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UI-ASSIST Virtual Review Workshop

Funding Agency Representatives

Dr. Sanjay Bajpai is a graduate in mechanical engineering from Malaviya National Institute of Technology (MNIT), Jaipur and MBA from University of Rajasthan. He has done his doctoral thesis in Energy Studies from Indian Institute of Technology- Delhi.

He has around three decades of experience in management of research, development, demonstration and commercialisation programmes. He has been involved in shaping DST's Clean Energy programme right from their inception. Currently, he is heading Technology Mission on Clean Energy, Water and Air. He is also India's focal point of Mission Innovation and is co-leading innovation challenges on Smart Grids and Off-grids. He is India lead for four other Mission Innovation challenges including Carbon Capture, Utilisation and Storage. He leads bilateral and multilateral energy research and innovation programme with several countries including UK, US and European Union.

Dr. Nandini Kannan is the Executive Director of the Indo-U.S. Science & Technology Forum (IUSSTF). Dr. Kannan spent over 20 years in academia, first as a faculty member and then as Chair, Department of Management Science and Statistics at the University of Texas at San Antonio (UTSA). Since 2014, Dr. Kannan has served as a Program Director at the US National Science Foundation (NSF). She serves on the Board of Trustees of the International Indian Statistical Association (IISA) and is a former President of IISA. She brings leadership experience in academia and government, an understanding of the critical role that science and technology play in this global inter-connected society, and a deep commitment to education and workforce development. Dr. Kannan received her B. Sc. in Statistics from Presidency College, Chennai and an M. Sc. degree in Statistics from the University of Madras before joining the Indian Statistical Institute as a Junior Research Fellow. She received an M.S. in Mathematics from the University of Pittsburgh, and a Ph.D. in Statistics from The Pennsylvania State University. She is a Fellow of the American Statistical Association and an Elected Member of the International Statistical Institute.

Merrill Smith has been managing various R&D actvities in the Advanced Grid R&D Division of the Office of Electricity since 2006. Currently she is working on projects to advance grid resilence including managing the UI-ASSIST program. She has managed a range of projects and technologies including smart grid demonstrations, microgrids, distributed energy generation and combined heat and power, low emissions combustion technologies, advanced materials (ceramic composites), and various industrial energy efficiency technologies. Prior to DOE she worked as a civil design engineer and construction manager. Merrill is a civil engineer from Virginia Tech and George Washington University.

Project Leads

Noel Schulz is a Professor of Electrical Engineering at Washington State University and is the UI-ASSIST US Team Administrative Lead. Schulz received her B.S.E.E. (1988) and M.S.E.E. (1990) degrees from Virginia Polytechnic Institute and State University (Virginia Tech) in Blacksburg, Virginia, USA. She received her Ph.D. in EE (1995) from the University of Minnesota in Minneapolis, Minnesota, USA. Noel has been active for over 25 years in teaching, research, and service at six U.S. universities. She teaches electrical engineering and power engineering topics. In research and graduate studies, she has graduated 45 MS and 13 PhD students; published 175 papers and 2 book chapters; and brought in over $40M in external research through individual and collaborative projects including a U.S. National Science Foundation CAREER award. Dr. Schulz is a Fellow of IEEE and the American Society of Engineering Education (ASEE). Her research interests are in power system design, analysis and operations including rural electrification, smart grid, renewable energy, shipboard power systems, and intelligent system applications. Noel has been active in the IEEE Power & Energy Society (PES) serving on the PES Governing Boards from 2004-2015. In 2014 she received the IEEE HP Harriet B. Rigas Award.

Anurag K. Srivastava is an associate professor of electric power engineering at Washington State University and the director of the Smart Grid Demonstration and Research Investigation Lab (SGDRIL) within the Energy System Innovation Center (ESIC). He also has a joint appointment as a Senior Scientist with the Pacific Northwest National Lab (PNNL). He received his Ph.D. degree in electrical engineering from the Illinois Institute of Technology in 2005. He is technical lead of the UI-ASSIST project. He is a senior member of the IEEE, chair of the IEEE Power & Energy Society's (PES) PEEC committee, co-chair of the microgrid working group, vice-chair of power system operation SC, chair of PES voltage stability working group, chair of PES synchrophasors applications working group, co-chair of distributed optimization application in power grid, vice-chair of tools for power grid resilience TF, and member of CIGRE C4C2-58 Voltage Stability, C4.47/ C2.25 Resilience WG. Dr. Srivastava is an editor of the IEEE Transactions on Smart Grid, IEEE

Transactions on Power Systems, IEEE Transactions on Industry Applications, and Elsevier Sustainable Computing. He is the author of more than 275 technical publications, including a book on power system security, and 4 patents.

Suresh Chandra Srivastava is the India Lead for the UI-ASSIST project. He received B.Tech. degree from, Banaras Hindu University, and Ph.D. from IIT Delhi, in India. He worked at Engineers India Limited New Delhi, India during 1976-1988 in its Project Engineering and Engineering Technology Development divisions. Since November 1988, he is with the Department of Electrical Engineering at IIT Kanpur, where he became 'Professor' in 1995. He also served as Head of Electrical Engineering Department, Dean R&D, and Deputy Director at IIT Kanpur. During August 2008-July 2009, he was as a 'Visiting Research Professor' in the ECE Department at Mississippi State University, USA and at AIT Bangkok during 1996-97. He held 'P.K. Kelkar' and 'Ministry of Labour and Employment' Chair Professor positions at IIT Kanpur. He has supervised 28 Ph.D. and 64 Masters theses, published more than 300 papers in refereed journals and conference proceedings. His research interests include Power System Security, Synchrophasor Applications, Market, AC/DC Microgrid and Smart Grid. He is a Fellow of the Indian National Academy of Engineering, Institution of Engineers (India) & IETE (India), and Senior member of IEEE. He has served in the governing council and expert committee of several government organizations and utilities in India.

Santanu K. Mishra (S'00-M'04-SM'12) received a B.Tech. degree in Electrical Engineering from the College of Engineering and Technology, Bhubaneswar, India, in 1998, an M.Tech. degree in Energy Systems Engineering from Indian Institute of Technology, Chennai, India, in 2000, and the Ph.D. degree from the Department of Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA, in 2006. He worked as a senior application engineer with the International Rectifier Corporation in Rhode Island, USA, from 2004 to 2008. Currently, he is the Ministry of Skill Development and Entrepreneurship Chair Professor at the Indian Institute of Technology, Kanpur, India. His research interests include power converter design, implementation, control, and applications in rural scenario. He serves as an associate editor of several journals including IEEE Transactions on Industry Applications, IEEE Transactions on Power Electronics, IEEE Consumer Electronics Magazine, IET Power Electronics, and IET Rapid Communications.

Dr. Ankush Sharma is currently working as associate professor in the department of electrical engineering at Indian Institute of Technology (IIT) Kanpur, India. Prior to that, he was working as Assistant Professor at IIT Bhubaneswar, India. In addition to academic experience of around 4 years, he also has close to 16 years of software industry experience, primarily in the Power system and smart grid domains. He holds Ph.D. and M. Tech. degrees in Electrical Engineering from IIT Kanpur and B. Tech. degree in Electrical Engineering from Harcourt Butler Technological Institute Kanpur. He has been Project Management professional (PMP®) certified in 2009 from Project Management Institute (PMI), USA and holds MBA degree in Finance. He has received various awards in his academic and professional career, including

POSOCO Power System Award (PPSA) in 2015 for one of the best PhD thesis works. He received Gold Award for the “Smart City Pilot Project” by India Smart Grid Forum in 2019. He has also received 1st prize for the best student project at Gridtech 2013 in New Delhi, president medal for securing 1st rank in the branch in B. Tech. in 1998, and various appreciations and accolades during his professional tenure. He is a senior member of IEEE.

