

BIOGRAPHIES



Carol Adkins is the Director of the New Mexico Energy and Geoscience Center at Sandia National Laboratories (Sandia) in Albuquerque, New Mexico. Prior to her current role, Carol was the director of Energy Technologies and System Solutions. Additional past management roles include: director of Materials Science and Engineering, deputy director of the Nuclear Weapons Science and Technology Strategic Area, with responsibility for the major NNSA science and infrastructure funding at Sandia, principal program director for the Defense Security Program, which included all physical and cyber security at Sandia, and the National Counter Terrorism and Weapons Incident Response programs, and deputy director of the Advanced Manufacturing Science and Technology Center. Carol received her B.S. in Chemical Engineering from the University of New Mexico, and her Ph.D. in Chemical Engineering from the California Institute of Technology as a National Science Foundation Fellow. She is a fellow of the MIT Seminar XXI Program in International Security. In 2015 Carol was presented with a Distinguished Alumni Award by the School of Engineering from the University of New Mexico.



Mike Pesin is the Deputy Assistant Secretary for the Advanced Grid Research and Development Division in the U.S. Department of Energy's Office of Electricity. Mr. Pesin has 30 years of experience in the electric utility industry, much of it directing development and execution of advanced technology programs. His most recent assignment was with Seattle City Light, where he developed technology strategies, managed research and development projects, and directed strategic programs to management demonstration projects. His subordinate strategic programs include: substation automation, distributed automation, advanced metering infrastructure, enterprise OT communication networks, energy storage, microgrids, transactive energy management, and distributed management systems. Mr. Pesin has numerous professional affiliations, publications, and patents. He holds a M.S. in Electrical Engineering from St. Petersburg State Polytechnic University in St. Petersburg (Leningrad), Russia, is a Licensed Professional Electric Engineer in Washington, a Certified Project Management Professional (PMP) and a Cisco Certified Design Associate (CCDA).



Imre Gyuk is the Energy Storage Program Manager at the U.S. Department of Energy (DoE). This program funds work for a wide variety of technologies such as advanced batteries, flywheels, super-capacitors, and compressed air energy storage. Applications include: seamless continuity of power supply for high-tech industry during outages, making renewables dispatchable, helping to increase the capacity factor, and easing congested distribution lines. Dr. Gyuk has a B.S. from Fordham University and did graduate work at Brown University. At Brown, he was a research assistant to Nobel Laureate, Leon Cooper. He has a Ph.D. in Theoretical Physics from Purdue University and became a research associate at Syracuse. Dr. Gyuk has taught Physics, Civil Engineering, and Architecture at the University of Wisconsin and Kuwait University.

SESSION 1



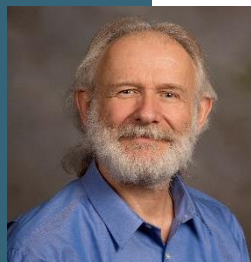
Stan Atcitty received his B.S. and M.S. degrees in Electrical Engineering from New Mexico State University in 1993 and 1995, respectively. In 2006, he received his Ph.D. in Electrical and Computer Engineering from Virginia Tech University. He is a distinguished member of the technical staff at Sandia in the Energy Storage Technology and Systems Department. He leads the Power Electronics Subprogram as part of the DoE Energy Storage Program and has gained international recognition for its state-of-the-art research and development under his leadership. Five of his projects have won the prestigious R&D 100 Award from the Research & Development Magazine. His interest in research is in power electronics necessary for integrating energy storage and distributed generation with the electric utility grid. Mr. Atcitty has over 50 publications and holds four patents and another two pending.



