

AEC 2014

ADVANCED ENERGY
CONFERENCE

CONFERENCE PROGRAM

APRIL 28 & 29, 2014 • HILTON ALBANY • ALBANY, NY • USA



ADVANCED ENERGY™
Research and Technology Center

a New York State designated Center of Excellence

WELCOME TO ADVANCED ENERGY 2014



Courtesy of the Albany County Convention & Visitors Bureau

For the first time, New York State's premier energy conference is being held in the state capital, Albany. It is particularly appropriate during a year when New York's government is so firmly focused on entrepreneurship and innovation. Nowhere do those two words carry greater meaning or importance than in the development of advanced energy technologies and conservation strategies. **Advanced Energy 2014** encompasses all aspects of energy throughout the state, and provides a venue for information, education and collaboration on leading-edge research.

New York's leadership in energy goes back to Edison's first direct current power station on Manhattan's Pearl Street in 1882, and the first polyphase alternating current hydroelectric power plant designed by Nikola Tesla and built by Westinghouse at Niagara Falls in 1895. At this year's conference our program tracks will be exploring many of today's most promising technologies. Energy-saving transportation solutions, smart grid and smart building technologies, energy-efficient manufacturing, and innovations in lighting will probe the future of efficiency and conservation. Established sustainable energy sources, such as solar, offshore wind and biomass, will share the stage with promising advances involving hydrogen and polymers. And as always, we will examine the latest issues involving energy policy, at both the regional and federal levels.

Over the years the Advanced Energy Conference has grown in its scope and influence, largely due to the generosity and continued commitment of our many sponsors. We would like to thank our Host Sponsors, NYSERDA and Stony Brook University; our Platinum Sponsors, National Grid and New York State Smart Grid Consortium; our Gold Sponsors, PSEG Long Island and Polytechnic Institute of New York University; and our Silver Sponsors, City College of New York, Carter DeLuca Farrell & Schmidt LLP, Brookhaven National Laboratory, and Deepwater Wind LLC. We invite you to demonstrate your gratitude to them and all our sponsors by reviewing their profiles later in this program and visiting their booths in our exhibition hall.

Each year this conference is organized by the Advanced Energy Research & Technology Center, a designated *New York State Center of Excellence* at Stony Brook University. On their behalf, and that of everyone involved in **Advanced Energy 2014**, we hope you will enjoy a stimulating and productive conference, and join us next year at Manhattan's Jacob K. Javits Conference Center for Advanced Energy 2015.



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ANDREW M. CUOMO
GOVERNOR

April 28, 2014

Dear Friends:

It is a pleasure to send greetings and to welcome everyone gathered in our state's historic Capital City of Albany for *Advanced Energy 2014* – the annual conference sponsored by the Advanced Energy Research & Technology Center at Stony Brook University.

The Empire State is among the leaders in the nation with its efforts to develop clean and efficient energy options, renewable energy sources, and sustainable energy programs. This year's conference provides an opportunity to examine a range of topics including energy storage, alternative energy, strategies for efficiency, electric transportation, emerging technologies, and others. I applaud this initiative, which brings together leaders in industry, academics, and government to explore the latest developments that will lead to further progress in the energy industry in New York.

By taking advantage of innovative developments that promote wise use of existing resources and more efficient production, we can address future energy needs and environmental concerns, while improving our economy and our world.

Warmest regards and best wishes for a productive conference.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Andrew M. Cuomo'.

ANDREW M. CUOMO



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A MESSAGE FROM OUR HOST SPONSORS



NYSERDA is proud to continue our support of the Advanced Energy Conference, one of the premier energy conferences in the Northeast. Our mission is to advance energy solutions in ways that improve New York's economy and environment by bringing together the people and resources to scale up the State's clean energy economy. The Advanced Energy Conference builds upon this mission by joining together key leaders and stakeholders from the energy community who understand the critical role partnerships play in spurring new investment in innovation and clean technologies. Under Governor Cuomo's leadership and with the support of our peers in the energy industry, we are well-poised to transform the State's clean-energy economy.

– **John B. Rhodes**
President & CEO
New York State Energy Research & Development Authority



On behalf of Stony Brook University – home of the New York State designated Center of Excellence in Advanced Energy Research and Technology – I want to recognize the remarkable efforts of all who convene at this annual conference in our great State of New York, bringing together the brightest minds and showcasing up-to-the-minute advances in alternative and renewable energy. I am pleased that this year's conference is taking place in Albany, allowing our elected officials, agency leaders and decision makers to personally interact with the researchers, entrepreneurs, technology and policy experts who are dedicated to finding solutions for tomorrow's smarter, cleaner energy sources as they work toward building an industry that will create jobs and make New York a leader in energy research and commercialization.