Theme Leads and Co-Leads

Dr. Abheejeet Mohapatra has been an Assistant Professor in the Department of Electrical Engineering at Indian Institute of Technology, Kanpur, Kanpur, Uttar Pradesh, India since 2015. He received M.Tech. degree in Power Systems and Ph.D. degree in Electrical Engineering in 2010 and 2014 from Indian Institute of Technology, Delhi, New Delhi. He did B.Tech. in Electrical Engineering in 2008 from College of Engineering and Technology, Bhubaneswar. He got the university gold medalist and POSCO Asia Fellowship for being the topper among all B.Tech. graduates. He also got the POSOCO Power Systems Award in 2014 for doing exemplary work as part of the Ph.D. thesis. Currently, he is the Vice Chair of IEEE UP Section and has served as Treasurer, IEEE UP Section and IEEE PES/ IAS Chair of IEEE UP Section in the past. His research interests are in operation, planning, protection and control of power networks with integrated renewable energy resources.

Dr. Abhijit R. Abhyankar currently works as the NTPC Chair Professor at the Electrical Engineering Department of the Indian Institute of Technology Delhi, New Delhi. He has acted as an expert member of various committees established by the Central Electricity Regulatory Commission (CERC) to provide technical support to resolve regulatory issues. He is a member of National Reliability Council for Electricity (NRCE), set-up by Ministry of Power, Government of India, through Central Electricity Authority (CEA). He is also a member of Taskforce on PoC Transmission Pricing Review, constituted by Central Electricity Regulatory Commission (CERC), New Delhi. He has handled important projects and worked as a consultant for various agencies such as POWERGRID, Maharashtra Electricity Regulatory Commission, Department of Science & Technology, Indian Energy exchange, Mercaods EMI Pvt. Ltd., and State Electricity Utilities. He has more than hundred papers published in various International journals, International conferences and National conferences to his credit. He has developed one web-based course, titled “Restructured Power Systems” His current research interests: Power System Analysis and optimization, issues in restructured power systems, Distribution Systems, Policy and regulatory matters, Smart Grids, and Transmission System Flexibility.

Dr. Anuradha Annaswamy is Founder and Director of the Active-Adaptive Control Laboratory in the Department of Mechanical Engineering at MIT. Her research interests span adaptive control theory and its applications to aerospace, automotive, and propulsion systems as well as cyber physical systems such as Smart Grids, Smart Cities, and Smart Infrastructures. Her current research team of 15 students and post-docs is supported at present by the US Air-Force Research Laboratory, US Department of Energy, Boeing, Ford-MIT Alliance, and NSF. She has received best paper awards (Axelby; CSM), Distinguished Member and Distinguished Lecturer awards from the IEEE Control Systems Society (CSS) and a PYI award from NSF. She is the author of a graduate textbook on adaptive control, co-editor of two vision documents on smart grids as well as the two editions of the Impact of Control Technology report, and a member of the National Academy of Sciences Committee on modernizing the US Electric System. She is a Fellow of IEEE and IFAC. She is currently serving as the President of CSS.

Ahmed Y. Saber received his Ph.D. degree from University of the Ryukyus, Japan, in 2007. He is currently Vice President Optimization (Visionary Leader) at ETAP R&D, USA. He develops tools for operation, optimization and predictive control of intelligent distribution systems in ETAP using both deterministic and stochastic methods. His timely researches have been funded nationally and internationally including DOE. He won the IEEE Outstanding Engineer Award in Southern California, USA among more than 12,000 engineers for his contributions in smart-grid in 2012. He has published over 75 technical papers and holds 2 patents on power system. His research interests include smart-grid, storage, renewables, power system optimization-forecasting, cyber-physical systems, real-time systems, and operations research.

Er. Alekhya Datta, a Senior Researcher (Fellow) works at the Electricity & Fuels Division of TERI. He is currently looking after grid integration aspects of Renewables & Micro-Grids, implementation of Battery Energy Storage Systems (BESS), and Vehicle to Grid concept through Virtual Power Plants (VPPs) Before joining TERI, he worked in flagship projects such as R-APDRP/ IPDS, Solar Resource Assessment, etc. He was instrumental to developing the Solar Rooftop Programme in India, under National Solar Mission. He is also an active member of various committees and working groups formulated by Govt. of India through Ministry of Power, Ministry of New & Renewable Energy, Niti Aayog, BIS, and CEA. He has also written and presented many research papersand articles in various National and International Journals, Conferences, and News Dailies. As a Guest Faculty he has undertaken sessions on Renewable Energy & Energy Transitions in many Capacity Building Programmes organised by Academic Institutions and Corporates.

Anjan Bose is a Regents Professor and the Distinguished Professor of Electric Power Engineering at Washington State University in Pullman, Washington, where he also served as the Dean of the College of Engineering & Architecture from 1998 to 2005. He served the US Department of Energy as a Senior Advisor on the electric power grid in the Obama administration. He is a leading researcher on the operation and control of the electric power grid. He has worked in the electric power industry as well as academe for over 40 years. He received his BS, MS and PhD, all in Electrical Engineering, from the Indian Institute of Technology – Kharagpur, University of California – Berkeley/ and Iowa State University, respectively. Dr. Bose is a Member of the US National Academy of Engineering, a Foreign Fellow of the Indian National Academy of Engineering and a Fellow of the Institute of Electrical & Electronics Engineers (IEEE). He was the recipient of the Outstanding Power Engineering Educator Award, the Third Millenium Medal, and the Herman Halperin Electric Transmission & Distribution Award from the IEEE. He has been recognized by both Iowa State University and the Indian Institute of Technology with their distinguished alumnus awards. He has served on several editorial boards and on many national and international technical committees. He was appointed by the governor to the board of directors of the Washington Technology Center, and by the US Secretary of Energy on the committee to study the 1999 and 2003 power blackouts. He has served on several committees of the US National Academies including those for Engineering Education, Cybersecurity Research, Power Grid Security and America's Energy Future. He has consulted for many electric power companies and advised government agencies throughout the world.

Dr. Anju Meghwani received the B.E. degree in electrical engineering from the Government Engineering College, Kota, India, in 2004, M.Tech. in power electronics and power systems from Indian Institute of Technology (IIT) Bombay, India in 2007, and Ph.D. degree in power engineering from IIT Kanpur, India in 2018. She has worked as a deputy manager at Emerson Network Power (I) Pvt. Ltd. and Maxim Integrated Circuit, India as a member of technical staff. Currently, she is working as a Research Establishment Officer (REO) at IIT Kanpur in the electrical engineering department. She has executed various research projects as Co-PI. In addition to academic experience of around 3 years, she also has close to 6 years of industry experience. Her research interests include renewable source integrated power system design, control and protection.

Miroslav Begovic(FIEEE'04) is Department Head of ECE and Lohman 'Professor at Texas A&M University. He was Professor and Chair of the Electric Energy Research Group in the School of ECE, and member of the Brook Byers Institute and Center of Excellence in Photovoltaic Research at Georgia Institute of Technology. Dr. Begovic's research interests are in monitoring, analysis, and control of power systems, as well as development and applications of renewable and sustainable energy systems. For the Centennial Olympic Games in Atlanta, he co-designed a 340 kW photovoltaic system on the roof of Aquatic Center at Georgia Tech, which was the largest roof-mounted PV system in the world. He was a member of the IEEE Power System Relaying Committee for two decades and chaired a number of its working groups. Prof. Begovic authored cca. 200 journal and conference papers, and over 100 keynote and invited presentations. Dr. Begovic is a Fellow of IEEE and recipient of the 2019 IEEE PES Meritorious Service Award. Dr. Begovic is a former Chair of the Emerging Technologies Coordinating Committee of IEEE PES, IEEE PES Treasurer (2010-2011), IEEE PES Distinguished Lecturer, and served as President of the IEEE Power and Energy Society(2014-15)

Dr. Mladen Kezunovic has been the Regents Professor and Eugene E. Webb endowed Professor at Texas A&M University, USA since 1986. He has also been the Site Director, Power Systems Engineering Research Center (PSerc), and Director, Power Systems Control and Protection Lab. He has been the Principal Consultant to over 50 companies worldwide, as well as the President and CEO of XpertPowerTM Associates for over 25 years. His industrial experience: Westinghouse Electric in the U.S.A. (1979-80), Energoinvest Company in Europe (1980-86), EdF's Research Centre in France (1999-00). His academic experience: Visiting Professor at the University of Hong Kong (fall, 2009), Eminent Scholar at the Texas A&M University-Qatar (2015/16), and Special Visiting Researcher in Brazil (2015-17). His professional service: Three terms (2009-13) as a Director on the Board of Directors of the Smart Grid Interoperability Panel (SGIP), and reappointed by the US Secretary of Energy to serve 2nd term (2020-23) on the Electricity Advisory Committee for the Department of Energy. He has been principal Investigator on over 120 R&D projects, published more than 600 papers/reports, two books and five book chapters, and given over 180 invited lectures, short courses and seminars around the world. He is an IEEE Life Fellow and Distinguished Speaker, the CIGRE Fellow, Honorary, and Distinguished Member, and Registered Professional Engineer in Texas.