Depak Divan is a professor, John E. Pippin Chair, GRA Eminent Scholar, and Director of the Center for Distributed Energy at the Georgia Institute of Technology in Atlanta, Georgia. His field of research specializes in the areas of power electronics, power systems, smart grids, and distributed control of power systems. He works closely with utilities and industry. He is actively involved in research, teaching, entrepreneurship, and starting new ventures. Dr. Divan serves as the Founder and Chief Scientist at Varentec in Santa Clara, California. Varentec is funded by leading green-tech venture capital firm Khosla Ventures, and renowned investor Bill Gates. He was the president and CTO of Varentec from 2011-2014. In this position, he led the company in its development of innovative distributed real-time grid control technologies. Dr. Divan is an elected member of the U.S. National Academy of Engineering, member of the National Academies Board on Energy and Environmental Systems (BEES), an IEEE Fellow, past president of the IEEE Power Electronics Society and is a recipient of the IEEE William E. Newell Field Medal. He has 40 years of academic and industrial experience, 65 issued and pending patents, and over 400 refereed publications. He has founded or seeded several new ventures including Soft Switching Technologies, Innovolt, Varentec, and Smart Wires. These ventures together have raised over USD 160 million in venture funding. Dr. Divan received his Bachelor's degree in Technology from IIT Kanpur and his M.S. and Ph.D. degrees from the University of Calgary in Canada.



Manuel Avendano is the Senior Manager at Emerging Technologies Evaluation at Southern California Edison. He is responsible for the technical evaluation of new and emerging grid technologies and the combinations of these technologies such as microgrids, distributed energy resources, energy storage, and data analytics. Dr. Avendano balances power system aspects from a technical perspective with the technology, policy, and business models shaping the evolution of the delivery of electricity services to develop practical solutions for the overall benefit of ComEd customers. This enables him to support technical and business decision making based on solid ethical foundation. Dr. Avendano holds a Ph.D. in Electrical Engineering from the University of Manchester (2012), a M.Sc. in Electrical Engineering from the Instituto Tecnológico de Morelia (2008) and a B. Eng. in Electrical Engineering from the Universidad Autónoma de Baja California (2004). His areas of focus includes system impact studies for renewable generation, financial modeling of energy storage, reactive compensation system sizing for solar and wind power plants, probabilistic assessment of power stems, short-circuit, load flow and voltage stability analyses, fault location algorithms, optimal monitor placement, and technical preparation of research project grant applications.



Dushan Boroyevich received his Dipl. Ing. degree from the University of Belgrade in 1976 and his M.S. degree from the University of Novi Sad in 1982, in what then used to be Yugoslavia. He received his Ph.D. degree in 1986 from Virginia Polytechnic Institute and State University (Virginia Tech.) in Blacksburg, VA. From 1986 to 1990, he was an assistant professor and director of the Power and Industrial Electronics Research Program in the Institute for Power and Electronic Engineering at the University of Novi Sad. He then joined the Bradley Department of Electrical and Computer Engineering at Virginia Tech as an associate professor. He is now the University's Distinguished Professor at the department and Director of the Center for Power Electronics Systems (CPES). He was the president of the IEEE Power Electronics Society for 2011-2012. Professor Boroyevich is a member of the U.S. National Academy of Engineering and is a recipient of numerous awards, including the IEEE William E. Newell Power Electronics Technical Field Award and the European Power Electronics Association (EPE) Outstanding Achievement Award. His research interests include multiphase power conversion, electronic power distribution systems, power electronics systems modeling and control, and integrated of power converters.

SESSION 1 (cont.)



Kerry Chueng is Program Manager and Technical Advisor for the Office of Electricity Delivery and Energy Reliability of the DoE. Mr. Chueng joined the Power Systems Engineering Research and Development Division within the Office of Electricity Delivery and Energy Reliability (OE) in 2013. He is currently managing a portfolio of projects under the Smart Grid R&D Program and the Energy Storage Program and is heavily involved in various strategic initiatives across the DoE enterprise. Mr. Chueng is leading the development of grid-related technology assessments and portfolio recommendations that will inform departmental priorities in the 2015 Quadrennial Technology Review. Prior to his role, he served as an American Association for the Advancement of Science (AAAS) Science Technology and Policy Fellow (2010-2012) and as an Oak Ridge Institution for Science and Education (ORISE) Fellow (2012-2013) working with OE. In this capacity, he contributed to the development of the DoE's first Quadrennial Technology Review, served as a key member of the Grid Tech Team, and detailed to the Office of U.S. Senator Brian Schatz (D-HI). Kerry holds a B.S. in Applied and Engineering Physics from Cornell University and a M.S. and Ph.D. in Electrical Engineering from MIT.