– **Samuel L. Stanley Jr., M.D.**
President
Stony Brook University



A MESSAGE FROM OUR PLATINUM SPONSORS



National Grid is proud to partner with the Advanced Energy Research and Technology Center to support the 2014 conference. We believe organizations like National Grid have a significant opportunity to advance America's economic and environmental health through a coordinated, collaborative strategy to bring our energy systems into the 21st century. This requires a new approach to planning, designing, operating and regulating our infrastructure – an approach that at National Grid we call "Connect21."

National Grid has a long track record of working toward this goal by providing award-winning, energy efficiency programs—throughout our global business—which help customers use less energy and reduce their energy bills and carbon footprint. We have a number of programs and initiatives that can be applied across the energy industry, including:

- Infrastructure upgrades to improve reliability
- Home Energy Reports to encourage energy-saving behaviors
- Smart Grid pilots to test new technologies designed to improve the operational efficiency of the grid and improve its capability of integrating renewable energy solutions
- Renewable gas projects to reduce emissions and meet record demand for conversions to clean, natural gas.

The conference provides an excellent opportunity for universities, research institutions, energy providers and corporations to share best practices on global energy solutions.

– **Ken Daly**
President
National Grid New York



The NYS Smart Grid Consortium is proud to join as a partner in the Advanced Energy Conference 2014, which has become the preeminent energy conference in the Northeastern US. The NYS Smart Grid Consortium brings together top research and academic institutions, global technology developers, some of our largest and most sophisticated utilities, and NYS agencies committed to finding innovative and cost effective solutions for modernizing our power grid.

The major storms that have severely impacted New York over the past two years have underscored the need for "resiliency" in the energy delivery grid, and our membership is committed to incorporate what they have learned from their experiences and those of others in their future investment decisions.

In addition to focusing on emerging technologies and reliable and resilient infrastructure, the Consortium is also playing a leadership role in emerging discussions regarding the future of the State's distribution utilities. We believe it is essential that these discussions result in utility and regulatory approaches that spur innovation, increase the state's competitiveness, and most importantly, meet evolving consumer needs.

The Consortium offers a unique forum to support the strategic analysis and decision-making required to achieve success, and we view the annual Advanced Energy Conference as an excellent opportunity to connect with our members, discuss key industry trends and advance our vision.

– **Robert Catell**
Chairman of the Board, Advanced Energy Center
Chairman, NYS Smart Grid Consortium



2014 SCIENTIFIC ADVISORY COUNCIL

Quality of content and rigor of analysis have formed the basis of the value provided by the Advanced Energy Conference series each year. We thank this year's Scientific Advisory Council for their guidance and ability to resolve programmatic content questions. The collective expertise of this august body of scientists provides clear technical direction and incalculable benefits to the success of the conference.



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While many hardworking staff and volunteers have crafted and executed this year's Advanced Energy Conference, a few deserve our special thanks for going truly above and beyond. This small group has the vision and foresees the economic benefits of a strong, collaborative and united community of researchers, academics, municipal and utilities partners working in concert with the established and emerging energy companies in the region.



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KEYNOTE SPEAKERS



Robert Catell

Mr. Catell was formerly the Chairman and Chief Executive Officer of KeySpan Corporation and KeySpan Energy Delivery, the former Brooklyn Union Gas. His career with Brooklyn Union Gas started in 1958. Following National Grid's acquisition of KeySpan Corporation, Mr. Catell became Chairman of National Grid, U.S. and Deputy Chairman of National Grid plc. He currently serves as Chairman of the Board of the Advanced Energy Research and Technology Center at Stony Brook University, New York State Smart Grid Consortium, Cristo Rey Brooklyn High School, Futures in Education Endowment Fund, KEYERA Energy Management Ltd., and the New York Energy Policy Institute's Advisory Council.

Mr. Catell serves on the Board of the following governmental organizations: New York State Energy Research & Development Authority and the NYS Economic Development Power Allocation Board.

Mr. Catell serves on the Board of the following not-for-profit organizations: Brooklyn Community Foundation, City College of New York 21st Century Foundation, Colin Powell School for Civic and Global Leadership, Feinstein Institute for Medical Research, National Grid Foundation, Tomorrow's Hope Foundation, and the New York City Police Foundation.