Chanan Singh is Regents Professor and Irma Runyon Chair Professor in the Department of Electrical and Computer Engineering, Texas A&M University. He served as the Department Head of Electrical and Computer Engineering Texas A&M from 1997 to 2005 and then as an Interim Head from 2012 to 2015. His research and consulting interests are in the foundational developments and applications of probabilistic methods for planning and operation of electric power grid. He has authored/co-authored more than 400 technical papers and four books and has contributed to several books. He has consulted with many major corporations and given short courses nationally and internationally. Dr. Singh is a Fellow of the IEEE and recipient of the 1998 Outstanding Power Engineering Educator Award given by the IEEE Power Engineering Society. For his research contributions, he was awarded a D.Sc. degree by the University

of Saskatchewan, Saskatoon, SK, Canada. He was recognized with the Merit Award by the PMAPS International Society for life long achievements. He is the inaugural recipient of the IEEE-PES Roy Billinton Power System Reliability Award. He is a member of the National Academy of Engineering.

Francisco Neto, P.E. (KS) is a senior electrical engineer specializing in distribution feeder model analysis. His 6+ years of experience include telecommunication network design and legacy equipment replacement, substation audits, meter data management, and a variety of distribution model studies (hosting capacity analysis, volt/VAR optimization, conservation voltage reduction, effects of smart inverter control and Python scripts for task automation).

Kevin Davies specializes in data acquisition, modeling, and controls for the electric grid under high penetrations of variable renewable energy. Recently at the Hawaii Natural Energy Institute (HNEI), he has led the development of a low-cost, high-fidelity distribution transformer monitor that provides real-time data analytics and controls. Current interests (as of 2020) involve how that edge computing platform can be integrated with power flow and system models, solar forecasting, and distributed energy resources (DERs) to support grid operations. He also leads work to incorporate detailed distribution circuit models and real-time photovoltaic (PV) data onto HNEI's power hardware-in-the-loop (PHIL). He supports HNEI's study of the tradeoffs among solar, wind, and battery energy storage investments, using both commercial tools and custom software.

Dr. Davies has four years of product development experience at Ford Motor Company on several alternative powertrain vehicles including the Ford Escape hybrid electric vehicle (HEV) and the Ford Focus fuel cell electric vehicle (FCEV). Previously at HNEI (2005–2007), he analyzed fuel cell and battery energy/power systems for unmanned underwater vehicles (UUVs). His PhD (Georgia Tech) addressed how mixed advective and diffusive fluid/mass transport can be described in declarative models, in the context of fuel cells.

Dr. Narayana Prasad Padhy received his degree in Electrical Engineering, Masters (Power Systems Engineering) with Distinction and Ph.D., (Anna University, Chennai, India) in the years 1990, 1993, and 1997, respectively. In 2009, he was awarded the "Humboldt Research Fellowship for Experienced Researchers" to carry out renewable generation research. He has profound research experience in power systems and Smartgrid, and has carried out several international projects as a lead/co-lead PI. He has handled many consultancy/research contracts, delivered more than 100 invited guest lectures, attended 25 international academic/regulator's meeting, and published several textbooks. He has 33 Ph.D., 62 M.Tech guidance, and 179 International Publications to his credit. Currently he is a full time Senior Professor, Dean of Academic Affairs, and Institute Chair Professor. He has been nominated both as a Fellow of Indian National Academy of India and as a Fellow of The Institution of Engineering and Technology, UK. He was awarded the IEEE PES Chapter Outstanding Engineer Award in 2018. He was recognized by the Institution of Engineers as an Eminent Engineer. He has also been awarded for valuable contribution in smart city and smart grid technologies in India. He is

also the chair of the working group on network pricing, PES IEEE. He represents India as a national lead in Mission Innovation Challenges #1 on Smart Grid and handles a resource centre on Mission Innovation challenge on Smart grids at IIT Roorkee funded by DST, India.

Er. Navpreet Singh is Chief Engineer at IIT Kanpur. He is the Head of IT and Network Services at IIT Kanpur. He received his Bachelor of Technology degree in Electrical Engineering from IIT Kanpur in 1990. After a brief stint in the Industry, he received his Master of Technology degree in Telecom Networks from IIT Kanpur in 1995, and has been working at IIT Kanpur since then. He has vast experience in managing large campus networks and data centers. His areas of interest are High Speed Networks, Network Security, Machine Learning and Artificial Intelligence. He has been involved in major government projects including setting up Games Time Network in 2010 Commonwealth Games and the country wide network for Goods and Service Tax implementation. He also advises many government and private organizations on efficient and cost effective IT setups.

Dr. Rob Hovsapian is a research advisor at National Renewable Energy Laboratory. He earned his master in controls and doctorate in energy systems from mechanical engineering at Florida State University. Prior to joining NREL he worked for Idaho National Laboratory as Department Manager for Power and Energy Systems. From 2003 to 2011, he was a program manager for USNAVY – ONR's The Electric Ship Research and Development Consortium (ESRDC) a $96Mil 10-year R&D program. His industry experience has been with General Dynamics, as a computer integrated manufacturing manager developed one of the earlier integrated 3D printing; with Northrop-Grumman, as an Integrated Product Team (IPT) leader and system architect for aircraft avionics; and with Northrup-Grumman/TRW as a program manager in the Pacific Rim for semiconductor startups. He has been responsible for the successful establishment and deployment of several advanced flexible manufacturing startup facilities globally.

Soumya Ranjan Sahoo received the B.Tech. degree in Electrical Engineering from University College of Engineering Burla (now VSSUT Burla), India, in 2008, and the M.Tech.+Ph.D. degree in Systems and Control Engineering from the Indian Institute of Technology Bombay, Mumbai, India, in 2013. He is currently a Faculty Member with the Department of Electrical Engineering, Indian Institute of Technology Kanpur, India. His current research interest includes multiagent coordination and control, and its application to power systems and unmanned vehicles.

Dr. Subhransu Ranjan Samantaray received B. Tech from UCE Burla, PhD from NIT Rourkela and Post-Doctoral Studies from McGill University, Canada. Currently, he holds the position of Associate Professor at IIT Bhubaneswar, India. He has visited McGill University, Canada, and AALTO University, Finland as Visiting Professor. He has more than 20 years of experience, including Industry and Academia. His major research interests include PMU and wide area measurement, intelligent protection for transmission systems including FACTs, Micro-grid protection including distributed generation, Micro-grid planning, Wide-area based dynamic security assessment in large power networks, and Smart-Grid Technologies. His research has appeared in such journals as IEEE Transactions, IET Proceedings, and Elsevier. His research credentials have brought several recognitions, including NASI-SCOPUS Young Scientists Awards -- 2015, IEEE PES Technical Committee Prize Paper Award -- 2012, Samanta Chandra Sekhar Award, Odisha Bigyana Acadmey-2010, Young Engineers Award-- IEI -- 2009, Innovative Doctoral Thesis Award -- INAE -- 2008, Young Scientists Award, Odisha Bigyana Acadmey, Dept. of Science and Technology, Govt. of Odisha -- 2007. He is an Associate Editor of IEEE Systems Journal, IEEE Transactions on Smart Grid, Editor of IEEE Transactions on Power Delivery, Associate Editor, IET, Generation, Transmission & Distribution, Member, IEEE Power Systems Stability Sub-Committee, Guest Editor, IEEE Sensor Journal. He is a Senior Member, IEEE and Member, NASI.

