

MGA Grid Modernization & Energy Storage: Maximizing Opportunity & Reliability

Speaker Biographies

Barry J. (Joe) Bentley, Vice President of Customer Operations, Indianapolis Power & Light Company

Barry J. (Joe) Bentley, Vice President of Customer Operations, is responsible for Transmission & Distribution, Asset Management and Customer Service for Dayton Power & Light Company (DP&L) and Indianapolis Power & Light Company (IPL). He has been with IPL since 1988 and previously was the Vice President of Fuel and Energy Supply. Bentley is a former member of the Midwest ISO Market Subcommittee and led IPL's entry into the new Midwest Energy Market in April 2005.

He serves as a member of the Executive Committee of the Board of Directors for the Indianapolis Symphony Orchestra, Midwest Energy Association (MEA) board member and a member of the Indiana University Purdue University of Indianapolis (IUPUI) Dean's Industry Advisory Council.

Jeff Bladen Executive Director, Market Services, MISO

With more than 18 years of management experience in the energy sector, Jeff Bladen serves as the executive director of market services for MISO. In this role, Mr. Bladen oversees the Market Services division where he is responsible for the strategic direction of MISO's markets including the design and the development of new products and market mechanisms to enhance the MISO marketplace.

Prior to MISO, Mr. Bladen served as the head of department and leader of DNV GL Energy's (formerly KEMA) Markets, Policy & Strategy Development practice for North America. In this position, Jeff focused on market issues, government policy and market design challenges for DNV GL Energy's wholesale and retail energy practice. Before joining DNV GL, Mr. Bladen served as a market strategy leader at PJM Interconnection where he managed PJM's market strategy subdivision directly overseeing departments focused on new market design, retail markets, demand response, alternative and renewable resources, and market economic analysis. Mr. Bladen also served as an original employee at New Energy Ventures where he helped to build one of the most successful competitive retail electricity businesses in North America.

Jacqueline DeRosa – Vice President Emerging Technologies, Customized Energy Solutions

Jacqueline is an expert in the energy regulatory arena and helps her clients with understanding the requirements for participation in the wholesale markets. Jacqueline actively contributed to the Massachusetts State of Charge report, which highlights the multiple values that energy storage can provide. She is a frequent speaker on cutting edge subjects impacting the storage industry at both domestic and international venues. She has served as an expert on evaluation panels for the US Department of Energy's (DOE) smart grid and storage projects. Jacqueline is on the Board of Directors for the national Energy Storage Association (ESA).

Jacqueline has over 25 years of experience in the energy industry. Prior to joining CES in 2007, she worked for the California ISO in the market design and account management areas. She has also worked on international energy sector restructuring matters for the USAID, and in project development for an independent power producer. She began her career at FERC. Jacquie has a B.A. from Rutgers University and an M.B.A. from George Washington University.

Afshin Izadian, Associate Professor, Purdue School of Engineering and Technology – Indianapolis, IUPUI

Afshin Izadian received his MS in Electrical Engineering from Iran University of Science and Technology in 2002, and his PhD in Electrical Engineering from West Virginia University in 2008. He was a postdoctoral researcher at University of California Los Angeles in 2009. He has been with Cummins Technical Center and with Moshanir Power Engineering Consultants. He has experience in Electric Balance of Plants in combined cycle power plants.

He is an Associate Professor at the Purdue School of Engineering and Technology, Indianapolis. He is the founding director of the Energy Systems and Power Electronics Laboratory (ESPEL) at IUPUI. His research interests are Application of Control Systems in Renewable Energy, Energy Conversion, Power Electronics and Electric Power Systems. He is a Senior Member of IEEE and a lifetime member of Eta Kappa Nu (HKN), Tau Beta Pi (TBP) and Sigma Xi.

Jim Jones, Vice President and Chief Information Officer, Great River Energy

Jim Jones joined Great River Energy in 2003 and oversees the information technology division with primary responsibility to provide services and technology for corporate business operations, utility operations, wholesale supply and delivery functions, and retail support functions for member distribution cooperatives. Jim has a leadership role in grid modernization to increase inter-operability and optimization of electric services. He is the executive leader of the enterprise-wide security program, which ensures the security of our physical assets, cyber assets, and personnel. Jim serves on the Member Executive Committee to assist the North American Electric Reliability Corporation in strengthening the cyber security posture of the electric industry, and the Research Advisory Committee of the Electric Power Research Institute. Prior to joining GRE, Jim held IT management assignments at MISO and MAPP. He is a graduate of Hamline University and the University of St. Thomas.