Mr. Catell serves on the Board of the following business organizations: Long Island Angel Network, Long Island Association, National Petroleum Council, and the New York Academy of Sciences.

Mr. Catell is an Executive in Residence at Hofstra University and was named the first "John J. Phelan, Jr. Fellow" of the Robert B. Willumstad School of Business at Adelphi University.

Mr. Catell is a member of the Association of Energy Engineers, CUNY Business Leadership Council, National Society of Professional Engineers, NYS Society of Professional Engineers, and the Society of Gas Lighting.

Mr. Catell received both his Bachelor's and Master's degrees in Mechanical Engineering from the City College of New York and is a registered Professional Engineer. He has attended Columbia University's Executive Development Program, and the Advanced Management Program at the Harvard Business School.



David Daly

David M. Daly was named President and Chief Operating Officer of PSEG Long Island in October 2013. PSEG Long Island LLC was selected by the Long Island Power Authority (LIPA) in Dec. 2011 to manage LIPA's electric transmission and distribution system beginning Jan. 1, 2014.

Mr. Daly had previously served as Vice President and lead of the transition to PSEG. Mr. Daly also previously served as Vice President-Asset Management and Centralized Services at Public Service Electric and Gas Company (PSE&G), with responsibility for electric and gas asset strategy, asset reliability, electric delivery planning, gas system operations and technical services, basic generation services and basic gas supply services, and energy supplier services. Since joining PSE&G in 1983, Mr. Daly has held a variety of positions in utility operations and support services, including Vice President of Energy Acquisition and Technology, where he led the implementation of the cutover to a new SAP-based customer information system. He also served as Division Manager-Merger Integration, Director of Utility Operations Services, Director of Corporate Strategy, and General Manager of Transmission Planning. Earlier in his career, Mr. Daly held various first and second line supervisory positions in fossil generation plant operations, and was a senior consultant at Metzler & Associates and UMS Group, where he focused on performance management and benchmarking, process reengineering, and competitive strategy development. He has an electrical engineering degree from the State University of New York Maritime College, and a Master of Business Administration from Rutgers University.

KEYNOTE SPEAKERS



Ken Daly

Kenneth D. Daly, CFA, is the President of the New York business of National Grid, which serves 4 million natural gas and electric customers in Brooklyn, Queens, Staten Island, Long Island, and Upstate New York. Mr. Daly joined National Grid's predecessor, Brooklyn Union, which later became KeySpan, in 1988 as a management trainee in the Customer Relations Department. Ken was recently based in London, serving for two years as Global Financial Controller, and has held numerous positions in Finance, Human Resources and Customer Relations throughout his 25 year career.

Mr. Daly graduated from St. Francis College with a B.A. in English in 1988 and has earned both an MBA in Finance from St. John's University and an MS in Human Resource Management from New York University. He achieved the distinguished Chartered Financial Analyst designation in 2002.

Mr. Daly is a member of the St. Francis College Board of Trustees and has been an adjunct professor at SFC, teaching human resource, business and finance courses for 20 years. He has been the Director of the St. John's University Executive-in-Residence Program since 1992. He is the past Chairman of the Kingsborough Community College Board of Directors and a former member of Junior Achievement Board of Directors and United Way Campaign Co-Chair. Mr. Daly is also a member of the David Rockefeller 'Fellows Program,' the Long Island Energeia Partnership, the British American Business Council Board and Advanced Energy Research and Technology Center Board. Mr. Daly lives in New York with his wife, Laurie, and their four young children.



Dr. Daniel Gerstein

Dr. Daniel Gerstein is the Deputy Under Secretary of Homeland Security for Science & Technology. Before joining DHS, he served as the Principal Director for Countering Weapons of Mass Destruction (WMD) within the Office of the Secretary of Defense. Dr. Gerstein is a former New Yorker and a graduate of the United States Military Academy at West Point. He has served on four different continents, participating in a wide variety of senior homeland security, counterterrorism, peacekeeping, humanitarian assistance, and combat assignments. He is also currently an Adjunct Professor at American University where he teaches graduate courses on biological warfare and security policy.

In addition to a Doctor of Philosophy degree in Biodefense from George Mason University, he holds multiple master's degrees in Operations Research, National Security & Strategic Studies and National Security Strategy & Policy.



