

Srijib Mukherjee, Ph.D., P.E.

Education:

MBA, Duke University, The Fuqua School of Business, NC, 2004

PhD, University of Miami, Coral Gables, FL, 1994

MSEE, University of Miami, Coral Gables, FL, 1991

BE, Manipal Institute of Tech, Karnataka, India, 1989

Registrations:

Professional Engineer

NC #26216

CA #16264

NERC Certified System Operator, #N19981282

Professional memberships:

Accreditation Board of Engineering Technology (ABET), Program Evaluator, 2012-Present

University of Miami, College of Engineering, Industry Advisory Board, 2012-Present

NC State University, FREEDM Center, Education Advisory Board, 2010-2014

Duke University, Professional Member, Engineering World Health, 2008-Present

Duke University, Fuqua Alumni Council Member, 2004-2009

Duke University, Alumni Admission Advisory Committee, 2003-Present

IEEE Eastern NC Industrial Applications Society, Chair, 2001-2002

IEEE Senior Member, 1999

Tau Beta Pi, Life Member, 1989

Eta Kappa Nu/HKN, Life Member, 1990

Dr. Mukherjee comes with 30 years of research, engineering, academic and management experience in Power Systems Operations, Transmission Planning, Energy Markets, Electrical Grid Resiliency and Distributed Generation of Power Systems. Srijib has an MBA in Finance from Duke University, and Ph.D. in Electrical Engineering from the University of Miami. He has a Joint Faculty Professor appointment with the University of Tennessee's and ORNL's, Bredesen Center. Srijib's research interests are in the technologies surrounding autonomous cars, electric charging infrastructure and energy storage. His experience spans 14 years with US electric utilities (CP&L/Duke Energy, Nevada Power/NV Energy, and FP&L/NextEra Energy), 13 years with various technical and management energy consulting firms (Quanta Technology/Quanta Services, Pike Electric and Mott MacDonald), 10 years as an Adjunct and Research Faculty member at The University of North Carolina, Charlotte and The University of Tennessee, Bredesen Center and 1 year with Government Agencies (NOAA and ORNL). Dr. Mukherjee in his career has successfully led high level R&D, engineering and executive management teams in power dispatch operations, regulatory policy, energy risk management, and resource & transmission planning. He has published over 20 refereed research papers in various journals and conferences, 5 DOE Reports and has one patent and one invention disclosure under patent application. He is a veteran Program Evaluator (PEV) for the Accreditation Board of Engineering Technology (ABET) and is an Alternate Board Member of the IEEE Committee on Engineering Accreditation Activities (IEEE CEAA). Additionally, he is licensed to practice engineering as a Professional Engineer (P.E.) in the States of NC, NV and CA and licensed to operate the US Grid as a NERC Certified System Operator. Srijib has mentored advised and chaired 10 Ph.D. and master's students thesis committee's in Energy Science and Power Systems research. He volunteers his time to tutor high school math (Algebra, Geometry and AP Calculus) to low income students in his school district. He is a parent with two college age children (one in medical school and the other a cadet for the US Air Force). He enjoys gardening, tennis and non-fiction books.

ORNL Accomplishments:

Dec 2019 – Present:

1. Advanced Grid Modeling Protection
2. Adaptive Model Driven Protective Relaying for Microgrids and T&D
3. AI/ML based Adaptive Protection ORNL/ Curent Center, Principal Investigator (PI)
4. NAERM RTSA
5. DCEI Blackstart Protective Relaying
6. WPTO Hydro Fleet Intelligence – Use Case 1: PI
7. DOE Grid of the Future
8. Inter-lab DOE Resilience Modeling Grant: PI
9. BECCS Biomass Carbon Sequestration – Feedstock and Logistic Options (Energy Market Modeling)
10. WPTO NC-5 Hydro Flexible Operations Roadmap – PI
11. Two journals papers in 2020
12. Two conference papers in 2020
13. One invention disclosure under review