SESSION 2



Kaushik Rajashekara received his Ph.D. degree in Electrical Engineering from the Indian Institute of Science in 1984. In 1989, he joined Delphi Division of General Motors Corporation in Indianapolis, Indiana, as a staff project engineer. In Delphi and General Motors, he held various lead technical and managerial positions, was a technical fellow, and chief scientist for developing electric machines, controllers, and power electronics systems for electric, hybrid, and fuel cell vehicle systems. In 2006, he joined Rolls-Royce Corporation as a chief technologist for more electric architectures and power conversion/control technologies for aero, marine, defense, and energy applications. In August 2012, he joined as a distinguished professor of engineering at the University of Texas at Dallas. In September 2016, he became a Distinguished Professor of Engineering at the University of Houston. Professor Rajashekara was elected as a member of the National Academy of Engineering in 2012 for contributions to electric power conversion systems in transportation. He was also elected as 2015 Fellow of the National Academy of Inventors and 2013 Fellow of Indian National Academy of Engineering. He is the recipient of the IEEE Richard Harold Kaufmann Award for outstanding contributions to the advancement of electrical systems in transportation, IEE Industry Applications Society Outstanding Achievement Award, and EEE IAS Gerald Kliman Award for contributions to the advancement of power conversion technologies through innovations and their applications into industry. He is a distinguished alum of Indian Institute of Science, Fellow of IEEE, and Fellow of SAE International. Professor Rajashekara has published more than 160 papers in international journals and conferences. He has 35 U.S. and foreign patents. He has given more than 150 invited presentations in international conferences and universities. In addition, he co-authored one IEEE Press book on sensor-less control of AC motor drives. He has contributed individual chapters to six published books. His research interests are in power electronics, drives, transportation electrification, renewable energy, and energy management of microgrid systems.



Subhashish Bhattacharya is a professor in the Electrical and Computer Engineering Department at NC State University (Raleigh, North Carolina). Professor Bhattacharya holds a Ph.D. in Electrical Engineering from the University of Wisconsin, Madison (2003). He earned his M.E. in Electrical Engineering in 1988 from the Indian Institute of Science (Bangalore, India). Professor Bhattacharya has his B.E. in Electrical Engineering (1986) from the Indian Institute of Technology (Roorkee, India). In 2012, he was awarded the ABB Term Associate Professor. Professor Bhattacharya has 200+ publications in a variety of research topics. His research is focused in power electronics and power systems including electric vehicle systems, and electronic energy systems packaging.



Anant Agarwal joined the ECE department at Ohio State University in August 2017. Previously he was Senior Advisor for Wide Band Gap (WBG) semiconductors at the DoE from 2013 to 2016. While at DoE, Dr. Agarwal helped create and manage four programs related to WBG Technology and their applications including PowerAmerica, Next Generation of Electric Machines (I and II), and Graduate Traineeships. From 1999 to 2013, Dr. Agarwal was manager of research and development for silicon carbide power devices at Cree, Inc. In this role, he oversaw the development and commercialization of silicon carbide diode and MOSFET power devices. Today, these WBG semiconductors are being employed globally to improve efficiency and reduce power consumption in systems such as power supplies, solar inverters, and motor drives. Previously, Dr. Agarwal was a fellow at Northrop Grumman Science and Technology Center in Pittsburgh, PA (1990-1999). While at Northrop Grumman, he led research activities on radio frequency silicon and silicon-germanium transistors. He was also instrumental in solving many fundamental issues relating to WBG Technologies. Prior to joining Northrop Grumman, Dr. Agarwal held various teaching and research positions (1984-1990) including associate professor in Allahabad, India and member of the technical staff at AT&T Bell Laboratories in Murray Hill, NJ. While at Bell Labs he was involved in the development of gallium-arsenide digital circuits for fiber-optic communications. Dr. Agarwal received his Ph.D. degree in Electrical Engineering from Lehigh University, Pa in 1984, Master's degree in Electrical Engineering from the University of Tennessee Space Institute in 1980, and B.S. in Electrical Engineering from MNR Engineering College at the University of Allahabad, India in 1978. He jointly holds more than 60 patents, has co-authored more than 300 research papers, co-edited a book on silicon carbide technology, co-authored five book chapters and was elected an IEEE Fellow in January 2012 for his life time contributions to Wide Band Gap Technologies. As a leading research scientist in this area, Dr. Agarwal's life goal has been to successfully commercialize WBG power devices to resurrect the domestic power electronics industry while educating the next generation of researchers. This will ultimately enable the creation of high quality manufacturing jobs in the U.S. while perpetuating a high-tech U.S. workforce.

