Systems II: Fall 2005 – Spring 2008
- * EE 281 Circuits and Systems Lab I: Fall 2006 – Spring 2007
- * EE 282 Circuits and Systems Lab II: Fall 2006 – Spring 2007
- * EE 384 Electric Machines Lab: Fall 2005 – Spring 2008
- * EE 494 Power System Lab: Spring 2007 & Spring 2008
- * EE 486 Engineering Reliability: Fall 2007 – Spring 2008

- At University of Benghazi (Teaching Assistant):

- * EE 384 Electric Machines Lab: Fall 2001 – Spring 2005
- * EE 494 Power System Lab: Spring 2004 & Spring 2005

- **Short Courses Taught**

4. Transformer Earthing and Protection, Benghazi–Libya, 2006, 18 hours of teaching. Conducted by University of Benghazi and targeted to Engineers of General Electric Company of Libya
3. Circuit Breakers – Review and Selection, Benghazi–Libya, 2006, 18 hours of teaching. Conducted by University of Benghazi and targeted to Engineers of General Electric Company of Libya
2. Blackout Restoration, Benghazi – Libya, 2007, 24 hours of teaching. Conducted by University of Benghazi and targeted to Engineers of General Electric Company of Libya
1. Transient Stability Analysis of Faults at Generator Terminals, Benghazi – Libya, 2007, 24 hours of teaching. Conducted by University of Benghazi and targeted to Engineers of General Electric Company of Libya

INDUSTRY EXPERIENCE

Appointments

September 2001 – May 2005

Electrical Engineer

General Electric Company of Libya (GECOL), Benghazi, Libya

Engineer at the operating center of Benghazi Steam and Gas power plants

Electrical maintenance engineer

Leader of several field works including:

- Transformer testing and replacement
- Gas turbine maintenance
- Generator maintenance
- Earthing resistance for lighting arresters

A committee chair for interviewing and hiring engineers at the GECOL

January 1999 – September 2001

Electrical Engineer

General Electric Company of Libya (GECOL), Elkoufra, Libya

Engineer at the operating center of Elkoufra Gas power plant

Electrical maintenance engineer

Leader of several field works including: • Generator protection settings

• Protection wirings and CT replacement • Gas turbine maintenance.

Technical Projects

- Gas Turbine inspection and maintenance: five times, twice at Elkoufra Power Plant–Libya, FIAT type and three times at Benghazi Power Plant–Libya, ABB-Alstom GT13E1.
- Commissioning of ABB-Alstom GT13E1 Gas Turbine at North Benghazi Power Plant.
- Commissioning of DAEWOO two combined cycle units with capacity of 150 MW each at North Benghazi Power Plant.

Technical Services

- Provided appropriate recommendation and suggestions in control, protection and wiring systems during commissioning.
- Investigate problems and recommend solutions for control and protection system equipment commissioning.
- Prepared reports detailing current systems and changes to each site for control and earthing systems in high and medium voltage substations.
- Planned and estimated costs on projects for installation of new transformers and lightning arresters.
- Commissioned control equipment of high and medium voltage substations to purchase material and equipment for new projects.

Technical Review

Reviewed and approved contract documents and specifications and recommending alternatives as needed for General Electric Company of Libya.

PROFESSIONAL AND COMMUNITY SERVICE

Proposals, Papers, and Books Review

- Review Panels for several funding agencies
- IEEE Transactions on Power Systems
- IEEE Transactions on Sustainable Energy
- IEEE Transactions on Smart Grid
- IEEE Transactions on Industry Applications
- IEEE Transactions on Power Electronic
- IEEE Transactions on Industrial Electronic
- Journal of Applied Sciences
- Journal of Sustainability
- Journal of Renewable Energy
- SpringerPlus Journal
- IET Journals: Generation Transmission and Distribution; Renewable Power Generation

- International Journal of Electrical Power and Energy Systems
- Journal of Multi-Criteria Decision Analysis
- IEEE Power Engineering Society Conferences (General Meetings & Transmission and Distribution Conference and Exposition)
- IEEE Industry Applications Society Annual Meeting
- International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)
- North American Power Symposium
- Book chapters

Professional Service (Committees)

- Chair, IEEE Northern Nevada Section; January 2019 – present
- Chair, IEEE Taskforce on Power System Resilience Metrics and Evaluation Methods, August 2020 – present
- Secretary, IEEE PES Reliability, Risk and Probability Applications; August 2020 – present
- Members development, IEEE Northern Nevada Section; Jan. 2017 – Dec. 2018
- Vice Chair, IEEE Northern Nevada Section; August 2016 – December 2017
- Advisor, IEEE Industry Application Society, Students Chapter, University of Nevada, Reno; October 2018 – present
- Local committee chair, Electrical Safety Workshop (ESW), Reno, Nevada — IEEE Industry Applications Society, 2023
- Local committee chair, Electrical Safety Workshop (ESW), Reno, Nevada — IEEE Industry Applications Society, 2020
- Local committee member, Electrical Safety Workshop (ESW), Reno, Nevada — IEEE Industry Applications Society, 2017
- Local committee member, 2017 Northwest Public Power Association Engineering & Operations Conference and Trade Show in Reno

Professional Service (Conferences and Workshops)

- Panel Co-Chair, “Power grid resilience under climate change,” IEEE Power & Energy Society General Meeting, Washington, DC, USA, 2020
- Panel Chair, “Energy Storage Technologies,” IEEE Power & Energy Society General Meeting, Washington, DC, USA, 2020
- Panel Co-Chair, “Energy Storage Grid Integration,” IEEE Power & Energy Society General Meeting, Washington, DC, USA, 2020
- Panel Chair, IEEE Power & Energy Society General Meeting, Atlanta, GA, USA, 2019
- Session Chair, North American Power Symposium, Denver, CO, USA, 2016; Morgantown, WV, USA, 2017; Fargo, ND, USA, 2018; and Wichita, KS, 2019,
- Session Chair, IEEE Power & Energy Society General Meeting, Portland, OR, USA, 2018; and Atlanta, GA, USA, 2019
- Session Chair, International Conference on Probabilistic Methods Applied to Power