Dr. Doon Gibbs

Doon Gibbs leads Brookhaven National Laboratory, a multi-program lab with 3,000 employees, more than 4,000 facility users, and an annual budget of more than \$700 million. Home to seven Nobel Prizes, Brookhaven has major programs in nuclear and high-energy physics, physics and chemistry of materials, environmental and energy research, nonproliferation, neurosciences and medical imaging, and structural biology.

Doon Gibbs earned a B.S. in physics and mathematics from the University of Utah in 1977, and an M.S. and Ph.D. in physics from the University of Illinois at Urbana-Champaign, in 1979 and 1982 respectively. He joined Brookhaven in 1983 as an assistant physicist and progressed through the ranks to become a senior physicist in 2000. Gibbs's managerial experience at Brookhaven includes the posts of Group Leader of X-ray Scattering, Associate and Deputy Chair of Physics, Head of Condensed Matter Physics, Interim Director of the Center for Functional Nanomaterials, and Associate Laboratory Director for Basic Energy Sciences. He became Deputy Laboratory Director for Science and Technology in 2007.

Gibbs was honored with the 2003 Advanced Photon Source Arthur H. Compton Award "for pioneering theoretical and experimental work in resonant magnetic x-ray scattering, which has led to many important applications in condensed matter physics." Gibbs was instrumental in overseeing the design and construction of Brookhaven's Center for Functional Nanomaterials, and has played a significant role in advancing other major projects including the National Synchrotron Light Source II and Interdisciplinary Science Building. He has also overseen the growth of Brookhaven's basic energy sciences programs, including chemistry, materials science, nanoscience, and condensed matter physics. Gibbs is a Fellow of both the American Association for the Advancement of Science and the American Physical Society.

KEYNOTE SPEAKERS



Alfred Griffin

Alfred Griffin is President of the New York Green Bank. NY Green Bank is a \$1 billion initiative introduced by Governor Andrew M. Cuomo in 2013 to mobilize greater private sector capital in New York's rapidly growing clean energy markets, to enhance New York's competitiveness for clean energy businesses, and to make the state's energy systems more resilient and reliable.

Mr. Griffin brings 25 years of experience in banking and finance to NY Green Bank. He is an industry leader in developing innovative solutions in support of the financing of renewable energy generation and energy efficiency projects. In his role with NY Green Bank, Mr. Griffin will oversee partnerships with private sector capital providers to address market barriers currently limiting private investment in attractive renewable energy and energy efficiency projects. Prior to joining NY Green Bank, Mr. Griffin specialized in structured finance with roles in corporate and investment banking, capital markets and risk management at Citigroup Global Markets Inc. Specific roles included Alternative Energy Banking, where Mr. Griffin was responsible for the design, marketing and execution of structured solutions within the evolving market segment. Within the sector, Mr. Griffin was involved with a variety of innovative transactions including energy efficiency loan and lease securitizations, distributed solar portfolio financings, energy savings projects, and government-agency debt guarantee transactions.

Other responsibilities at Citi included Institutional Recovery Management, where Mr. Griffin developed and implemented strategies for mitigating risk exposures to distressed companies and projects. Mr. Griffin also worked in Global Structured Solutions where he originated structured transactions across a variety of industries and assets classes, many of which involved first of kind transaction structures. Prior to joining Citi in 1997, Mr. Griffin held positions at Edward D. Jones & Co. and Smith Barney Inc. Mr. Griffin is a graduate of the University of North Carolina at Chapel Hill where he earned his B.A. and M.B.A. degrees, and currently serves on the Board of Visitors. He is a Chartered Financial Analyst.



Dr. Stefan Heck

Stefan is a Consulting Professor at the Precourt Institute for Energy at Stanford University, teaching courses and conducting research on innovation, energy, and resource economics.

Previously he was a Director (senior partner) at McKinsey and co-founded the Cleantech and Sustainability practices.

Stefan has worked extensively with Fortune and Global 100 technology, industrial, infrastructure, building systems, retail, utility and energy companies across the US, China, Korea, Japan, India, and Europe. He has counseled CEOs, CFOs, CTOs, and GMs of new businesses on disruptive technologies, scaling, and globalization. He has also served a number of national and city governments both in the US and Asia on industrial and technology policy and green growth.