SESSION 2 (cont.)



Ram Adapa is a technical executive in the Power Delivery and Utilization Sector at EPRI. His research activities focus on high voltage direct current (HVDC) transmission, flexible AC transmission systems (FACTS), custom power, and fault current limiters. Dr. Adapa joined EPRI, in 1989, as Project Manager in the Power Systems Planning and Operations Program. Later, he became product line leader for transmission, substations, and grid operations where he developed a research portfolio and business execution plans for the grid operations and planning areas. Some of the tools in this portfolio included market restructuring, transmission pricing, ancillary services, and security tools to maintain the reliability of the grid. Before joining EPRI, Dr. Adapa worked at McGraw-Edison Power Systems presently known as Eaton's Copper Power Systems as a staff engineer in the Systems Engineering Department. Dr. Adapa received a B.S. degree in Electrical Engineering from Jawaharlal Nehru Technological University in India, an M.S. degree in Electrical Engineering from the Indian Institute of Technology in Kanpur, India, and a Ph.D. in Electrical Engineering from the University of Waterloo in Ontario, Canada. Dr. Adapa is an IEEE Fellow and has been honored several times by IEEE for his outstanding contributions to the profession. He received the 2016 IEEE PES Nari Hingorani Custom Power Award. He has authored or coauthored more than 125 technical papers and is an IEEE Distinguished Lecturer. He is an individual member of CIGRE and a registered professional engineer.



Dr. Madhu Chinthavali is the power electronics research team lead at Oak Ridge National Laboratory, and has fifteen years of experience in the field of power electronics applied R&D. Dr. Chinthavali's research focuses on device- and system- level models; and application-level R&D for novel power electronics technologies in the areas of electric vehicle charging and traction drive systems, grid, energy storage and renewables integration technologies, wireless power transfer systems, and additive manufacturing in power electronics systems. His research achievements include developing the world's first Silicon carbide based 50 % 3-D printed inverter and 20-kW wireless power transfer system.

SESSION 3



Bob Kaplar received his B.S. degree in Physics from Case Western Reserve University in Cleveland, OH, and the M.S. and Ph.D. degrees in Electrical Engineering from Ohio State University in Columbus, OH. He subsequently joined Sandia, as a postdoctoral researcher and is now a principal member of the technical staff at Sandia. His work has included III-nitride optoelectronics and reliability physics, and he is currently focused on wide and ultra-wide-bandgap III-nitride materials and devices for power conversion applications.



James Cooper is Jai N. Gupta Professor Emeritus of Electrical and Computer Engineering at Purdue University and President of Sonrisa Research Inc., a non-profit corporation in Santa Fe, NM conducting government contract research. Professor Cooper received his Ph. D. from Purdue University (1973). From 1973 to 1983, he was a member of the technical staff at Bell Laboratories, (Murray Hill, NJ) where he was principal designer of AT&T's first CMOS microprocessor and originator of the MOS time-of-flight technique for high-field electron transport at the silicon/ SiO₂ interface. He joined the Purdue faculty in 1983. At Purdue, he was director of the Purdue Optoelectronics Center and founding co-director of Purdue's Birck Nanotechnology Center. His research group at Purdue is responsible for many advances in silicon carbide (SiC) power device technology including the first DMOS power transistor (1996), the oxide-protected UMOS power transistor (1998) and the self-aligned short-channel DMOSFET (2003) that became the basis for the first commercial SiC power MOSFETs. His other innovations include the first SiC power BJT's with high current gain (2003), the first SiC n-channel IGBTs on free-standing epilayers (2010), and the vertical tri-gate SiC power MOSFET (2017). Professor Cooper was elected Fellow of IEEE (1993), served as associate editor of IEEE Transactions on Electron Devices (1983-1986) and on the advisory board of IEEE Proceedings (2004-2009). He was technical program co-chair for the 2017 International Conference on Silicon Carbide and Related Materials (ICSCRM-2017) in Washington, D.C. Professor Cooper is co-authored of over 250 referred journal articles and conference presentations, holds 20 U.S. patents, and is co-authored of the textbook Fundamentals of Silicon Carbide Technology (Wiley, 2014).