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Other Participants

Abhishek Ranjan has about two decades of experience in Power and Information Technology sectors in India. He started his career with Infosys Technologies Limited, an IT company based in India, where he worked on development of enterprise applications for a major US utility and a technology MNC. He is currently leading a team in the areas of Energy Efficiency & Demand Side Management, Renewable Integration and Rooftop Solar, grid level Energy Storage solutions, EV charging infrastructure, Power scheduling & demand forecasting and Energy Analytics at BSES Rajdhani Power Limited (BRPL), New Delhi. Abhishek is a Bachelor of Electrical Engineering from National Institute of Technology, Bhopal and PGDM(GM) from XLRI Jamshedpur.

Adaora Ifebigh is the Senior Manager for Research and Development Engagement at NRECA's Business and Technology Strategies group. She manages projects in cybersecurity, grid modernization, analytics and solar energy affordability.
Prior to joining NRECA, she worked as a consultant for Department of Energy (DOE) where she managed a program portfolio of more than 23 R&D projects worth 77M for the Advanced Research Projects Agency-Energy (ARPA-e).

Alasdair Crawford is a Computational Scientist at Pacific Northwest National Laboratory specializing in building predictive models of energy storage performance and degradation.

Dr. Alex Papalexopoulos is an authority in energy market design and CEO of ECCO, providing consulting and software services in the area of market design and smart grid development to a wide range of clients such as Governments, Regulators, ISOs/RTOs/TSOs/PXs, Utilities, Generators and Traders. Alex has designed organized markets in about 15 countries in North and South America, Europe and Asia. Alex is also the CEO & Chairman of the Board of ZOME which has developed one of the most advanced, cloud-architected software systems to optimize and control IoT devices and other DER assets to create VPPs and offer DR to organized markets. Prior to forming ECCO, Alex worked at PG&E where he was Director of the Electricity Restructuring Group. He has published numerous papers in refereed scientific journals, is the 1992 recipient of PG&E's Wall of Fame Award, the 1996 recipient of IEEE's First Prize Paper Award and a Fellow of IEEE. Alex received the Electrical and Mechanical Engineering Diploma from NTUA, Athens, Greece and the M.S. and Ph.D. degrees in Electrical Engineering from the Georgia Institute of Technology. In 2016 he was bestowed the award of the honorary Professor at the University of Patras, Greece.

Andreas Diekmann is Professor em. of Sociology at the ETH Zurich and a Senior professor at the University of Leipzig (2018 -). He was a Fellow of the Institute for Advanced Study Berlin (2017 – 2018). He earned a doctoral degree from the University of Hamburg in 1979 (Dr. rer. pol.), and received the "venia legendi" (Dr. rer. pol. habil.) from the University of Munich (1987). His areas of research are social cooperation and experimental game theory, environmental and population sociology, and methods of empirical social research. He served as a member of the Humboldt professor price committee and was a chairman and senator of the section "Economics and Empirical Social Sciences" of the German Academy of Sciences Leopoldina (2010 – 2019). He is also a fellow of the European Academy of Sociology and co-editor and board member of several professional journals and research institutions. Present research activities focus on the reduction of energy consumption, an analysis of the environmental burden of metropolitan areas with geo-referenced panel data (supported by grants of the Swiss National Science Foundation) and experimental research on social cooperation.

Ms. Anjuli Chandra, currently a Member of Punjab State Electricity Regulatory Commission, is a former Central Power Engineering Services (CPES) cadre officer and ex-Principal Chief Engineer, Central Electricity Authority (CEA). She is a gold medalist in Electrical Engineering from Thappar Institute of Engg and Technology and gold medallist in MBA from Punjabi University, Patiala. She is a certified Energy auditor from Bureau of Energy Efficiency. During her stint at CEA, she worked in various formations viz. Renewable energy sources, power survey and load forecasting, power system monitoring, generation monitoring, design of hydro projects, project appraisal, and distribution planning & Development. She served as the Executive Director Tariff & Engineering in Delhi Electricity Regulatory Commission for about 4 years on deputation. In addition to her many contributions in the power sector, she remained the advisor-cum-consultant to the State of Jammu and Kashmir for APDRP programme of GOI. She prepared the 19th Electrical Power survey report of CEA, which is the base document for the perspective planning of the power sector for the next 20 years. She has framed and notified regulations for Multi-Year Tariff, Supply Code, Grid code, Open access, forecasting and Scheduling for renewable generators RPO and Net Metering. Her areas of interest include Regulation, Integration of renewable energy sources in the Grid, Smart Grid, Intelligent Metering and Loss Reduction Strategies. She has chaired and served on many task forces and committees set up by CEA, CERC and Ministry of Power & Ministry of New and Renewable Energy. She has remained Chairperson of ETD13 Committee of BIS for three years for framing Standards for Meters. She was independent Director on the Board of Uttar Haryana Bijli Vidyut Vitran Nigam (UHVBN) and Haryana Vidyut Prasaran Nigam (HVPN).

Anna Hallac is an incoming senior at Horace Greeley High School in the science research program and a student in the Columbia University Science Honors Program. She earned first prize in the Bedford 2020 Greenlight Competition for implementing (among other sustainable initiatives) a hydroponics program at our high school, as well as earning second place in Physics in the Somers Science Fair. An AP Scholar with Distinction, Anna

hopes to continue expanding her knowledge base as an enthusiastic research volunteer studying and helping to implement a novel visualization technique for the effect of solar irradiance on photovoltaics and the electric grid.

Ashok Jadhav is an Institute Post-Doctoral fellow with the Department of Electrical Engineering at the Indian Institute of Technology, Delhi (since October 2019). He received a Ph.D. in Electrical Engineering from Visvesvaraya National Institute of Technology, Nagpur in 2019, with the title “Architectures and Algorithms for Energy management in Smart Micro-grids". His Ph.D. work focused on finding effective strategies and designing mechanisms suitable for managing and controlling distributed energy resources (DER's) and loads in the multi-microgrid system. He explored game theory's properties to develop a new systemic approach for energy trading and subsequently proposed different architectures and algorithms. This new approach helps to address the complexity of microgrid clusters by enabling the simultaneous consideration of multiple aspects such as decentralization in power systems, the communication overhead, energy markets, consumer behaviors, and their privacy. His research lies in the retail electricity market design under uncertainty, policy, and grid optimization problems, using tools from the areas of optimization, control theory, economics, and game theory. Arman Ahmed is a Ph.D. student at Washington State University, supervised by Dr. A. K. Srivastava, and Dr. Y. Wu. His research focusses on developing data-driven algorithms for power grid analytics using data science.

Arun Kumar Mishra currently serves as Director, Project Management Unit (NPMU) of National Smart Grid Mission (NSGM) under Ministry of Power Government of India. The National Smart Grid Mission aims to accelerate Smart Grid deployment in India. NSGM is single point of contact to plan and monitor implementation of the policies and programs related to Smart Grid in India. Since March 2018 he is also acting as as Vice Chair of ISGAN’s (International Smart Grid Action Network) Executive Committee. A graduate in Electrical Engineering (REC/NIT Kurukshetra-1985), Mr. Mishra holds Post Graduate Diploma in Human Resources Management (IGNOU-1996). He has more than 34 years’ experience with major focus on Selection of Information and Communication Technology (ICT) solutions in utilities for operational effectiveness and business transformation of power systems including planning, design and implementation and funding. He is a Distinguished member of the CIGRE. He is member of India-National System Committee on Information Systems and Telecommunications (CIGRE D-2) and the BIS (Indian National Standards setting body) Sectional Committee of Power System Control and Associated Communications LITD-10.

Arun Kumar Karngala is a Ph.D. student working on Power Systems Reliability with Dr. Singh at TAMU. He has an undergraduate degree in Electrical engineering from NIT Warangal. He worked as an Assistant Manager for a period of two years in the Plant Power Distribution System at NMDC Iron and Steel Plant before joining TAMU.