Systems (PMAPS), Boise, ID, USA, 2018

University Service

- Chair, College of Engineering Research Committee; May 2019 – March 2020.
- Member, Education Differential Fee Allocation Committee; August 2019 – present
- Member, Cyberinfrastructure Committee (CiC), University of Nevada, Reno; January 2018 – present
- Member, Early Career Academic Faculty Committee (ECAFC), August 2020 – present
- Advising graduate and undergraduate students, (August 2016 – present)

PROFESSIONAL SOCIETY & COMMITTEE MEMBERSHIP

- Member, [Institute of Electrical and Electronics Engineers \(IEEE\)](#)
- Member, [IEEE Power and Energy Society](#)
- Member, [IEEE Education Society](#)
- Member, [IEEE Industry Applications Society](#)
- IEEE Power System Analysis, Computing, and Economics Committee
 - Reliability, Risk and Probability Applications subcommittee (RRPA)
 - Chair, RRPA TF on Resilience Metrics and Evaluation Methods for Power Systems
 - Member, RRPA TF on Reliability Considerations in Emerging Cyber-Physical Electrical Energy Systems
 - Member, RRPA TF on Reliability Impact of Demand Side Resources
 - Member, RRPA WG on LOLE Best Practices Planning
 - Member, RRPA WG on Probability Application for Common Mode Events in Electric Power Systems (PACME)
 - Intelligent Systems Subcommittee (ISS)
 - Member, ISS WG on Intelligent Control Systems
 - Member, ISS TF on Micro-Grid Control Systems
- IEEE Power Systems Operations Committee
 - Member, TF on Real-Time Contingency Analysis
- IEEE Transmission and Distribution Committee
 - Member, WG on Distribution Reliability
 - Member, WG on Wind and Solar Power Plants System Impacts and Interconnection Requirements
 - Member, TF on Wind Farm Collector System Grounding for Personal Safety
- IEEE Wind and Solar Coordinating Committee
 - Member, TF on Capacity Value of Solar Power

AWARDS

- Most Favorite Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2021
- Most Helpful Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2021

- Most Helpful Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2019
- Most Supportive Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2019
- Most Helpful Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2018
- Most Supportive Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2018
- 2018 Outstanding Section Membership Recruitment and Retention Performance, 2018
- 2017 Outstanding Section Membership Recruitment and Retention Performance, 2017
- Most Involved Professor, IEEE Student's Chapter, University of Nevada, Reno, Spring 2017
- Grad Assistantship, Michigan State University, teaching ECE 345, Fall 2014
- Scholarship for High Performance Computers and Parallel Computation at University of Iowa Summer School, Summer 2013
- Outstanding Research Performance, Michigan State University, Spring 2012.

TRAINING

- **Teaching:**

- An Introduction to Evidence-Based Undergraduate STEM Teaching (*passed with distinction*).
- Creating an interactive classroom environment
- The use of technology in teaching
- Establishing Powerful Learning Outcomes
- Aligning Assessments With Course Outcomes
- Aligning Activities and Assignments With Course Outcomes
- Developing Fair, Consistent, and Transparent Grading Practices
- Preparing an Effective Syllabus
- Effective Teaching Practices
 - * Leading the First Day of Class
 - * Motivating Your Students
 - * Connecting With Your Students
 - * Helping Students Persist in Their Studies
 - * Planning an Effective Class Session
 - * Checking for Student Understanding
 - * Delivering an Effective Lecture
 - * Teaching Powerful Note-Taking Skills
 - * Developing and Using Rubrics and Checklists
 - * Providing Useful Feedback
 - * Using Concept Maps and Other Visualization Tools
 - * Engaging Underprepared Students
 - * Planning Effective and Engaging Class Discussions
 - * Using Active Learning Techniques in Small Groups
 - * Using Active Learning Techniques in Large Classes
 - * Using Advanced Questioning Techniques

- * Developing Self-Directed Learners
- * Using Student Achievement and Feedback to Improve Your Teaching
- * Embracing Diversity in Your Classroom
- * Promoting a Civil Learning Environment

- **Research Ethics:**

- Conflict of Interest, Peer Review, and Collaboration/Teamwork
- Scientific Communications, Rights to Data, and Authorship
- Crediting the Works of Others and Avoiding Plagiarism
- Misconduct in Research and Creative Activities
- Protecting Human Research Participants
- Responsible Mentoring
- The Care and Use of Animals in Research

- **Professional Development:**

- Writing Science: How to Write Papers that Get Cited and Proposals that Get Funded
- Being an Early Career Scholar
- Write Winning Grant Proposals
- New Principal Investigator Workshop
- Mastering Academic Time Management
- STEM (NIH/NSF) Proposal Writing Workshop

- **Technology:**

- High Performance Computers and Parallel Computation, iCER Michigan State University.
- High Performance Computers and Parallel Computation, University of Iowa.
- The use of MPI and OpenMP, iCER Michigan State University.
- The use of CUDA in parallel computation, iCER Michigan State University.

PUBLICATIONS

Ph.D. Dissertation:

“Applications of Sensitivity Analysis in Planning and Operation of Modern Power Systems.” Adviser: Prof. Joydeep Mitra, published by ProQuest, UMI Dissertations Publishing, 2014.

Book Chapters:

3. J. Mitra, M. Benidris and N. Nguyen, “Dynamic Contingency Analysis and Remedial Action Tools for Secure Electric Cyber-Physical Systems,” in *Cyber-Physical-Social Systems and Constructs in Electric Power Engineering*. Editors: Siddharth Suryanarayanan, Robin Roche and Timothy Hansen, IET.
2. S. Elsaiah, M. Benidris and J. Mitra, “Reliability-Constrained Optimal Distribution System Reconfiguration,” in *Computational Intelligence Applications in Modeling and Control*, Studies Comp. Intelligence, Vol. 575, (Editors: Ahmad Taher Azar and Sundara-

pandian Vaidyanathan), Springer.

1. M. Benidris, S. Elsaiah and J. Mitra, "Applications of the Particle Swarm Optimization in Composite Power System Reliability Evaluation," Handbook of Research on Swarm Intelligence in Engineering, Eds. S. Bhattacharyya and P. Dutta, IGI Global, Hershey, PA, USA, 2015.