Paul Ohodnicki is a materials scientist in the Materials Engineering & Manufacturing Directorate of the National Energy Technology Laboratory (NETL). He earned undergraduate degrees in Engineering Physics and Economics from the University of Pittsburgh in 2005, and he earned masters and doctoral degrees in Materials Science and Engineering from Carnegie Mellon University in 2006 and 2008, respectively. Upon graduation, he joined PPG Industries as a research engineer and a visiting scholar where he worked on designing and scaling up large-area glass coatings for energy efficient architectural windows and concentrating solar power applications. In 2010, Paul joined NETL, where he is currently a Senior Staff Scientist overseeing many major programs focused on research and development of advanced functional materials and devices for sensors, power electronics, and energy conversion applications. He has co-authored approximately 100 publications and is a co-inventor on more than 25 patent applications with nine awarded to date. He is currently serving as Vice-Chair for the Functional Materials Division of TMS and has earned many prestigious recognitions throughout his career, with the most recent honors including the Presidential Early Career Award in Science and Engineering (2016), the Advanced Manufacturing and Materials Innovation Award from the Carnegie Science Center (2017) and a nomination for the Samuel J. Heyman Service to America Promising Innovations Medal (2017).



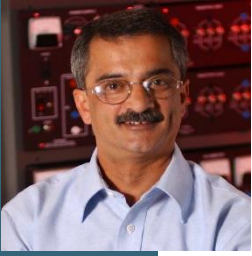
Abhijit Gurav is the Vice President of Ceramic Technology at KEMET Electronics Corporation in Greenville, SC. He received B.S. and M.S. degrees in Metallurgical Engineering and Materials Science from the Indian Institute of Technology in Mumbai, India, and a Ph.D. degree in Chemical Engineering from the University of New Mexico in Albuquerque, NM. Prior to joining KEMET, he was a Postdoctoral Fellow with the NSF Center for Micro-Engineered Materials at UNM. He has 21 refereed publications and over 80 conference proceeding contributions.

SESSION 3 (cont.)



Brandon Passmore is a Development Engineering Manager at Wolfspeed, where he leads the Modules Engineering Group. Dr. Passmore has been with Wolfspeed, a Cree Company, since 2010. At Wolfspeed, his group focuses on developing new SiC power modules rated from 650 V to 15 kV, 50 A to 800 A, and beyond. In addition, his group has been heavily involved in several projects focused on developing new packaging designs, modeling techniques, materials, and processes to fully optimize the performance of SiC power devices. Some of those technologies include electrical-thermal-mechanical multi-physics modeling, wire bond-less technologies, new die attach and substrate technologies, and high heat transfer and advanced cooling technologies for the advancement of high performance SiC power modules. Dr. Passmore completed his Ph.D. in 2008 in Microelectronics and Photonics at the University of Arkansas. He then completed a postdoc at Sandia, where he worked on developing novel photonic devices and metamaterials for mid-infrared imaging applications. He has accumulated over 70 conference and journal publications.

SESSION 4



Satish Ranade is PNM Professor of Electrical and Computer Engineering at New Mexico State University. His interests are in electric systems with emphasis on renewables integration and microgrids. His recent work is in stochastic scheduling for distribution feeders with renewables and energy storage. He is past chair of the IEEE PES Transmission and Distribution Committee.