Mr. Ashish Kumar Sharma works as a Research Associate at the Electricity & Fuels Division of TERI. He is currently looking after techno-economic analysis of new & sustainable technologies such as batteries, EVs and distributes energy sources at distribution level under various projects. He was also involved in impact assessment of solar rooftop across PAN India, implementation of Battery Energy Storage Systems (BESS) and building financial models for different technologies of batteries, solar and wind to find landed cost to customers. Before joining TERI, he s-completed an MBA in power management from NPTI (2016-2018). He did his two months internship from TERI in June, 2017 and thereafter, he has remained associated with TERI on bi-weekly basis supporting in various projects like LED impact assessment, GRPV tender evaluation for MP distribution utility, writing TEDDY, making tool for calculating LCOS of BESS, writing proposals, preparing tenders etc. He has also written many research papers and articles in various National and International Journals on BESS economics. As a speaker, he has undertaken sessions on BESS in reputed national and International conferences. He has also provided training on BESS under Indian Technical and Economic Cooperation, Management Development Programmes and at institute level to budding professionals.

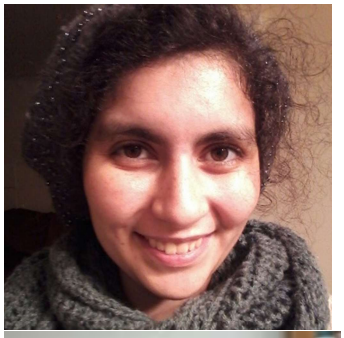
Mr. Ashish Rawat is an electrical engineer by profession from University department of Guru Gobind Singh Indraprastha University (GGDIPU). He has more than one years of experience in the power sector working with various stakeholders such as transmission and distribution companies, policy makers, consumer organizations and development organizations. He has extensively working in the field of Energy Storage and Electric Mobility action plans for various utilities. He's also dedicated to the Lab facility (Smart Control Lab), TERI Gurugram and performed testing of equipment like Battery Simulator, Solar PV Emulator and Load Emulator. He has also developed standard operating procedure (SoP) for the equipment in the lab. He has also contributed in tender development and bidding process under UI-ASSIST project for pilot implementation of Battery Energy Storage Solution for three different location in Delhi. Currently he is working on State of Charge Estimation using Kalman Filters, testing of the control logic of BESS for CAT B and CAT C and scripting standards (IEC, UL) for battery/cell testing in the lab.

Assefaw Gebremedhin is an associate professor (as of August 2020) in the School of Electrical Engineering and Computer Science at Washington State University, where he leads the Scalable Algorithms for Data Science (SCADS) Lab. Prior to joining WSU in Fall 2014, he was a research assistant professor at the Department of Computer Science at Purdue University, where he served as a founding member and an investigator in the Combinatorial Scientific Computing and Petascale Simulations (CSCAPES) Institute, a multi-institution project funded by the Department of Energy under the SciDAC-2 program. His broad research interests include: data science and machine learning, including their novel use in power applications; graph/network algorithms; high-performance computing; pervasive computing; and bioinformatics. In 2016, Assefaw received the National Science Foundation CAREER Award for work on fast and scalable combinatorial algorithms for data analytics. He earned his PhD and MSc in Computer Science from the University of Bergen, Norway, and his BSc in Electrical Engineering from Addis Ababa University, Ethiopia.

Atul Kumar Soni is, currently, pursuing a PhD from the Department of Electrical Engineering, Indian Institute of Technology Kanpur. His thesis advisor is Dr. Abheejeet Mohapatra (Assistant Professor, Department of Electrical Engineering, IIT Kanpur). His research area is related to protection of active distribution networks, which mostly falls under Theme 6.

Dr Avnaesh Jayantilal is the Advanced Distribution Management Solutions (ADMS) Product Director at GE Digital Grid Software Solutions, assisting electric utilities in enhancing grid reliability, resiliency, and operational change management. He joined GE (then Alstom) in 1999, and prior to his current role he led the Market Management Solutions (MMS) product line. He is also a Senior Member of the IEEE Power and Energy Society (PES), in which he was the past chair of the IEEE PES Distribution System Operations and Planning, and IEEE PES System Operations and Control Center subcommittees.

Benjamin Shrager is a General Engineer with the U.S. DOE, serving in the Advanced Grid Research & Development Team within the Office of Electricity. He is a graduate from Case Western Reserve University, having received a Bachelor's and Master's in Systems & Control Engineering in May 2019 and May 2020, respectively. For his Master's degree, Benjamin was a 2019 DAGSI Award grant recipient, working with the Air Force Research Laboratory on a project to optimize hybrid electric power systems. He has also worked as a Systems Engineering Intern at Lockheed Martin and a Lean Six Sigma Intern at NASA Glenn Research Center.



Brenna Peever is the UI-ASSIST Program Assistant at WSU. She graduated from University of Idaho in 2019 with a Bachelor's of Science in Mathematics and a Bachelor's of Arts in Physics.

Dr Chaitali Bhattacharya is a Principal Science Officer at Indo-US Science & Technology Forum (IUSSTF). Her role involves conceptualising, designing and administrating programs in the priority areas of Science, Technology, Innovation, Capacity building and Entrepreneurial. With a Master's Degree in Botany from Delhi University and Doctorate study on the role of fungal bio agents for the managements of disease complex, she did her Post Doctorate in Plant signalling molecule: Strigolactone, from ARO, Volcani Centre, Israel. Her professional experience of over 17 years includes Research & Development in organisations such as Indian Institute of Horticultural Research (IIHR), Bangalore, International Panaacea Ltd (IPL), New Delhi and The Energy Research Institute (TERI), New Delhi. This was followed by working as a Scientist at the Technology Development Board, GOI, with role of designing and implementing programs to help in development and commercial application of indigenous technology.

Charlie Smith is a member of the IEEE Power and Energy Society; a member of CIGRE, the International Council on Large Electric Systems; a US representative to the IEA Wind Annex Task 25 on Design and Operation of Power Systems with Large Amounts of Wind Power, and a Fellow of the IEEE. He is a guest editor for the IEEE Power and Energy magazine, and a past editor for the IEEE Transactions on Sustainable Energy. He is a recipient of the IEEE PES Ramakumar Family Renewable Energy Excellence Award, and currently serves as the Technical Advisor to the US National Committee for IEC SC 8A, Grid Integration of Renewable Energy Generation.

He received his BSME and MS degrees from MIT in 1970. He currently is the Executive Director of the Energy Systems Integration Group (ESIG). Previously, he served as President of Electrotek Concepts, an international

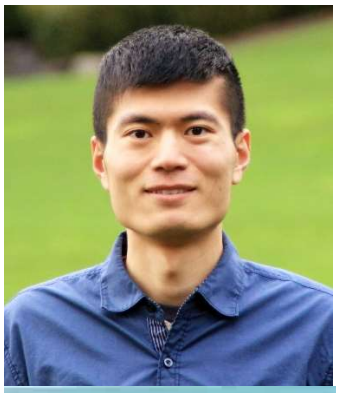
power engineering consulting firm. He has 50 years of experience in the electric power industry.

David Pinney is the Analytics Research Program Manager at the National Rural Electric Cooperative Association (NRECA). He coordinates and leads software and analytics research efforts among the cooperatives and their partners in academia, industry and the government. Current research projects include cost-benefit analysis of distributed energy resources, distribution and transmission system simulation, sensor, machine intelligence and modeling platforms, and decision models for resiliency investments. Prior to these efforts, David developed research software for NRECA, led consulting engagements for software and data mining company MicroStrategy, and built biological models at the UCLA Institute for Pure and Applied Mathematics. He has a degree in mathematics from Cornell University. Contact David at david.pinney@nreca.coop.