Jason Burwen, Policy & Advocacy Director, Energy Storage Association

Jason Burwen is the Policy & Advocacy Director of the Energy Storage Association, leading the industry's state, federal, and RTO/ISO engagements. Previously, Jason was the Associate Director for Energy Innovation at the Bipartisan Policy Center, where he directed research and advocacy on U.S. energy R&D and tax policy. He also served as staff director of the American Energy Innovation Council, a group of CEOs led by Bill Gates to advocate for greater federal investments in clean energy technology development. Jason has also consulted to utilities on demand-side management programs for FSC Group/Nexant and reviewed renewable energy procurement processes and trends for the California Public Utilities Commission.

Ralph Jacobson, Founder & CEO, Innovative Power Systems

While earning his Bachelor of Science in Materials Science (Minnesota, 1989), Ralph developed a strong interest in photovoltaics. He decided to get into the business of designing and installing PV power systems, and in 1991, he founded Innovative Power Systems. Being in Minnesota with practically no market for solar, he spent the first ten years building off-grid systems. His custom designs utilized a variety of storage and control schemes in a rapidly-changing market.

In his 20-year service on the board of directors of the Minnesota Renewable Energy Society, Jacobson initiated events such as the MN Solar Boat Regatta, the MN Solar Home Tour, and public classes on solar energy. He served as the founding president of the MN Solar Energy Industries Association, and is currently engaged in forming the MN Energy Storage Alliance for growing the market for energy storage in the Midwest.

David Roberts, President, Battery Innovation Center (BIC) Indiana

David Roberts serves as President of the Battery Innovation Center, a non-profit, public-private partnership helping world-class universities, commercial enterprises, and government organizations develop, test, and commercialize next generation energy technologies. He has held diverse roles, including CEO for EnerDel, IP counsel for Caterpillar, engineer with Lockheed Martin, board member of various domestic and international companies, and is a patent & business attorney in private practice with Gutwein Law. He was trained at the Indiana University School of Law and holds a Materials Science & Engineering degree from Lehigh University. He is currently licensed to practice law in IN, IL, MO, and before the U.S. Patent and Trademark Office.

Joseph “Seph” Petta, Associate Attorney, Shute, Mihaly & Weinberger, LLP

Joseph (“Seph”) Petta is an associate attorney at the San Francisco law firm Shute, Mihaly & Weinberger, LLP, where he represents the Interstate Renewable Energy Council, Inc. (IREC) in energy storage related proceedings before multiple state public utility commissions. His practice also includes representing citizen groups and public agencies in the areas of environmental and land use law, as well as land assembly and entitlement processes. Before law school, he was a researcher for the Apollo Alliance, a national “clean energy, good jobs” advocacy group. Seph is a co-author of the forthcoming IREC report, *Charging Ahead: An Energy Storage Guide for Policymakers*.

Roger Lueken, Associate, The Brattle Group

Dr. Roger Lueken is an Associate at The Brattle Group. His work focuses on wholesale electricity market design, environmental policy design, energy storage, and business strategy. Dr. Lueken has supported clients throughout the U.S. and internationally, including market operators, regulated utilities, and merchant investors. Dr. Lueken earned his Ph.D. in Engineering and Public Policy from Carnegie Mellon University and his bachelor’s degree in mechanical engineering from Purdue University.

Tristan Vance, Director, Office of Energy Development & Indiana Chief Energy Officer

Tristan Vance is the Chief Energy Officer for the State of Indiana and Director of the Office of Energy Development (OED). In this role, he is charged by Governor Eric Holcomb with the development and implementation of a comprehensive energy policy for the state. OED also oversees programs that include broad range of projects in electricity, natural gas, transportation, workforce development, and community development. Additionally, Vance also oversees the Center for Coal Technology Research at Purdue University and serves on the board of directors for the National Association of State Energy Officials (NASEO), the Energy Programs Consortium, and the Indiana Society of Mines and Reclamation.