Patents:

1. J. Mitra, M. Benidris, and N. Cai, "Tool Employing Homotopy-Based Approaches in Finding the Controlling Unstable Equilibrium Point in the Electric Power Grid," US Patent 10,097,000, October 9, 2018. [Online].
Available: <https://patents.google.com/patent/US20160041232A1/en>

Journal and Magazine Publications:

24. Mohammed Benidris , Michael Brown , Matthew Egan , Zhenyu Huang , Joydeep Mitra "Utility-Scale Shared Energy Storage," IEEE Electrification Magazine, Volume 9, Issue 4, December, 2021
23. Md. Kamruzzaman, Xiaohu Zhang, Michael Abdelmalak, Di Shi, and Mohammed Benidris, "A Data-driven Accurate Battery Model to Use in Probabilistic analyses of Power Systems," Journal of Energy Storage, Accepted, 2021
22. Md. Kamruzzaman, Narayan Bhusal, and Mohammed Benidris, "A Convolutional Neural Network-based Approach to Composite Power System Reliability Evaluation," International Journal of Electrical Power & Energy Systems, Accepted, 2021.
21. M. Kamruzzaman, J. Duan, D. Shi and M. Benidris, "A Deep Reinforcement Learning-based Multi-Agent Framework to Enhance Power System Resilience using Shunt Resources," in IEEE Transactions on Power Systems, doi: 10.1109/TPWRS.2021.3078446, 2021
20. N. Bhusal, M. Gautam, R.M. Shukla, M. Benidris, and S. Sengupta, "Coordinated data falsification attack detection in distributed generation domain using deep learning," International Journal of Electrical Power & Energy Systems, Accepted, 2021.
19. N. Bhusal, M. Gautam and M. Benidris, "Detection of Cyber Attacks on Voltage Regulation in Distribution Systems Using Machine Learning," in IEEE Access, vol. 9, pp. 40402-40416, 2021
18. Bhusal, N., Gautam, M., Shukla, R., Benidris, M., Sengupta, S., "Deep Ensemble Learning-based Approach to Real-time Power System State Estimation," International Journal of Electrical Power and Energy Systems, Volume 129, 2021.
17. M. Abdelmalak and M. Benidris, "A Polynomial Chaos-based Approach to Quantify Uncertainties of Correlated Renewable Energy Sources on Voltage Regulation," IEEE Transactions on Industrial Applications Society (IAS), 2021, doi: 10.1109/TIA.2021.3057359.
16. N. Bhusal, M. Abdelmalak, M. Kamruzzaman and M. Benidris, "Power System Resilience: Current Practices, Challenges, and Future Directions," in IEEE Access, vol. 8, pp. 18064-18086, 2020.
15. MD Kamruzzaman, Mohammed Benidris, "A reliability-constrained demand response-

- based method to increase the hosting capacity of power systems to electric vehicles,” *International Journal of Electrical Power & Energy Systems*, vol. 121, 2020,
14. J. Mitra, X. Xu and M. Benidris, “Reduction of Three-Phase Transformer Inrush Currents Using Controlled Switching,” in *IEEE Transactions on Industry Applications*, vol. 56, no. 1, pp. 890-897, Jan.–Feb. 2020.
 13. J. Mitra and M. Benidris, “A Homotopy-based Method for Robust Computation of Controlling Unstable Equilibrium Points,” *IEEE Transactions on Power Systems*, vol. 35, no. 2, pp. 1422–1431, March 2020.
 12. M. Kamruzzaman and M. Benidris, “Reliability-Based Metrics to Quantify the Maximum Permissible Load Demand of Electric Vehicles,” *IEEE Transactions on Industry Applications*, vol. 55, no. 4, pp. 3365–3375, July–Aug. 2019.
 11. T. Yuting, A. Bera, M. Benidris, and J. Mitra, “Stacked Revenue and Technical Benefits of a Grid-connected Energy Storage System,” *IEEE Transactions on Industry Applications*, vol. 54, no. 4, pp. 3034–3043, April 2018.
 10. M. Benidris, J. Mitra, and C. Singh, “Integrated Evaluation of Reliability and Stability of Power Systems,” *IEEE Transactions on Power Systems*, vol. 32, no. 5, pp. 4131–4139, Jan. 2017.
 9. J. Mitra, M. Benidris, N. Nguyen, and S. Deb, “A Visualization Tool for Real-Time Dynamic Contingency Screening and Remedial Actions,” *IEEE Transactions on Industry Applications*, vol. 53, no. 4, pp. 3268–3278, March 2017.
 8. S. Sulaeman, T. Yuting, M. Benidris, and J. Mitra, “Quantification of Storage Necessary to Firm Up Wind Generation,” *IEEE Transactions on Industry Applications*, vol. 53, no. 4, pp. 3228–3236, March 2017.
 7. S. Sulaeman, M. Benidris, and J. Mitra, “A Wind Farm Reliability Model Considering Both Wind Variability and Turbine Forced Outages,” *IEEE Transactions on Sustainable Energy*, vol. 8, no. 2, pp. 629–637, Sept. 2017.
 6. M. Benidris, S. Elsaiah and J. Mitra, “An Emission-Constrained Approach to Power System Expansion Planning,” *International Journal of Electrical Power & Energy Systems*, vol. 81, Pages 78–86, Oct. 2016.
 5. M. Benidris and J. Mitra, “Reliability and Sensitivity Analysis of Composite Power Systems under Emission Constraints,” *IEEE Transactions on Power Systems*, vol. 29, no. 1, pp. 402–4012, Jan. 2014.
 4. S. Elsaiah, M. Benidris and Joydeep Mitra, “Analytical approach for placement and sizing of distributed generation on power distribution system,” *IET Generation, Transmission and Distribution*, vol. 8, no. 6, pp. 1039–1049, 2014.
 3. S. Elsaiah, N. Cai, M. Benidris and J. Mitra, “Fast Economic Power Dispatch Method for Power System Planning Studies,” *IET Generation, Transmission and Distribution*, vol. 9, no. 5, pp. 417–426, 2015.
 2. M. Benidris and J. Mitra, “Reliability and Sensitivity Analysis of Composite Power Systems Considering Voltage and Reactive Power Constraints,” *IET Generation, Transmission and Distribution*, vol. 9, no. 12, pp. 1245–1253, 2015.
 1. M. Benidris, S. Elsaiah and J. Mitra, “Power System Reliability Evaluation using a State

Space Classification Technique and Particle Swarm Optimization Search Method,” IET Generation, Transmission and Distribution, vol. 9, no. 14, pp. 1865–1873, 2015.