D. Jonathan Sebastian-Cardenas (M') received his B.E. and M.Sc. degrees in electrical engineering from Instituto Politécnico Nacional, Mexico City, Mexico, in 2013 and 2015, respectively. He is currently finalizing his Ph.D. in computer science at Washington State University, Pullman, WA, USA. Within the professional field, he has collaborated in the development of training simulators and market analysis tools that are in use by the industry. His current research interests include cybersecurity of cyber-physical systems and data privacy with an emphasis towards IoTs and IBRs

Gary B. Huffman has 30 years of utility management experience and is currently the Vice Chair of the Edison Electric Institute (EEI) Distribution Reliability Working Group as well as an IEEE member. In his current role Mr. Huffman serves as Burns & McDonnell Engineering's Manager of Distribution Programs and Services, bringing creative and expert engineering solutions to clients of Grid Modernization programs. Mr. Huffman's past experience includes successfully managing the start-up of FirstEnergy's "Energizing The Future" Transmission investment program as Program Manager for Burns & McDonnell Engineering and as Owner's engineer for construction of the Devers – Palo Verde II 500kV transmission line in Southern California for SCE. Mr. Huffman has testified before the California Public Utilities Commission (CPUC), California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD) as an expert witness on electric, gas, and telecommunications utility rate proceedings, technical issues, and regulatory rule making. Mr. Huffman holds a BS in Manufacturing Engineering from California State Polytechnic University at Pomona and a Project Management Certification from the University of California at Irvine. Mr. Huffman is a US Navy veteran and a proud father. gbhuffman@burnsmcd.com

Gyan Prakash



Hongda Ren received his BS from the School of Electrical Engineering, North China Electric Power University, Baoding, China, in 2009, and his MS from the Electrical Engineering Department, Shanghai Jiaotong University, Shanghai, China, in 2012. He worked as assistant researcher at China Southern Power Grid Electric Power Research Institute from 2012 to 2014. He is currently working towards the Ph.D. degree at the School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA. His current research interests include microgrid planning and restoration, volt-var control and optimization, and machine learning algorithms applications in power system.

H. P. Khincha

Dr. J. B. V. Reddy is a graduate in Electronics & Communication Engineering from Delhi College of Engineering and MS (Research) from IIT Delhi. He has done his doctoral thesis on “Advanced Signal Processing and Machine Intelligence Techniques for Power Quality Assessment” from SOA University, Bhubaneswar.

He has a professional career of more than two decades in promotion of science & technology through policy framework as well as direct intervention through various national and international R&D promotional programmes.

At present, he is implementing clean energy research scheme supporting projects in the area of Smart Grids, Building Energy Efficiency, Methanol & DME, Clean Air and Clean Coal Technologies involving academic institutions, national R&D labs and industry.

John Zachary Gibson, P.E., is Chief Research & Development Engineer at Avista, and leads the team that develops grid products and services for Avista's electric and natural gas customers.

With more than 25 years of experience in the electric utility industry, Gibson is currently leading the development of a shared energy model called an eco-district, which uses a centralized plant to supply energy to multiple buildings in an area referred to as the "five smartest blocks" in Spokane, Wash. This innovative model could transform how the electric grid of the future operates and help reinvent the utility business model.

Gibson holds a Bachelor of Science degree in electrical (BSEE) and civil engineering (BSCE), plus a Masters in Engineering Management. He is a registered Professional Engineer in the state of Washington.

John Hieb has worked in the utility industry for over 13 years after graduating from University of Idaho with a bachelor's degree in electrical engineering. John has a wide range of engineering experience working in various roles of the electric utility industry from software supplier, to system planning consulting, to utility engineering. He is currently working on SnoPUD's ADMS system providing engineering analysis and software support for the system operators. John has specified energy storage projects, studied wind and solar interactions with energy storage systems, and reviewed impacts of IEEE standards on island grid reliability. John is currently employed by Snohomish County PUD and lives in Everett, WA.

I am Jorge Cisneros-Saldana, an Electrical-mechanical and Energy Engineer, completing a PhD - degree in Electrical Engineering in the Energy and Power field at Texas A&M University, under the supervision of Doctor Miroslav Begovic. Currently, working in inverter modelling for microgrids, likewise faults and protections for DER. Aimed at grid connected and isolated networks, with renewable energy integration.

I have six years of experience as an Electromechanical engineer focused on control, operations and maintenance for power plants and factories. Also developing projects for different companies related to renewable energy industry and automation e.g. SCADA. Among the most noteworthy companies I've worked are, Siemens in Germany, FERC in Washington DC, Tenaska Hydro in Bolivia, Soboce in Bolivia, WhitEnergy transnational company. I also have experience as university lecturer, mostly teaching power and electrical related subjects.

Jyoti Sharma works in the Electricity and Fuels Division of TERI as a Senior Research Fellow. She holds a Master's in Renewable Energy from Malaviya National Institute of Technology, Jaipur. Her research work broadly focused on distribution system operator functionalities, policy issues and recommendations, power markets, battery energy storage systems and distribution system modelling. She is currently working as a UI-ASSIST Team member on battery energy storage systems at distribution level and DSO in an Indian context.

Kapil Muddineni is an experienced Electrical Engineer specialising in the renewable energy field with over 4 years of experience in electrical engineering practice. He is currently an Associate Fellow in the renewable energy field with deep knowledge developed from his certifications, programmes & numerous achievements/activities in renewable energy sector. He heads the research activities in state of the art Smart Controller Laboratory on power converters for distributed renewables. He has worked on several projects funded by McArthur Foundation, Norwegian Embassy, Innovate UK and other international donors. His expertise involves working on grid integration studies, assessing the smart inverter technologies and conducting applied research and development.

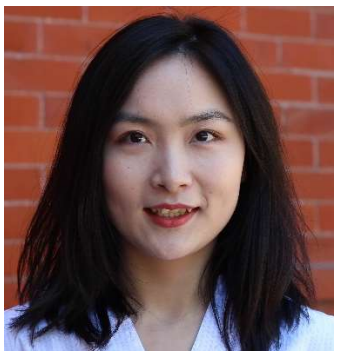
He graduated from Indian Institute of Technology, Mumbai with a Master Degree in Energy Systems Engineering, a Bachelor of Engineering Degree in Electrical and Electronics Engineering, and assorted electrical engineering credentials. Mr. Kapil is an active member of Bureau of Indian Standards Technical Committee on Solar Energy and participated in TC 82 IEC Technical Committee meetings. He is a qualified Rooftop Grid Engineer (QP-SGJ/Q0106) conforming to National Skill Qualifications Framework Level-5 by National Institute of Solar Energy (NISE). His work is widely published on several topics including renewable energy, solar PV based micro-grids, solar irrigation and other related areas.

Ketan Rajawat (S'06–M'12) received his B.Tech and M.Tech degrees in Electrical Engineering from the Indian Institute of Technology (IIT) Kanpur, India, in 2007, and his Ph.D. degree in Electrical and Computer Engineering from the University of Minnesota, Minneapolis, MN, USA, in 2012. He is currently an Assistant Professor in the Department of Electrical Engineering, IIT Kanpur. His research interests are in the broad areas of signal processing, robotics, and communications networks, with particular emphasis on distributed optimization and online learning. His current research focuses on the development and analysis of distributed and asynchronous optimization algorithms, online convex optimization algorithms, stochastic optimization algorithms, and the application of these algorithms to problems in machine learning, communications, and smart grid systems. He is currently serving as an Associate Editor with the IEEE Communications Letters. He is also the recipient of the 2018 INSA Medal for Young Scientists and the 2019 INAE Young Engineer Award.

Kripa Tiwari is currently working toward the Ph.D. degree in electrical engineering with the Department of Electrical Engineering, Indian Institute of Technology, Delhi. Her research interests include power electronics, renewable energy, microgrids, power quality, and application robust control techniques in microgrids.

Krishnan Venkatraman, Bachelor of Information Technology, Stood First in the University, 2001, Delhi University, New Delhi (India). 19 years industry experience.

Lokesh Nalla received his Bachelor degree from Jawaharlal Nehru Technological University, Anantapur, India, in 2010, and his Master degree from National Institute of Technology, Calicut, India, in 2013. Presently he is pursuing a Ph.D. at Indian Institute of Technology Madras, Chennai, India. His research interests include modelling and control of custom power devices, Grid synchronization and renewable energy systems.