Rajib Datta received the B.E. degree from Jadavpur University, Calcutta, in 1992, an M.Tech. degree from the Indian Institute of Technology, Kharagpur, in 1994, and a Ph.D. degree from the Indian Institute of Science, Bangalore, in 2000. From 2000 to 2002, he was a research scientist at ABB Corporate Research in Heidelberg, Germany. Since 2002, he has been with GE Global Research (GRC) in Schenectady, NY in various positions, including manager of the Power Electronics Lab between 2008 and 2012. Presently, he is a Senior Principal Engineer and Technology Leader for SiC applications in renewables, energy storage, and utility power electronics. He also taught Power Electronics at Arizona State University for one year in 2013. Dr. Datta has led several GE technology development programs with global teams in medium voltage and high-power conversion. His research interests include multilevel converters for motor drives and renewable application, converter controls, and application of wide band-gap power devices.



Martin Becker is an electrical engineer with over ten years' experience in power electronics design and product development. Currently he heads up the Engineering Division of Princeton Power Systems, managing a team of engineers realize the company's goal of economically viable renewable energy. He is experienced in inverter control systems, innovative converter topologies, and new wideband gap devices such as SiC and GAN power switches. Becker started his career as an electrical engineer with Reitech Machine Builders in 2004, followed by becoming a Power Electronics Design Engineer at MLT Drives before joining Princeton Power Systems in 2013. During his employment, Becker led product development and inverter control design for UL, NRS, and AS rated inverters deployed worldwide for battery energy storage, wind turbines, and photovoltaics. Martin earned his M.S. in Electrical Engineering and his B.S. in Engineering from the University of Stellenbosch.



Adel Nasiri is the Connected Systems Institute Interim Executive Director and Professor of Electrical Engineering at the University of Wisconsin in Milwaukee. Professor Nasiri earned his Ph.D. in Electrical Engineering from the Illinois Institute of Technology (Chicago, Illinois) in 2004. He holds a M.S. and B.S. in Electrical Engineering from the Sharif University of Technology (Tehran, Iran). He is an Excellence in Engineering Faculty Fellow in Power Electronics and the 2010 Milwaukee Young Engineer of the Year. Professor Nasiri was awarded the National Science Foundation GOALI Award and Graduate School/UWN Foundation Research Award (2009-2010). In addition, Professor Nasiri has an assortment of publications. His research interests include; renewable energy systems, distributed generations, microgrids, grid interface, energy security, energy storage modeling, interface and controls, vehicle-to-grid, power electronics, and electric drives. With his work in engineering education and research, he hopes to enhance the education experience so more students choose and graduate with engineering degrees. He seeks to improve the content of the educational and research experience to better match the needs of employers and the world.

SESSION 5



Charlie Hanley manages the Grid Modernization and Military Energy Systems Program. His group executes advanced research on several aspects of our critical electric infrastructure, including energy storage; power systems research such as microgrids, resilient infrastructures, optimization, and controls, renewable energy integration, power electronics, and advanced analytics for efficient military developments and operations. He has been working in Sandia's renewable energy and electric grid programs since 1994. From 2005 through 2014, Hanley managed Sandia's Photovoltaics and Distributed Systems Integration Program. Prior to that, he managed Sandia's International Renewable Energy programs, through which he oversaw the implementation of more than 400 photovoltaic and wind energy systems in Latin America. He received his B.S. degree in Engineering Science from Trinity University in San Antonio, Texas, and his M.S. degree in Electrical Engineering from Rensselaer Polytechnic Institute in Troy, New York.



Leo Casey is the Power Systems Lead Engineer at X, formally known as Google[x]. Prior to that, he was Satcon's Chief Technology Officer and EVP of Engineering. He has over 35 years of experience in power electronics and power engineering, including ultimate responsibility for the design and commercialization of numerous utility scale power conversion products. These products included inverters, solid state switches converters, and flywheels, with a focus on the management and integration of alternative, renewable, and distinguished resources into the grid. He has served on NREL's solar advisory board and the NIST/DOE Hi-MW Leadership Committee. Dr. Casey is a Fellow of IEEE, has been an editor of the IEEE Transactions on Energy Conversion and is active in IEEE and NEC code and standard development for grid electronics. Dr. Casey has published over 75 papers related to power conversion and grid electronics and has more than 20 issued patents. He has a Bachelor's degree in Engineering from the University of Auckland and an M.S. and Doctorate in Engineering from the Massachusetts Institute of Technology (MIT).