Peer-Reviewed Conference Proceedings:

101. Mohammed Benidris, Narayan Bhusal, Michael Abdelmalak, Mukesh Gautam, Matthew Egan, Suzanne Groneman, and Timothy Farkas, “Quantifying Resilience Value of Solar plus Storage in City of Reno,” Idaho National Laboratory Resilience Week, 2021 (Accepted)
100. Narayan Bhusal, Andrija Sadikovic, and Mohammed Benidris, “Hosting Capacity Approach Implications,” Accepted at the Grid of the Future (GOTF) conference, USA, 2021.
99. M. Abdelmalak, S. Morash, A. Snyder, and M. Benidris, “Reinforced Learning-based Approach Utilizing Topology Reconfiguration to Enhance Operational Resilience against Hurricane,” Accepted at the Grid of the Future (GOTF) conference, USA, 2021.
98. Mukesh Gautam, Narayan Bhusal, and Mohammed Benidris, “A Cooperative Game Theory-based Approach to Sizing and Siting of Distributed Energy Resources,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
97. Mukesh Gautam, Narayan Bhusal, Mohammed Benidris, and Hanif Livani., “A Cooperative Game Theory-based Secondary Frequency Regulation in Distribution Systems,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
96. Matthew S. Egan and Mohammed Benidris, “A Case Study on Home Microgrid Effectiveness and Resiliency Return on Investment,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
95. Jitendra Thapa, Mohammad MansourLakouraj, Mukesh Gautam, Michael Abdelmalak, Mohammed Benidris, and Hanif Livani, “Real-time Optimal Dispatch of Behind-the-Meter DERs for Secondary Frequency Regulation,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
94. Rakib Hossain, Mohammad MansourLakouraj, Amir Ghasemkhani, Hanif Livani, Mohammed Benidris, “Deep Reinforcement Learning-based Volt-Var Optimization in Distribution Grids with Inverter-based Resources,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
93. Mohammad MansourLakouraj, Rakib Hossain, Hanif Livani, Mohammed Benidris, “Application of Graph Neural Network for Fault Location in PV Penetrated Distribution Grids,” The 53rd North American Power Symposium, Texas A&M University, College Station, Texas, 2021
92. Mohammad MansourLakouraj, Mukesh Gautam, Hanif Livani, Mohammed Benidris, and Poria Fajri, “Multi-Timescale Risk-Constrained Volt/VAR Control of Distribution Grids,” The IEEE PES ISGT (Innovative Smart Grid Technologies) Europe 2021 (ISGT Europe 2021), Espoo, Finland, October 2021.
91. Michael Abdelmalak and Mohammed Benidris, “Resilience Assessment Approach for

- Transmission Systems Considering Uncertainties of Ice Storms,” IEEE International Conference on Environment and Electrical Engineering, Bari, Italy, 2021
90. Mukesh Gautam, Narayan Bhusal, Jitendra Thapa, and Mohammed Benidris, “A Cooperative Game Theory-based Approach to Compute Participation Factors of Distributed Slack Buses,” International Conference on Smart Energy Systems and Technologies (SEST), Vaasa, Finland, 2021
 89. Michael Abdelmalak and Mohammed Benidris, “A Proactive Resilience Enhancement Strategy to Electric Distribution System during Hurricanes,” International Conference on Smart Energy Systems and Technologies (SEST), Vaasa, Finland, 2021
 88. Michael Abdelmalak and Mohammed Benidris, “Proactive Generation Redispatch Strategy Considering Unavailability of Renewable Energy Sources during Hurricanes,” Accepted, 56th IEEE Industry Applications Society Annual Meeting, Vancouver, British Columbia, Canada, 2021
 87. Michael Abdelmalak and Mohammed Benidris, “A Markov Decision Process to Enhance Power System Operation Resilience during Wildfires,” Accepted, 56th IEEE Industry Applications Society Annual Meeting, Vancouver, British Columbia, Canada, 2021
 86. Narayan Bhusal, Mukesh Gautam, and Mohammed Benidris, “Cyber-attack Detection on Distributed Frequency Control of Islanded MGs Using Machine Learning,” Accepted, 56th IEEE Industry Applications Society Annual Meeting, Vancouver, British Columbia, Canada, 2021
 85. Mukesh Gautam, Narayan Bhusal, and Mohammed Benidris, “A Cooperative Game Theory-based Approach to Under-frequency Load Shedding Control” IEEE Power and Energy Society General Meeting, 2021, Washington DC
 84. MD Kamruzzaman, Michael Abdelmalak, Salem Elsaiah, and Mohammed Benidris, “A Data-driven Shunt Dispatch Approach to Enhance Power System Resilience against Windstorms” IEEE Power and Energy Society General Meeting, 2021, Washington DC
 83. Michael Abdelmalak and Mohammed Benidris, “A Markov Decision Process to Enhance Power System Operation Resilience during Hurricanes” IEEE Power and Energy Society General Meeting, 2021, Washington DC
 82. Michael Abdelmalak, Md Kamruzzaman, Hossein Hooshyar, Evangelos Farantatos, George Stefopoulos, Rahul Kadavil, and Mohammed Benidris, “PSS/E to RSCAD Model Conversion for Large Power Grids: Challenges and Solutions,” IEEE Power and Energy Society General Meeting, 2021, Washington DC
 81. M. Gautam, H. Livani, M. Benidris, “Fuzzified PaCcET for Economic-Emission Scheduling of Microgrids,” IEEE Texas Power and Energy Conference, 2021
 80. M. Gautam, N. Bhusal, M. Benidris, and P. Fajri, “A GA-Based Approach to Eco-Driving of Electric Vehicles Considering Regenerative Braking,” the 8th IEEE Technologies for Sustainability Conference, SusTech 2021
 79. Michael Abdelmalak and Mohammed Benidris, “Proactive Generation Redispatch to Enhance Power System Operation Resilience during Hurricanes,” The 52nd North American Power Symposium, Tempe, Arizona, April 11–13, 2021.
 78. Matthew Egan, Mohammed Benidris and Suzanne Linfante, “Methods of Renewable