Employment history	
2019 - Present	Sr. R&D Scientist, Oak Ridge National Laboratory
2020 – Present	Joint Faculty Professor, University of Tennessee, Bredesen Ctr.
2012 – 2019	Adjunct Faculty, UNCC, Systems Engineering
2018 – 2019	Principal Engineer, Mott MacDonald, Power Delivery
2014 – 2018	Principal Engineer, Pike Electric Corporation, Grid Modernization
2007 – 2014	Director, Quanta Technology, Transmission Planning
1999 – 2007	Lead Engineer, Carolina Power & Light/Duke Energy
1994 - 1999	Operations Engineer, NV Energy/Sierra Pacific Resources
1991 – 1992	Summer Intern, NOAA Miami, FL
1990 - 1991	Summer Intern, Florida Power & Light Company

Google Scholar Citations:

<https://scholar.google.com/citations?user=PHVZNR0AAAAJ>

Mendeley SCOPUS:

<https://www.mendeley.com/profiles/srijib-mukherjee/?viewAsOther=true>

ORCID publications

<https://orcid.org/my-orcid>

Publons publications

<https://publons.com/researcher/3460996/srijib-mukherjee/>

ORNL Web Page

<https://www.ornl.gov/staff-profile/srijib-k-mukherjee>

SciProfile MDPI Web Page

<https://sciprofiles.com/profile/Srijib>

Relevant Grants (2020 – 2021):

- DOE Office of Fossil Energy, Nuclear Energy and Energy Efficiency and Renewable Energy – Inter-lab, Near Term Reliability and Resilience, Lead Principal Investigator, \$7M
- DOE Water Power Technology Office – Inter-lab, NC-5 Flexible Operations, Lead Principal Investigator, \$600K
- DOE Water Power Technology Office – Hydro Fleet Intelligence, Use Case 1: Dispatch Variability, Principal Investigator, \$500K

Invention Disclosure (Co-Inventor):

Patent Application: 63127743. The invention was under a contract with an agency of the United States Government. The name of the US Government agency and Government contract number is: DE-AC05-00OR22725

Chair, Advisor, Mentor: Thesis committees (past 25 years)

1. Mentor: Crist R. Reid, Senior Thesis, Arizona State University, Fulton School of Engineering, May 2021
2. Advisor: Max Ferrari, ORNL, Power Division, Bredesen Center Student, Ph.D., Thesis Com., May 2021
3. Advisor: Adeniyi (Abi) Abeniyi, ORNL, Reactor and Nuclear Division, Ph.D., Thesis Committee, May 2023
4. Mentor: Sambidh Timilisia, Master of Management Science, Duke University mentor, May 2020
5. Mentor: Matt Gosnell, Engineer, NC State University, Master's Thesis committee, May 2021
6. Mentor: Willis Edmondson, NC State University, FREEDM Center, Masters mentor, May 2015
7. Advisor: John Allemeier, Energy Science, 2020 UTK Bredesen Center Ph.D., Thesis Com, May 2023
8. Advisor: Duncan Clark, Systems Engineering/MBA mentor, UNCC, 2015
9. Mentor: Will Pike, Senior Thesis, University of Virginia, 2017
10. Mentor: Douglas Harshbarger, MS Thesis, Electrical Engineering, UNLV, May 1996

Accreditation Board of Engineering Technology ABET Program Evaluator History:

- a. Washington University in St. Louis, IEEE EAC, Electrical Engineering
- b. Florida Institute of Technology, Melbourne, FL, IEEE EAC, Electrical Engineering
- c. University of South Florida, Tampa, FL, IEEE EAC, Electrical Engineering
- d. Wentworth Institute of Technology, Boston, MA, IEEE EAC, Electrical Engineering
- e. University of Hail, Hail, Saudi Arabia, IEEE EAC, Electrical Engineering
- f. Bethel College, Eden, MN IEEE EAC, Electrical Engineering

Awards and Nominations:

- Alternate Board Member IEEE Committee on Engineering Accreditation Activities
- Duke University, Fuqua Alumni Council
- NC State University, FREEDM, Education Advisory Board
- Manipal University, Distinguished Alumnus Award, 2014
- Quanta Technology, Service Award for Exceptional Dedication, 2011
- IEEE, Power Engineering Society Outstanding Engineer, 2001
- IEEE, PICA System Restoration contest winner, 1999
- IEEE, Senior Member, nominated in 2001
- Inducted into Tau Beta Pi Engineering Honor Society (Florida Beta), 1989
- Inducted into Eta Kappa Nu Electrical Engineering Honor Society, 1990
- Undergraduate: First Class with Distinction, Class Rank: 3rd, Electrical Engr. Manipal Institute of Technology, 1989