Commissioner Angela Weber, Indiana Utility Regulatory Commission

Angela Weber was appointed to the Indiana Utility Regulatory Commission by Governor Mike Pence on March 10, 2014 and reappointed by Governor Pence to a full term on April 1, 2014. Prior to her appointment to the Commission, she practiced law for the Indianapolis law firm, Ice Miller, LLP, as a member of the firm’s Environmental Law Group, worked as an Administrative Law Judge for the Indiana Utility Regulatory Commission, and worked as a Marion County Deputy Prosecuting Attorney in Indianapolis, Indiana.

A U.S. Army Veteran, Angela served from 1996-2000 as a Russian Linguist/Voice-Intercept Operator. She was a member of SFOR 7, the NATO-led peacekeeping mission in Bosnia and Herzegovina. She was honorably discharged in 2000.

Angela earned a Bachelor of Arts from Indiana University in Bloomington, Indiana in 1996. She received her Juris Doctor from the Indiana University Maurer School of Law in 2006. She is currently the President of the Organization of MISO States, a member of NARUC’s Committee on Gas, the Vice Chair of NARUC’s Subcommittee on Supplier and Workforce Diversity, and an Advisory Board Member of the Financial Research Institute. She is a past Chairperson of the Utility Law Section of the Indiana State Bar Association and an alumna of the Richard G. Lugar Excellence in Public Service Series, Class of 2010-2011.

S. Massoud Amin, D.Sc., Professor of Engineering, University of Minnesota

Massoud Amin serves as the Director of the [Technological Leadership Institute](#) (TLI), holds Honeywell/H.W. Sweatt Chair, a Professor of [Electrical & Computer Engineering](#) (ECE), and a [University Distinguished Teaching Professor Award Recipient](#) at the University of Minnesota.

At TLI, he leads 7 endowed chairs and 64 associated senior faculty from across ten colleges on the University of Minnesota, executives from industry, and governmental leaders, to develop local and global leaders for technology enterprises.

His responsibilities at TLI include direction and oversight of all academic, financial and administrative elements of TLI’s educational, research, and consulting programs. In addition, Dr. Amin leads the [Master of Science in Management of Technology](#) (MOT) program as its Director of Graduate Studies (2003-2011, 2014- present). He founded the [Master of Science in Security Technologies](#) (MSST) program in 2009 and served as its Director of Graduate Studies during 2009-2013. He founded the [Master of Science in Medical Device Innovation](#) (MS-MDI) program in 2013.

He is Chairman of the [IEEE Smart Grid](#), a Fellow of the IEEE and ASME, and a member of two utility industry regional entities that oversee reliability the [Texas Reliability Entity](#) (as former chairman) and the Midwest Reliability Organization (as a board member).

Before joining the University, Dr. Amin was with the Electric Power Research Institute (EPRI) in Palo Alto, CA. He pioneered R&D in Smart Grids in 1998, led the development of 24 technologies that transferred to industry and, after 9/11, directed all security-related R&D for U.S. utilities. He has led research, development and deployment of smart grids, and the enhancement of critical infrastructures' security during this period and is considered the father of smart grid.

The impact of his campaign for a secure and *smart self-healing grid* is also evident from the following:

- The area of self-healing infrastructure, which he pioneered and works in, was recommended in 2005 by the White House Office of Science and Technology Policy (OSTP) and the U.S. Department of Homeland Security as one of three thrust areas for the National Plan for R&D in support of Critical Infrastructure Protection.
- His foundational work in the above areas has become a leading concept in sixteen on-going programs at EPRI, NSF, DHS, DoE and DoD. These initiatives continue to be widely successful worldwide. Industries involved in developing/managing smart-grid technologies range from telecom/IT, automation and controls, semiconductors and equipment manufacturers to traditional energy suppliers.
- Defense applications of his work are in Network-Centric Objective Force, which is now part of the Future Combat Systems (\$40B).

In addition to his technical leadership activities Dr. Amin has maintained an active research program and made significant contributions in predictive system identification methods coupled with analytical and multi-domain modeling, fast simulation, optimization, testing methodologies, and applies them to complex and large dynamical systems.