- Energy Expansion for Municipal Governments,” The 52nd North American Power Symposium, Tempe, Arizona, April 11–13, 2021.
77. Narayan Bhusal, Mukesh Gautam and Mohammed Benidris, “Cybersecurity of Electric Vehicle Smart Charging Management Systems,” The 52nd North American Power Symposium, Tempe, Arizona, April 11–13, 2021.
 76. Narayan Bhusal, Mukesh Gautam, Mohammed Benidris and Sushil Louis, “Optimal Sizing and Siting of Multi-purpose Utility-scale Shared Energy Storage Systems,” The 52nd North American Power Symposium, Tempe, Arizona, April 11–13, 2021.
 75. M. Abdelmalak and M. Benidris, “A Polynomial Chaos-based Approach to Quantify Uncertainties of Correlated Renewable Energy Sources on Voltage Regulation,” 55th IEEE Industry Applications Society Annual Meeting, Detroit, Michigan, USA, 2020
 74. N. Bhusal, M. Gautam, M. Benidris, and S. J. Louis, “A Spanning Tree-based Genetic Algorithm for Distribution Network Reconfiguration,” 55th IEEE Industry Applications Society Annual Meeting, Detroit, Michigan, USA, 2020
 73. M. Benidris, S. Sulaeman, and J. Mitra, “A Direct Method to Calculate Capacity Value of Variable Energy Resources for peer review,” 55th IEEE Industry Applications Society Annual Meeting, Detroit, Michigan, USA, 2020
 72. M. Kamruzzaman, X. Zhang, M. Abdelmalak, M. Benidris, D. Shi, “A Method to Evaluate the Maximum Hosting Capacity of Power Systems to Electric Vehicles,” International Conference on Probabilistic Methods Applied to Power Systems, Liege, Belgium, 2020.
 71. N. Bhusal, M. Gautam, M. Abdelmalak, and M. Benidris, “Modeling of Natural Disasters and Extreme Events for Power System Resilience Enhancement and Evaluation Methods,” International Conference on Probabilistic Methods Applied to Power Systems, Liege, Belgium, 2020.
 70. M. Abdelmalak and M. Benidris, “A Polynomial Chaos-based Approach to Sizing of Virtual Synchronous Generators,” International Conference on Probabilistic Methods Applied to Power Systems, Liege, Belgium, 2020.
 69. M. Gautam, N. Bhusal, M. Benidris, J. Mitra, and C. Singh, “A Sensitivity-based Approach for Optimal Siting of Distributed Energy Resources,” International Conference on Probabilistic Methods Applied to Power Systems, Liege, Belgium, 2020.
 68. A. Bera, A. Chowdhury, S. Almasabi, J. Mitra, M. Benidris, “Data-driven Assessment of Power System Reliability in Presence of Renewable Energy,” International Conference on Probabilistic Methods Applied to Power Systems, Liege, Belgium, 2020.
 67. N. Bhusal, M. Gautam, and M. Benidris, “Sizing of Movable Energy Resources for Service Restoration and Reliability Enhancement,” IEEE PES General Meeting, Montreal, Quebec, Canada, 2020, pp. 1–5.
 66. M. Abdelmalak, M. Kamruzzaman, and M. Benidris, “Probabilistic Sizing of Virtual Energy Storage Devices for Transient Stability Enhancement,” IEEE PES General Meeting, Montreal, Quebec, Canada, 2020, pp. 1–5.
 65. S. Elsaiah, M. Benidris, and J. Mitra, “Sensitivity Analysis of Power System Reliability Indices Including Voltage and Reactive Power Constraints,” IEEE PES General Meeting, Montreal, Quebec, Canada, 2020, pp. 1–5.

64. M. Kamruzzaman, M. Benidris, S. Elsaiah, and Y. Tian, "A Method for Maximizing the Hosting Capacity to Electric Vehicles using Feeder Reconfiguration," IEEE PES General Meeting, Montreal, Quebec, Canada, 2020, pp. 1–5.
63. A. Bera, M. Abdelmalak, S. Alzahrani, M. Benidris, and J. Mitra "Sizing of Energy Storage Systems for Grid Inertial Response," IEEE PES General Meeting, Montreal, Quebec, Canada, 2020, pp. 1–5.
62. M. Abdelmalak, M. Sami Fadali, S. Commuri, M. Benidris, "Optimal Tracking Control of Power Converters Integrated with Variable Distortion," 20th International Conference on Environment and Electrical Engineering (EEEIC), Madrid, Spain, 2020, pp. 1–5.
61. M. Abdelmalak and M. Benidris, "A Polynomial Chaos-based Approach to Quantify Uncertainty of Solar Energy in Electric Power Distribution Systems," IEEE PES Transmission and Distribution Conference and Exposition, Chicago, IL, USA, 2020, pp. 1–5.
60. M. Gautam, N. Bhusal and M. Benidris, "A Sensitivity-based Approach to Adaptive Under-Frequency Load Shedding," Texas Power and Energy Conference: TPEC, College Station, Texas, USA, 2020, pp. 1–5.
59. N. Bhusal, Michael Abdelmalak and Mohammed Benidris, "Optimum Locations of Utility-Scale Shared Energy Storage Systems," 8th International Conference on Power Systems (ICPS), Rajasthan, India, 2019, pp. 1–5.
58. N. Bhusal, M. Kamruzzaman and M. Benidris, "Photovoltaic Hosting Capacity Estimation Considering the Impact of Electric Vehicles," IEEE Industry Applications Society Annual Meeting, Baltimore, MD, USA, 2019, pp. 1–6.
57. M. Kamruzzaman, N. Bhusal and M. Benidris, "Determining Maximum Hosting Capacity of Electric Distribution Systems to Electric Vehicles," IEEE Industry Applications Society Annual Meeting, Baltimore, MD, USA, 2019, pp. 1–7.
56. M. Kamruzzaman and M. Benidris, "A Smart Charging Strategy for Electric Vehicles to Increase their Hosting Capacity in Distribution Systems," North American Power Symposium, Wichita, Kansas, USA, 2019, pp. 1–5.
55. M. Kamruzzaman and M. Benidris, "Maximum Permissible Load Demand for Electric Vehicles at Power System Buses," IEEE Power & Energy Society General Meeting, Atlanta, GA, USA, 2019, pp. 1–5.
54. M. Kamruzzaman, M. Benidris, and S. Commuri, "An Artificial Neural Network based Approach to Electric Demand Response Implementation," North American Power Symposium, Fargo, ND, USA, 2018, pp. 1–5.
53. M. Kamruzzaman, M. Benidris, and H. Livani, "A Cost Effective Energy Exchange Strategy to Improve Reliability of Microgrids," North American Power Symposium, Fargo, ND, USA, 2018, pp. 1–5.
52. M. Kamruzzaman and M. Benidris, "Effective Accessible Energy to Accommodate Load Demand of Electric Vehicles," IEEE Industry Applications Society Annual Meeting, Portland, OR, USA, 2018, pp. 1–8.
51. J. Mitra, X. Xu, and M. Benidris, "A Controlled Switching Approach to Reduction of Three-Phase Transformer Inrush Currents," IEEE Industry Applications Society Annual Meeting, Portland, OR, USA, 2018, pp. 1–7.