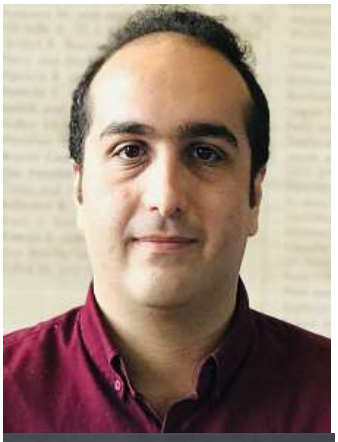


Lusha Wang is a PhD student at the School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA. She received the B.Eng degree from Wuhan University, China in 2016. She is working with Dr. Schulz on distribution system voltage control, integration of electric vehicle and EV smart charging.

Mayank Panwar is a Research Engineer-III in the Power Systems Engineering Center at National Renewable Energy Laboratory in Golden, CO. He received his Ph.D. and M.S. degrees in Electrical Engineering from Colorado State University in Ft. Collins, CO in 2017 and 2012, respectively. He has a B.Tech. degree in Electronics and Instrumentation engineering from A.P.J. Abdul Kalam Technical University (formerly U.P. Technical University), India in 2007. He was a Postdoctoral Researcher from Feb. 2017 to Nov. 2017, Research Scientist from Nov. 2017 to Dec. 2019 in the Power and Energy Systems department at Idaho National Laboratory, Idaho Falls, ID, U.S.A. He has over four years of experience in thermal power plant operation and maintenance at NTPC Limited, India where he worked as a Control and Instrumentation Engineer. He has worked on several DOE-funded projects including GMLC RADIANCE in Alaska for resilient distribution systems. His research interests include microgrids, real-time modeling and simulations, co-simulation of electrical-mechanical-thermal systems, hardware-in-the-loop testing and advanced computing for grid operation.

Megha Gupta is a Ph.D. Scholar at the Department of Electrical Engineering, Indian Institute of Technology Delhi, India. She received her M.Tech. degree in Integrated Power Systems Programme from Visvesvaraya National Institute of Technology, Nagpur, India, in 2016. She works in the area of power systems. Currently, she is working towards developing the schemes to perform a coordinated operation of transmission and distribution system operators for better grid management. Her research interests include - Transmission/Distribution System Steady State Analysis, Operation, and Planning; Power System Optimization, Power System Security, and Energy Markets.

Mike Diedesch received his B.S. in Electrical Engineering from Washington State University in 2008 and is a registered Professional Engineer in Washington. Since joining Avista Utilities in Spokane, WA, he has worked in various engineering roles including Generation Controls, SCADA, System Protection and Controls, and Metering. He is currently Avista's Lead Smart Cities Engineer.



Milad Soleimani received the B.Sc. degree from the Isfahan University of Technology, Isfahan, Iran, in 2014, and M.Sc. degree from the University of Tehran, Tehran, Iran, in 2017, both in electrical engineering. He is currently a Research Assistant and Ph.D. Student with the Department of Electrical and Computer Engineering, Texas A&M University, College Station, TX, U.S.A. His research interests include distribution grid management and operation, smart grids, power system resilience, power transformers, and asset management. Mr. Soleimani was a recipient of the 2019 and 2020 Thomas '62 & Powell Industries at Texas A&M University and American Public Power Association's DEED Student Research Grant.

Mohammad Khoshjahan received the B.Sc. degree in electrical engineering from Amirkabir University of Technology (the Tehran Polytechnic), Tehran, Iran, in 2015, and the M.S. degree in electrical engineering from Sharif University of Technology, Tehran, Iran, in 2017. He is currently pursuing the PhD degree at Texas A&M University, TX, USA. His research interests include electricity market, power system flexibility, distributed prosumers and smart power grids.

Mr. Mukesh Kumar is a Project Associate at the Electricity and Fuels Division in TERI. At TERI, his work on grid scale battery energy storage system (BESS) is to develop charge/discharge of BESS, power sector policy, electric vehicles charging/discharging, charging infrastructure etc.
Mr. Kumar holds a Master's degree in Renewable energy and bachelor degree in Electrical Engineering.

Narendra Babu Yoganand received M.Tech degree (Master of Technology) in electrical and electronics engineering from PES University, Bangalore, India in 2015. Worked as a research intern during 2015 at UPS R & D division, Schneider Electric India Private Ltd. Later from 2016, worked as Engineer-Testing at solar inverter R & D division, Schneider Electric India Private Ltd for 2 years. Currently working towards the Ph.D. degree with Indian Institute of Technology Roorkee, India. Major research interests include modelling and stability analysis of grid tied inverters and analysis of interactions among multiple inverters and grid in microgrids.

Naveen Nagpal completed his Bachelor's in Technology in Power (Electrical) from National Power Training Institute, and completed his Post Graduate Diploma in Operations Management from Indira Gandhi National Open University. He is also a Certified Energy Manager from Bureau of Energy Efficiency and has a Certification in Project Management from Institute of Project Management Certification (the Certification Body of Project Management Associates). He is also a Certified RE Grid Manager and COBENEFITS Specialist in Renewable Energy from Renewables Academy (RENAC), Berlin, Germany.
He has more than 14 years of experience in the Power Sector, effectively managing projects across value chain of EHV transmission lines as well as LV distribution lines.
Presently, he is working with BSES Rajdhani Power Limited, one of the DISCOMs in Delhi, towards integration of renewable energy into the distribution grid, managing EV charging infrastructure, pilot projects for deployment of Battery Energy Storage Systems and initiatives towards grid modernization and digitalization. He is also instrumental in imparting various trainings on rooftop solar PV and net-metering policies at various national institutes. He has also published various technical papers on topics including Microgrids, Battery Energy Storage, RE integration, impact of EV on distribution grid, etc. in National as well as International Conferences.

Nicholas DeForest is a Senior Scientific Engineering Associate in the Grid Integration Group at Berkeley Lab. He works as a core developer on the microgrid and distributed energy design tool DER-CAM. The Distributed Energy Resources Customer Adoption Model (DER-CAM) is a powerful, and free-to-use decision support tool, developed by Berkeley Lab to help guide the process of designing microgrids and distributed energy systems. Additionally, he works on projects related to optimal control of microgrids.

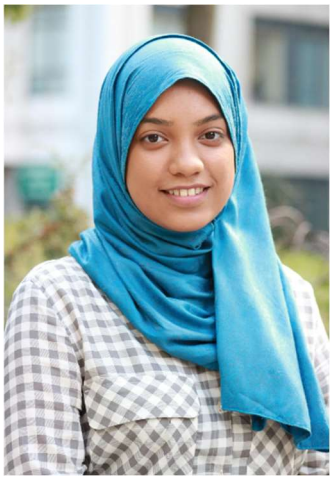
Nilesh Hadiya works as a Project Associate at TERI with UI-ASSIST. His interest areas are Electricity Markets, Local Energy Markets, Blockchain, Peer to Peer Energy Trading, Power system planning, Power System Restructuring, Artificial Intelligence (Prediction Models), and optimization.

Niloy Patari received the B.EE degree from Jadavpur University, Kolkata, India in 2013 and the M.Tech degree from the Indian Institute of Technology, Kharagpur, India in 2015. He is currently working towards the Ph.D. degree at the School of Electrical Engineering and Computer Science, Washington State University, Pullman, WA, USA. His current research interests include optimal power flow, distributed voltage control and optimization.

Olive Ray, PhD, originally from Kolkata, India, is currently serving as an Assistant Professor in the School of Electrical Sciences at Indian Institute of Technology Bhubaneswar, India. He has done his B.E.E. from Jadavpur University, Kolkata, India in 2009, M.Tech and Ph.D. from Indian Institute of Technology Kanpur in 2011 and 2016, respectively. His areas of interest are in power converter topologies and its control, digital control of power electronic converters, and renewable integration. Post Ph.D., Dr Ray has been working as Research Engineer at GE Global Research Centre, Bangalore.
As part of the UI-ASSIST team from IIT Bhubaneswar, Dr. Olive is involved in the broad theme of storage modeling and integration.