[Dr. Amin](#) continues this work on enabling smart, secure and resilient infrastructures. A major part of his R&D work is focused on enabling smarter, more secure, sustainable and resilient critical infrastructures for interdependent power & energy, computer & communications networks, logistics & transportation, finance and economic systems. He and his R&D team at the University of Minnesota develop predictive analytics, including system identification methods coupled with analytical and multi-domain modelling, fast simulation, optimization, testing methodologies, and apply them to complex and large-scale dynamical systems.

His research focuses on two areas:

- Global transition dynamics to enhance resilience, agility, security and efficiency of complex dynamic systems. These systems include national critical infrastructures for interdependent energy, computer networks, communications, transportation, financial networks and economic systems.
- Strategic Technology Analyses and Foresight: Technology scanning, mapping, and valuation to identify new science and technology-based opportunities that meet the needs and aspirations of today's consumers, companies and the broader society. This thrust builds coherence between short- and longer-term R&D opportunities and their potential socio-technological and economic impacts.

Prior to joining EPRI, he was an associate professor of systems science & mathematics and associate director of the Center for Optimization & Control at Washington University in St. Louis. During his 12 years at Washington University, he was one of the main contributors to several projects with United States Air Force, NASA-Ames, Rockwell International, McDonnell Douglas, Boeing, MEMC, ESCO, Systems & Electronics Inc. and United Van Lines. He has worked with the U.S. military and government, universities, companies, and private agencies from across the world, focusing on theoretical and practical aspects of reconfigurable and self-repairing controls, infrastructure security, risk-based decision making, system optimization, and differential game theory for aerospace, energy, and transportation applications.

Since 2003, he has given four briefings at the White House and nine Congressional briefings on smart grids, security, and leadership in scientific R&D. He was one of the three external faculty members on behalf of the Engineering directorate at the NSF to create the content and foci for the Cyber-infrastructure division at the NSF in CISE. He has also served as a U.S. delegation representative to several world engineering and scientific congresses. He is regularly interviewed by the media including: New York Times; USA Today; Reuters; CNN; BBC; Washington Post; Forbes; Wall Street Journal; U.S. News; AP; NPR; and PRI. Dr. Amin has given over 700 invited presentations and more than 120 keynote addresses during 1990-2015.

He is the author of over 200 peer-reviewed publications, editor of seven collections of manuscripts, and serves on the editorial boards of six academic journals.

At EPRI he received several awards including six EPRI Performance Recognition Awards for leadership in three areas, the 2002 President's Award for the Infrastructure Security Initiative, and twice received the Chauncey Award, the Institute's highest honor.

Dr. Amin holds B.S. (cum laude), and M.S. degrees in electrical and computer engineering from the University of Massachusetts-Amherst, and M.S. and D.Sc. degrees in systems science and mathematics from Washington University in St. Louis, Missouri. He has been recognized by his alma maters, receiving the 2011 Distinguished Alumni Achievement Award at Washington University, and the 2013 Outstanding Senior Alumni Award at the University of Massachusetts. For further details please see <http://tli.umn.edu/faculty/massoud-amin-dsc>. For videos see: <http://discover.umn.edu/2010/smartgrid.php> and a TEDx http://www.youtube.com/watch?v=CurJGL_aqYA

Imre Gyuk, Program Manager, Energy Storage Research, U.S. Department of Energy

After taking a B.S. from Fordham University, Dr. Gyuk did graduate work at Brown University on Superconductivity. Having received a Ph.D. in Theoretical Particle Physics from Purdue University he became a Research Associate at Syracuse. As an Assistant Professor he taught Physics, Civil Engineering, and Environmental Architecture at the University of Wisconsin. Dr. Gyuk became an Associate Professor in the Department of Physics at Kuwait University where he became interested in issues of sustainability.

Dr. Gyuk joined the Department of Energy to manage the Thermal and Physical Storage program. For the past 12 years he has directed the Electrical Energy Storage research program in the Office of Electricity developing a wide portfolio of storage technologies for a broad spectrum of applications. He supervised the \$185M ARRA stimulus funding for Grid Scale Energy Storage Demonstrations and is now partnering with the States on storage projects for grid resilience. His work has led to 10 R&D 100 awards and a Lifetime Achievement Award. He is internationally recognized as a leader in the energy storage field.