50. S.Elsaiah, M. Benidris, Y. Tian, and J. Mitra, "A Comprehensive Analysis of Reliability-oriented Distribution System Reconfiguration," IEEE Industry Applications Society Annual Meeting, Portland, OR, USA, 2018, pp. 1–8.
49. M. Kamruzzaman, M. Benidris, and H. Xu, "A Modified Direct Torque Control for Permanent Magnet Synchronous Machines (PMSMs)," IEEE Power & Energy Society General Meeting, Portland, OR, USA, 2018, pp. 1–5.
48. M. Kamruzzaman, M. Benidris, and H. Xu, "Modeling of Electric Vehicles as Movable Loads in Composite System Reliability Assessment," IEEE Power & Energy Society General Meeting, Portland, OR, USA, 2018, pp. 1–6.
47. M. Kamruzzaman and M. Benidris, "Demand Response based Power System Reliability Enhancement," 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Boise, ID, 2018, pp. 1–6.
46. M. Kamruzzaman, M. Benidris and S. Elsaiah, "Effective Load Demand of Electric Vehicles in Power System Adequacy Assessment," 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Boise, ID, 2018, pp. 1–5.
45. Aravinthan et al., "Reliability Modeling Considerations for Emerging Cyber-Physical Power Systems," 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Boise, ID, 2018, pp. 1–7.
44. T. Tian, A. Bera, J. Mitra, C. Murray and M. Benidris, "A Two-stage Planning Strategy for Reliability Enhancement and Loss Reduction in Distribution Systems," 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Boise, ID, 2018, pp. 1–6.
43. S. Aznavi, P. Fajri, M. Benidris, and B. Falahati "Hierarchical Droop Controlled Frequency Optimization and Energy Management of a Grid-Connected Microgrid," 5th IEEE Conference on Technologies for Sustainability, Phoenix, AZ, 2017, pp. 1–6.
42. S. Sulaeman, F. T. Alharbi, M. Benidris and J. Mitra, "A new method to evaluate the optimal penetration level of wind power," North American Power Symposium (NAPS), Morgantown, WV, USA, 2017, pp. 1–6.
41. T. Tian, N. Cai, M. Benidris, A. Bera, J. Mitra and C. Singh, "Sensitivity guided genetic algorithm for placement of distributed energy resources," 19th International Conference on Intelligent System Application to Power Systems (ISAP), San Antonio, TX, 2017, pp. 1–5.
40. T. Tian, A. Bera, M. Benidris and J. Mitra, "Reliability and environmental benefits of energy storage systems in firming up wind generation," North American Power Symposium (NAPS), Morgantown, WV, USA, 2017, pp. 1–6.
39. T. Tian, A. Bera, M. Benidris and J. Mitra, "Stacked revenue and technical benefits of a grid-connected energy storage system," IEEE Industry Applications Society Annual Meeting, Cincinnati, OH, 2017, pp. 1–7.
38. S. Sulaeman, M. Benidris and J. Mitra, "Capacity value of photovoltaic systems and their impacts on power system reliability," North American Power Symposium (NAPS), Morgantown, WV, USA, 2017, pp. 1–6.
37. J. Mitra, M. Benidris and Niannian Cai, "Use of homotopy-based approaches in finding