Relevant Publications:

1. Matthew Langholtz *, Ingrid Busch, Abishek Kasturi, Michael Hilliard, Joanna McFarlane, Costas Tsouris, Srijib Mukherjee, Olufemi Omitaomu, Susan Kotikot, Melissa Ree Allen, Christopher DeRolph, Maggie R. Davis, Esther S. Parish, The economic accessibility of CO2 sequestration through bioenergy with carbon capture and sequestration (BECCS) in the US, LAND Journal, August 2020
2. Mukherjee S., Smith T., Marshall M., Sticht C., Adaptive Protective Relay Settings A Vision to the Future, IEEE REPC, August 2020
3. Piesciorovsky, E, Mukherjee S., Marshall M., Smith T., Universal Interface Method to Identify Unknown Pinouts of Intelligent Electronic Devices for Using Real-Time Simulators with Hardware-in-the-Loop, Journal: Electrical Power Systems Research, Aug 2020
4. V. Koritarov, T. Levin, M. Christian, J. Kwon, C. Milostan, Ploussard M. Padhee. Y. Tian.T. Mosier, S.M.Shafiul Alam R. Bhattarai M. MohanpurkarG. StarkD. Bain M. Craig B. Hadjerioua P. O'Connor S. Mukherjee, Stewart. P. Balducci, M. Weimar - Pumped Storage Hydropower Valuation Guidebook: A Cost-Benefit and Decision Analysis Valuation Framework, DOE WPTO, September 2020
5. Edmondson Willis., Mukherjee S., "Adaptive Capacitor Switching for Wind Generation" AWEA Wind Power Conference, Houston, TX, May 20-23, 2019
6. Edmondson Willis., Mukherjee S., "Adaptive Capacitor Switching for Wind Generation" IEEE IAS General Meeting, Cincinnati, OH, Jul. 2017
7. Mukherjee S., "Applying the Distribution System in Grid Restoration/NERC CIP-014 Risk Assessment" IEEE Rural Electric Power Conference, May 2015
8. Mukherjee S., Vermeer D., "Macro Economic Impacts of Electric Vehicles in the United States", Scientific America Article in collaboration with the Center for Energy, Development, and the Global Environment (EDGE) at Duke University, Nov. 2012 – Work in Progress article
9. Mukherjee S., Gentile T., Morrow D., Kruimer B., Large scale renewable energy integration. Recent experiences in the USA, US DOE Office of Scientific and Technical Information, July 2012
10. Mukherjee S., Casteneda J., Wind Storage Enhanced Transmission Research and Development: Final Project Report, California Energy Commission, 2012
11. Mukherjee S., Teleke S., Bandaru V. "Frequency and Dynamic Power Balancing in Wind and Solar Generation", IEEE PES, General Meeting, Detroit, Jul. 2011
12. Mukherjee S., Variable Generation Forecasting, NERC IVGTF 2.1 Report, May 2010
13. Mukherjee S., Teleke S., Bandaru V. "Dynamic Power Balancing in Wind Generation", GridTech 2011 proceeding, pp.411, New Delhi, India
14. Wojszczyk B., Mukherjee S., Morrow D., "Massive Deployment of Wind Generation: Dynamics and its Impact on Power Grid Operations", IREP 2007, SC, Aug. 2007
15. Mukherjee S., "Screening of Load Patterns and Transmission Planning Alternatives using Decision Trees", IREP 2007, SC, Aug. 2007
16. Mukherjee S., Wilson P. "Training Curriculum for System Dispatchers", T&D Magazine, May 1995
17. Mukherjee S., Lindquist C., "A Homomorphic Approach to Digital Companding", 28th Annual Asilomar Conference on Signals, Systems and Computers. Nov. 1994, Naval Postgraduate School, Monterey, CA
18. Mukherjee S., Recio A., "Voltage Monitoring using Power Flow Applications", IEEE, Southeastcon, 1992
19. Mukherjee S, Recio A., Douligieris C., "Optimal power flow by linear programming based optimization", IEEE Southeastcon, 1991
20. Mukherjee, Srijib Kantha. Optimal Power Flow as Applied to Florida Power and Light Company, University of Miami), Electrical and Computer Engineering Thesis, Otto G.Richter, Theses Catalogues 1991.