Hariharan Krishnaswami is an ORISE Senior Fellow. Dr. Krishnaswami joined the Solar Energy Technologies Office as an ORISE Science and Technology Policy Senior Fellow in January 2018. Dr. Krishnaswami is passionate about developing power electronics technology that will increase the share of renewable energy in electricity generation. Dr. Krishnaswami is assisting the SETO Systems Integration Team in solar photovoltaic inverter research to ensure reliable and efficient integration of solar electricity into the power grid. Prior to his role in the Energy Department, Hariharan served as associate professor with the Department of Electrical and Computer Engineering at the University of Texas in San Antonio. There, he led research focused on systems integration challenges associated with high penetration levels of solar on the grid. He has managed, as principal investigator, projects funded by the DoE, the DoD, and the Local Electric Utility Company in the areas of power electronics for solar, real-time simulation, and solar forecasting respectively. Dr. Krishnaswami earned his Ph.D. from the University of Minnesota in Electrical Engineering in 2009, and his Master's degree from the Indian Institute of Science in 2002. He has authored several papers in power electronic converters and control and has over 15 years of experience in the power electronics field, including over eight years of post-Ph.D. experience dedicated towards research on photovoltaic inverters, solar forecasting, and grid integration. In addition to research, Dr. Krishnaswami is also passionate about mentoring next generation power engineers and many of his students are now employed by electric utilities.

SESSION 5 (cont.)



Brandon Grainger is currently an Assistant Professor and Associate Director of the Electric Power Systems Laboratory in the Electrical and Computer Engineering Department at the University of Pittsburgh, Swanson School of Engineering. He is also an affiliate of the Energy GRID Institute. He holds a Ph.D. in Electrical Engineering with a specialization in power conversion from University of Pittsburgh. He also obtained his Master's degree in Electrical Engineering and Bachelor's degree in Mechanical Engineering (with a minor in Electrical Engineering) from University of Pittsburgh. He was one of the first original R.K. Mellon Graduate Student Fellows through the Center of Energy at Pittsburgh. Dr. Grainger's research interests are in electric power conversion, medium to high voltage power electronics (HVDC and STATCOM), general power electronic converter design (topology, controller design, magnetics), resonant converters and high-power density design, power semiconductor evaluation (SiC and GaN) and reliability assessment, military power systems, DC system design and protection, fault identification techniques, and power electronics for microgrid application. Dr. Grainger has either worked or interned for; ABB Corporate Research in (Raleigh, NC), ANSYS Inc. (Southpoint, PA), Mitsubishi Electric (Warrendale, PA), Siemens Industry (New Kensington, PA). He also regularly volunteered at Eaton's Power Systems Experience Center in Warrendale, PA, designing electrical demonstrations. In his career this far, he has contributed to 45+ articles in the general area of electric power engineering (emphasis on electric power conversion) and all of which have been published through the IEEE. Dr. Grainger is a member of the IEEE Power and Energy Society (PES), IEEE Power Electronic Society (PELS), Industrial Electronics Society (IES) and is an annual reviewer of various power electronic conferences and transaction articles. Dr. Grainger is a Senior Member of the IEEE and served as the IEEE Pittsburgh PELS Chapter Chair over the last three years, for which the section has won numerous awards under his leadership.