- Controlling Unstable Equilibrium Points in transient stability analysis,” Power Systems Computation Conference (PSCC), Genoa, 2016, pp. 1–7.
36. S. Sulaeman, M. Benidris, S. Elsaiah, Yuting Tian and J. Mitra, “Power system reliability enhancement and generation cost reduction in presence of variable resources,” IEEE Power and Energy Society General Meeting (PESGM), Boston, MA, 2016, pp. 1–5.
 35. S. Sulaeman, M. Benidris, Yuting Tian and J. Mitra, “Modeling and evaluating the capacity credit of PV solar systems using an analytical method,” IEEE Power and Energy Society Transmission and Distribution Conference and Exposition (T&D), Dallas, TX, 2016, pp. 1–5.
 34. M. Benidris, S. Sulaeman, Y. Tian and J. Mitra, “Reactive power compensation for reliability improvement of power systems,” IEEE Power and Energy Society Transmission and Distribution Conference and Exposition (T&D), Dallas, TX, 2016, pp. 1–5.
 33. S. Sulaeman, M. Benidris and J. Mitra, “Modeling and assessment of PV solar plants for composite system reliability considering radiation variability and component availability,” Power Systems Computation Conference (PSCC), Genoa, 2016, pp. 1–8.
 32. N. Nguyen, M. Benidris and J. Mitra, “A unified analysis of the impacts of stochasticity and low inertia of wind generation,” International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Beijing, 2016, pp. 1–7.
 31. M. Benidris, Y. Tian, S. Sulaeman and J. Mitra, “Optimal location and size of distributed energy resources using sensitivity analysis-based approaches,” North American Power Symposium (NAPS), Denver, CO, 2016, pp. 1–5.
 30. S. Sulaeman, Y. Tian, M. Benidris and J. Mitra, “Quantification of storage necessary to firm up wind generation,” IEEE Industry Applications Society Annual Meeting, Portland, OR, 2016, pp. 1–7.
 29. E. Elsaiah, M. Benidris and J. Mitra, “A method for reliability improvement of micro-grids,” Power Systems Computation Conference (PSCC), Genoa, 2016, pp. 1–7.
 28. M. Benidris, J. Mitra and C. Singh, “Impacts of transient instability on power system reliability,” International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Beijing, 2016, pp. 1–6.
 27. T. Tian, M. Benidris, S. Sulaeman, S. Elsaiah and J. Mitra, “Optimal feeder reconfiguration and distributed generation placement for reliability improvement,” International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Beijing, 2016, pp. 1–7.
 26. J. Mitra, Nga Nguyen, M. Benidris and S. Deb, “A visualization tool for real-time dynamic contingency screening and remedial actions,” IEEE Industry Applications Society Annual Meeting, Portland, OR, 2016, pp. 1–9.
 25. S. Sulaeman, M. Benidris, and J. Mitra, “Modeling the output power of PV farms for power system adequacy assessment,” North American Power Symposium (NAPS), Charlotte, NC, 2015, pp. 1–6.
 24. S. Sulaeman, M. Benidris, and J. Mitra, “Evaluation of wind power capacity value including effects of transmission system,” North American Power Symposium (NAPS), Charlotte, NC, 2015, pp. 1–6.

23. M. Benidris, S. Elsaiah, and J. Mitra, "A risk sensitivity-based approach to hardening power systems against catastrophic failures," North American Power Symposium (NAPS), Pullman, WA, 2014, pp. 1–6.
22. E. Elsaiah, M. Benidris, and J. Mitra, "Reliability improvement of power distribution system through feeder reconfiguration," International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Durham, 2014, pp. 1–6.
21. S. Sulaeman, M. Benidris, and J. Mitra, "A method to model the output power of wind farms in composite system reliability assessment," North American Power Symposium (NAPS), Pullman, WA, 2014, pp. 1–6.
20. M. Benidris and J. Mitra, "Consideration of the effects of voltage and reactive power constraints on composite system reliability," North American Power Symposium (NAPS), Pullman, WA, 2014, pp. 1–6.
19. E. Elsaiah, M. Benidris, and J. Mitra, "An analytical method for placement and sizing of distributed generation on distribution systems," Clemson University Power Systems Conference, Clemson, SC, 2014, pp. 1–7.
18. S. Sulaeman, S. Tanneeru, M. Benidris, and J. Mitra, "An analytical method for constructing a probabilistic model of a wind farm," IEEE Power and Energy Society General Meeting, Conference & Exposition, National Harbor, MD, 2014, pp. 1–5.
17. M. Benidris and J. Mitra, "Use of intelligent search methods in performing sensitivity analysis of power system reliability indices," IEEE Power and Energy Society General Meeting, Conference & Exposition, National Harbor, MD, 2014, pp. 1–5.
16. M. Benidris and J. Mitra, "Sensitivity analysis of power system reliability indices under emission constraints," International Conference on Probabilistic Methods Applied to Power Systems, Durham, 2014, pp. 1–6.
15. M. Benidris, N. Cai, and J. Mitra, "A fast transient stability screening and ranking tool," Power Systems Computation Conference, Wroclaw, 2014, pp. 1–7.
14. E. Elsaiah, M. Benidris, J. Mitra, and N. Cai, "Optimal economic power dispatch in the presence of intermittent renewable energy sources," IEEE Power and Energy Society General Meeting — Conference & Exposition, National Harbor, MD, 2014, pp. 1–5.
13. M. Benidris and J. Mitra, "Reliability and sensitivity analysis of composite power systems under emission constraints," IEEE Power and Energy Society General Meeting — Conference & Exposition, National Harbor, MD, 2014, pp. 1–5.
12. S. Sulaeman, M. Benidris, and J. Mitra, "Evaluation of wind capacity credit using discrete convolution considering the mechanical failure of wind turbines," International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), Durham, 2014, pp. 1–6.
11. M. Benidris, S. Elsaiah, and J. Mitra, "Composite system reliability assessment using dynamically directed Particle Swarm Optimization," North American Power Symposium (NAPS), Manhattan, KS, 2013, pp. 1–6.
10. M. Benidris and J. Mitra, "Composite power system reliability assessment using maximum capacity flow and directed Binary Particle Swarm Optimization," North American Power Symposium (NAPS), Manhattan, KS, 2013, pp. 1–6.

9. M. Benidris and J. Mitra, "Enhancing stability performance of renewable energy generators by utilizing virtual inertia," IEEE Power and Energy Society General Meeting, San Diego, CA, 2012, pp. 1–6.
8. E. Elsaiah, M. Benidris, and J. Mitra, "Power flow analysis of distribution systems with embedded induction generators," North American Power Symposium (NAPS), Champaign, IL, 2012, pp. 1–6.
7. M. Benidris, S. Elsaiah, and J. Mitra, "Sensitivity analysis of reliability performance of multi-level converters," North American Power Symposium (NAPS), Champaign, IL, 2012, pp. 1–6.
6. M. Benidris, S. Elsaiah, S. Sulaeman, and J. Mitra, "Transient stability of distributed generators in the presence of energy storage devices," North American Power Symposium (NAPS), Champaign, IL, 2012, pp. 1–6.
5. E. Elsaiah, M. Ben-Idris, and J. Mitra, "Power flow analysis of radial and weakly meshed distribution networks," IEEE Power and Energy Society General Meeting, San Diego, CA, 2012, pp. 1–9.
4. M. Benidris, S. Elsaiah, and J. Mitra, "A Method for Reliability Evaluation of Multi-Level Converters," 12th International Conference on Probabilistic Methods Applied to Power Systems, Istanbul, Turkey, 2012, pp. 1–6.
3. E. Elsaiah, M. Benidris, and J. Mitra, "A three-phase power flow solution method for unbalanced distribution networks," North American Power Symposium, Boston, MA, 2011, pp. 1–8.
2. M. Benidris, S. Elsaiah, and J. Mitra, "Sensitivity analysis in composite system reliability using weighted shadow prices," IEEE Power and Energy Society General Meeting, San Diego, CA, 2011, pp. 1–6.
1. M. Benidris, A. Al-Jalil and A. Elfaituri, "Performance Analysis of High Voltage Direct Current Transmission Lines–Libya to Sudan DC Link Case Study," Proceedings of the 4th Libyan Arab International Conference on Electrical and Electronics Engineering, March 2006.