Piyush Sharma

Priya Thomas is the Program Officer at the Indo-US Science and Technology Forum (IUSSTF) in New Delhi, India. She has assisted in implementing and monitoring various programs administered by the IUSSTF, including the Indo-US Joint Clean Energy Research and Development Center. She received her Bachelors in Engineering (B.E.) in Biomedical Engineering from the Rajiv Gandhi College of Engineering at Anna University in 2010 and her Masters in Technology (M.Tech). in Biomedical Engineering from VIT University, Vellore in 2012.



Rabab Haider is a PhD student at MIT, Department of Mechanical Engineering, working under Dr. Annaswamy. Her involvement with the UI-ASSIST team includes Themes 3, 6, and 7, with a focus on distributed optimization algorithms used within control frameworks for smart grids, and development of distribution-level retail markets for more efficient electricity pricing and resource utilization. She is a graduate from MIT and University of Toronto, and has experience working in academia and industry. She has worked as an R&D intern developing network modeling software, and on projects studying low-emission combustion engines, and control systems for pico-turbine systems.

Rabia Khan is a PHD graduate student at WSU working under the supervision of Dr. Noel. Schulz. She is working on Theme 2 and Theme 4 of UI-ASSIST Project.

Rajesh Kumar

Rakesh Kumar Panda is a research scholar at IIT Kanpur.

Ram Krishan works in the Electricity and Fuels Division of TERI as a Research Associate. He has 1 year of industry experience in operation and project management along-side 2 years of research experience in distributed energy management system applications to smart grids. Prior to joining TERI in May, 2018 he worked in the position of graduate engineer trainee at Sentiss Pharma Pvt. Ltd. He presently handles research projects in the domain of distribution system. He has been involved as a team member in the MacArthur foundation funded project on impact analysis of rooftop solar PV integration with distribution feeders and the UI-ASSIST project on distribution level battery energy storage systems. He is also involved in analysing the impact of solar PV and EV charging on distribution asset by measuring power quality parameters. He holds a Master of Technology in energy engineering from Indian Institute of Technology, Mandi.

Ramanuja Panigrahi (S'16) received a B.Tech. degree from Biju Pattnaik University of Technology, Odisha, India, in 2013 and an M.Tech. degree in Electrical Engineering from the Indian Institute of Technology Kanpur, Kanpur, India, in 2016, where he is currently working towards the Ph.D. degree. His research interests include design and control of power converters, energy harvesting, power electronics for advanced grid functionality, and integration of PVs in secondary distribution network.

Rohan Madnani received the B. Tech. degree in Electrical and Electronics Engineering from Visvesvaraya National Institute of Technology, Nagpur, India in 2019. He is currently a Ph.D. Research Scholar at the Department of Electrical Engineering, Indian Institute of Technology Madras, Chennai, India. His research interests include Design, Analysis and Control of Microgrid Systems, and Power Electronic Applications in Power Systems.

Sandeep Gupte is currently working as a Director of Business Development at Customized Energy Solutions (CES). He is a key member of the India Energy Storage Alliance (IESA). He focuses in the areas of Energy Storage Systems (Battery), Project Investments, Renewable Energy and Micro-grids. He is responsible for reaching out to corporations and institutions who can benefit from energy storage and energy trading. He has also implemented Micro-grid Energy Storage Applications for Rural Indonesian Villages. Sandeep has over 26 years of rich industry experience in Telecom Active network and Passive Infrastructure & Energy Storage. He has expertise in Towercos, telecom networks, RF optimization, VSAT networks. He has worked on several international projects in Bangladesh, Indonesia, Myanmar, Philippines, Israel, Africa, USA and UK. Sandeep holds a M. Tech in Microwave Electronics and MSc in Physics and Electronics. Prior to joining CES he worked with Caterpillar –Fluidic Energy Joint Venture, VIOM Networks, Indus Towers, Bharti Infratel, Bharti Airtel, Vodafone and HCL Comnet.

He is a Certified Trainer of Solar PV Rooftop by GERMI & Skill Council of India, and also Certified by SMA Academy for SMA Inverters.

Sanjeev Pannala is working as a Post-Doctoral Research Associate at Energy System Innovation Center, Washington State University Pullman, USA. Currently, he is working on distribution system resiliency, event detection algorithms, ADMS, and microgrids. He completed B.Tech and M.Tech from the Jawaharlal Nehru Technological University Hyderabad and National Institute of Technology in Bhopal, India, in 2011 and 2013, respectively. He worked as Assistant Professor in Mukesh Patel School of Technology Management and Engineering, NMIMS University Mumbai, from 2013 to 2014. He worked on the Indo-UK HEAPD project from October 2014-January 2018 to earn his Ph.D. degree at the Indian Institute of Technology Roorkee (IITR), India. He also worked as a research associate (RA) under the UIASSIST Project at the Indian Institute of Technology Roorkee (IITR), India from Feb 2018-May2019. He received the best paper award at IEEE National Conference ICAER in October 2013. He received POSOCO Power System Award in 2020 for significant contributions during Ph.D. His doctoral research was focused on the operation and control of DC microgrids as well as hybrid DC/ AC microgrids, including energy storage systems, renewable, and non-renewable energy sources.

Ms. Satabdy Jena is pursuing her PhD in power systems at the Department of Electrical Engineering, IIT Roorkee under the supervision of Dr. N P Padhy. Her research interests are distributed hierarchical control structure for DC/AC Microgrids and cyber-security of distributed multi-agent systems.

Seema Kewat (M'15) was born in Rampur, India, in 1989. She received B. Tech. degree in electrical engineering from Vivekanand Institute of Technology & Science, Ghaziabad, India, in 2010 and the M. Tech. degree in Electrical power management system from Jamia Millia Islamia, Delhi, India, in 2015. She is currently working toward a Ph.D. at the Department of Electrical Engineering at the Indian Institute of Technology, Delhi. Her areas of research interests include power electronics, renewable energy, micro-grid, power quality, and application of adaptive and robust control techniques in microgrid.

Shashank Vyas works in the Electricity and Fuels Division of TERI as an Associate Fellow. He has 5 years of research experience in distribution system analysis and machine learning applications to smart grids. Prior to joining TERI in August 2017 he worked in the position of National Renewable Energy Fellow under MNRE fellowship at National Institute of Technology Jaipur. He worked for short stints as research assistant in solar photovoltaics division at Central Electronics Limited and at Microgrids divison of Solar Business Unit at Larsen and Toubro Limited, Chennai. He presently handles research projects in the domain of distribution systems. He is handling the BESS control validation and pliot implementation components under the Indo-US project on distribution level battery energy storage systems in the capacity of co-principal investigator. He is also involved in projects related to implementation of blockchain based solutions for P2P trading of rooftop solar power in distribuiotn networks. He also completed short-term projects for UPPCL on performance assessment of the distribution franchisee in Agra and impact assessment of the UJALA scheme in Uttar Pradesh. He holds a PhD in predicitive analytics and machine learning for islanding management in distribution feeders with high solar PV penetration from National Institute of Technology Jaipur.

Shaziya Rasheed received her B.Tech degree in Electrical Engg. and M.Tech. degree in Electrical PowerSystem Management from Jamia Millia Islamia, India, in 2013 and 2016, respectively. She is currently working toward a Ph.D. at the Department of Electrical Engineering, Indian Institute of Technology Delhi, India. Her research interests include steady state analysis of distribution system, operation and planning, optimization and energy markets.

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Publication: Smrutirekha Samal, S. R. Samantaray and M S Manikandan " A DNN based Intelligent Protective Relaying Scheme for Microgrids," 8th International Conference on Power Systems (ICPS-2019), MNIT, Jaipur, 2019.

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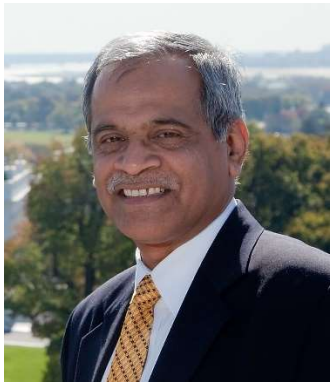

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