SESSION 6



Babu Chalamala is the Grid Energy Storage Program Manager at Sandia. Prior to joining Sandia in August 2015, he was a Corporate Fellow at MEMC Electronic Materials/SunEdison for five years, where he led R&D and product development in grid scale energy storage. Before that, he led two startup companies commercializing large format lithium batteries and digital x-ray sources. Earlier, as a research staff member at Motorola, Research Triangle Institute, and Texas Instruments, he made contributions to the development of electronic materials and device technologies. He is an IEEE Fellow, a life member of the Electrochemical Society, and a member of the Materials Research Society. As Chair of the IEEE Photonics Society Technical Committee on Displays, he was instrumental in launching the IEEE/OSA Journal of Display Technology. He has been an active member of the Materials Research Society for 25 years and served as General Chair of the 2006 MRS Fall Meeting. He served on the editorial boards of the proceedings of the IEEE Access and the IEEE Journal of Display Technology. He was also a guest editor of special issues of the MRS Bulletin, proceedings of the IEEE, and IEEE Journal on Selected Topics in Quantum Electronics. He is the current Chair of the MRS David Turnbull Award Subcommittee, serves as Secretary of the IEEE PES Energy Storage and Stationary Battery Committee and as a member of the IEEE Fellow Committee. He received the 2015 James B. Eads Engineering Award of the Academy of Sciences St Louis. He has authored 90 papers and holds eight U.S. patents. He received his B.Tech degree in Electronics and Communications Engineering from Sri Venkateswara University and Ph.D. degree in Physics from the University of North Texas.



Charlie Vartanian is a Generation Sales Manager at Mitsubishi Electric Power Products, Inc (MEPPI). MEPPI is a U.S. based provider of power equipment and turnkey power projects for clients in North America. His current focus is on advanced grid products including energy storage solutions. Vartanian has over 25 years of power industry experience with advanced grid technologies, performing electric system studies, and contributing to technical standards development. He previously worked for DNV KEMA, Enron Energy Services, the California Energy Commission, and the Southern California Edison. During his 15 years at Southern California Edison, Vartanian's activities spanned traditional T&D planning through R&D. He is a senior IEEE member and currently Secretary of the IEEE 1547 Revision Working Group and Co-Chair of the IEEE Energy Storage Task Force. Vartanian received his BSEE from Cal Poly Pomona and his MSEE from USC.



Andy Rockhill received his B.S. degree from the University of Wisconsin, Milwaukee in 1991 and his M.S. and Ph.D. degrees from the University of Wisconsin, Madison in 2006 and 2012, respectively. He has over 20 years of industry experience in high power machines and drives and in the development of special application power electronics with plexus Technology Group in Neenah, WI, American Superconductor in Madison, WI, and GE Global Research in Niskayuna, NY. Currently, Dr. Rockhill is a Principal Engineer with Eaton Corporation's Corporate Research and Technology Department in Menomonee Falls, WI. In addition to high-power medium-voltage drives and electric machines, his current research interests include the role of power electronics in new and evolving power transmission and distribution applications. Dr. Rockhill is a registered professional engineer in Wisconsin, is a member of IEEE Industry Applications, IEEE Power Electronics and IEEE Power Engineering Societies and the Tau Beta Pi Engineering Honor Society.



Wei-Jee Lee received his B.S. and M.S. degrees in Electrical Engineering from the National Taiwan University in Taipei, Taiwan, R.O.C., and his Ph.D. degree in Electrical Engineering from the University of Texas in Arlington, in 1978, 1980, and 1985, respectively. In 1986, he joined the University of Texas, where he is currently a Professor of the Electrical Engineering Department and the Director of the Energy Systems Research Center. He has been involved in the revision of IEEE Std. 141, 339, 551, 739, 1584, and dot 3000 series development. He is the Vice President of the IEEE Industry Application Society (IAS). He is an editor of IEEE Transactions on Industry Applications and IAS Magazine. Since 2008, he has served as the Project Manager of IEEE/NFPA Collaboration on Arc Flash Phenomena Research Project. Professor Lee has been involved in research on utility deregulation, renewable energy, energy storage systems, smart grid, microgrid, energy internet and virtual power plants (VPP), arc flash hazards and electrical safety, load and wind capacity forecasting, power quality, distribution automation and demand side management, power systems analysis, online real-time equipment diagnostic and prognostic system, and microcomputer based instrument for power systems monitoring, measurement, control, and protection. He has served as the primary investigator (PI) or Co-PI on over 100 funded research projects with the total amount exceeding USD 15 million dollars. He has published more than 140 journal papers and 260 conference proceedings. He has provided on-site training courses for power engineers in Panama, China, Taiwan, Korea, Saudi Arabia, Thailand, and Singapore. He has refereed numerous technical papers for IEEE, IET, and other professional organizations. Professor Lee is a Fellow of IEEE and registered professional engineer in Texas.