Abstract Conference Proceedings:

4. J. Mitra and M. Benidris, "A Homotopy-Based Method for Robust Computation of Controlling Unstable Equilibrium Points
3. M. Benidris, J. Mitra, and C. Singh, "Integrated Evaluation of Reliability and Stability of Power Systems," IEEE PES General Meeting, Montreal, Quebec, Canada, 2020.
2. S. Sulaeman, M. Benidris, J. Mitra, and C. Singh, "A Wind Farm Reliability Model Considering Both Wind Variability and Turbine Forced Outages," IEEE Power and Energy Society General Meeting, Chicago, IL, 2017.
1. M. Benidris and J. Mitra, "Power System Reliability and Sensitivity Analysis under the Emission Constraints," IEEE PES General Meeting, Washington DC, July, 2014.

PRESENTATIONS

Invited Talks

4. Mohammed Benidris, "EV Fast Charging: Power Grid Challenges and Preparation," States Meeting, Regional Electric Vehicle (REV) West Plan, March 17, 2021.
3. Mohammed Benidris, "Modeling of Failure and Cyber-attack propagation in Cyber-physical Energy Systems," IEEE Task Force on Cyber-Physical Interdependence for Power System Operation and Control, December 11, 2020.
2. Mohammed Benidris "Resilience Enhancement and Evaluation of Cyber-physical Energy Systems," Erik Jonsson School of Engineering and Computer Science, University of Texas at Dallas, February 20, 2020.
1. Mohammed Benidris, "Renewable Energy Generation – Modeling, Challenges, and Promises," IEEE MTTs/IPS Chapter of Northern Nevada, October, 2016.

Panel Presentations:

6. Mohammed Benidris, "Modeling of Cyber-physical Energy Systems for Resilience Enhancement and Evaluation," IEEE PES General Meeting, Montreal, Quebec, Canada, 2020
5. Mohammed Benidris, "NSF CAREER Award Navigation," IEEE Power and Energy Society General Meeting, Montreal, Canada, 2020.
4. Mohammed Benidris, "Resilience Evaluation of Future Power Grids," IEEE Power and Energy Society General Meeting, Atlanta, GA, USA, 2019.
3. Mohammed Benidris, "A Real-Time Remedial Action Scheme to Harden Cyber-Physical Energy Systems against Catastrophic Failures," IEEE Power and Energy Society General Meeting, Chicago, IL, 2017.
2. Joydeep Mitra and Mohammed Benidris, "Homotopy-based Method for Rapid Screening of Dynamic Contingencies," IEEE Power and Energy Society General Meeting, Boston, MA, July, 2016.
1. Joydeep Mitra and Mohammed Benidris, "Real-Time Remedial Action Screening Using Direct Stability Analysis Methods," IEEE Power and Energy Society General Meeting, Washington DC, July, 2014.

Conference Poster/Abstract Presentations:

14. M. Benidris and J. Mitra, "An On-Line Transient Stability Screening Tool Utilizing Homotopy and Newton Methods in Finding the Controlling Unstable Equilibrium Points," IEEE PES T&D Conference and Exposition, Chicago, IL , April, 2014.
13. M. Benidris and J. Mitra, "A Lyapunov Function Based Remedial Action Screening Tool Using Real-Time Data," IEEE Power and Energy Society General Meeting, Washington DC, July, 2014
12. M. Benidris, S. Elsaiah and J. Mitra, "Utilization of energy storage devices as virtual inertia," IEEE South Eastern Michigan, SEM Fall conference at university of Michigan-Dearborn 2012.
11. M. Benidris and J. Mitra, "Mitigation of Cascading Failures in power systems," IEEE South Eastern Michigan, SEM Spring conference at university of Michigan-Dearborn 2013.

10. M. Benidris and J. Mitra, "Composite Power System Reliability Assessment Using Maximum Capacity Flow and PSO," IEEE South Eastern Michigan, SEM, Fall conference at university of Michigan-Dearborn 2013.
9. M. Benidris and J. Mitra, "An On-line transient Stability Screening Tool Utilizing Homotopy and Newton Methods in Finding the Controlling Unstable Equilibrium Points," IEEE South Eastern Michigan, SEM, Spring conference at university of Michigan-Dearborn 2014.
8. M. Benidris, S. Elsaiah and J. Mitra, "Shadow Price Sensitivity analysis in composite systems," MSU, College of Engineering Symposium 2011.
7. M. Benidris, S. Elsaiah and J. Mitra, "Multi-Level Inverter Reliability," MSU, Graduate School Conference, March 2012.
6. S. Elsaiah, M. Benidris and J. Mitra, "Distribution Systems Load Flow Analysis with Weakly Meshed Networks," MSU, Graduate School Conference, March 2012.
5. M. Benidris and J. Mitra, "Effect of emission constraints on power system reliability," MSU, HPCC cyber days 2012.
4. M. Benidris and J. Mitra, "Cascading Failures in Power Systems," MSU, College of Engineering Symposium, 2013.
3. M. Benidris and J. Mitra, "An On-line transient Stability Screening and Ranking Tool based on Lyapunov functions," MSU, HPCC cyber days 2013.
2. M. Benidris and J. Mitra, "A fast Transient Stability Screening Tool," MSU, College of Engineering Symposium, 2013.
1. M. Benidris and J. Mitra, "Directed PSO application in power system reliability analysis," MSU, Graduate School Conference, March 2014.