Topics Stefan has worked on in recent years include:

- Renewables including solar, wind, and waste to energy
- Road transportation from EVs, hybrids, batteries, motors, power electronics, freight, route optimization, and transportation systems design/congestion initiatives
- Entry into China, managing IP, JVs with Asian conglomerates, and shifting production to low-cost countries
- Project financing, regulatory strategy, design of feed-in-tariff and other tax incentive schemes
- M&A and cross border/global integration and portfolio restructuring
- Cultivating change leaders and BU GMs, especially for new businesses or disruptive business models
- Building systems including controls, elevators, HVAC, windows, low voltage electrical systems, modular building systems, energy efficiency technologies and policy programs
- Grid infrastructure including smart meters, energy storage, distribution automation, transformers, inverters, systemic risk assessments and resiliency plans
- Lean plant operations (LED, solar, semiconductor, transformer plants), global procurement (for motors, manufacturing equipment, machining, electronic components)
- Investment strategy, due diligence, and operations transformation work for private equity, sovereign wealth funds, and government investment vehicles

KEYNOTE SPEAKERS

(cont'd)

Stefan previously led McKinsey's Global Semiconductor Practice serving the leading foundry, equipment, MPU, flash memory, and EDA players on both strategic and operational topics, and building out the practice into Asia. In the late 1990s, Stefan founded McKinsey's B2B ecommerce practice and worked with many of the leading ecommerce companies in infrastructure, supply chain, and distribution.

Prior to joining McKinsey, he was responsible for developing Apple's web presence, built a prototype agent-based satellite image delivery systems for NASA, founded the Stanford Solar Car Project, developed expert systems for IBM, and developed pattern recognition neural networks at Xerox PARC.

Stefan is on the Innovation Advisory Board of United Technologies, the advisory board of New World Capital, and the School of Earth Sciences at Stanford.

Stefan received his Ph.D. in Cognitive Science from UCSD and a B.S. with honors in Symbolic Systems from Stanford University. His research focused on neural network algorithms and the neural basis of reasoning.



Mr. Jeffrey Katz

Jeffrey S. Katz is the Chief Technology Officer of the Energy and Utilities Industry at IBM. He is a member of the IBM Academy of Technology. He is a Senior Member of the Institute of Electrical and Electronics Engineers and is an Open Group Distinguished IT Specialist. He has presented on behalf of IBM at many industry conferences, including DistribuTech, the international Conference of the Electric Power Supply Industry, IEEE Innovative Smart Grid Technologies, and the Department of Energy's Grid Wise Grid Inter-Op. He was co-chair of the IEEE 2030 Smart Grid Interoperability Guidelines IT Task Force. Recently he has presented in several forums on Smart Grid Security, He was a session chair for Smart Grid at the 2012 Yale Alumni in Energy conference. He is on the "Networked Grid 100: The Movers and Shakers of the Smart Grid in 2012" list from Green Tech Media.

Prior to IBM, he was the Manager of the Computer Science department at the U.S. Corporate Research Center of ABB. He belongs to Sigma Xi and is a Level 3 (Thought Leader) certified IBM IT Specialist. He is an author on six patents in tele-medicine, robotics and computer vision, and intelligent electric power distribution. Jeff has organized and taught several volunteer activities around robotics for education.



Richard L. Kauffman

Richard Kauffman joined the administration of New York State Governor Andrew M. Cuomo in February 2013 as the Chairman of Energy and Finance for New York. In this capacity he oversees and coordinates energy policy through a subcabinet of energy agencies and public authorities. His mission is to develop and implement a strategic plan to scale up clean energy, enhance New York's competitiveness for clean energy businesses, and make our energy systems more resilient and reliable.

He has worked in energy and finance at some of the highest levels of both the public and private sector. Prior to his current appointment, Mr. Kauffman served as Senior Advisor to Secretary Steven Chu at the U.S. Department of Energy.

In his private sector career, he was Chief Executive Officer of Good Energies, Inc., a leading investor in renewable energy and energy efficiency technologies, a partner of Goldman Sachs where he chaired the Global Financing Group, and vice chairman of Morgan Stanley's Institutional Securities Business and co-head of its Banking Department.

Mr. Kauffman has served as Board Chairman of Levi Strauss & Co., as well as on the boards of several organizations, including the Brookings Institution and the Wildlife Conservation Society.

Mr. Kauffman earned a bachelor's degree from Stanford University, a master's degree in international relations from Yale University, and a master's in public and private management from the Yale School of Management. He is a member of the Council on Foreign Relations.

KEYNOTE SPEAKERS



Dr. Cheryl Martin

Dr. Cheryl Martin is the Acting Director of the Advanced Research Projects Agency – Energy (ARPA-E) at the United States Department of Energy and is responsible for oversight of the Agency. Additionally, Dr. Martin leads ARPA-E's Technology-to-Market program, which helps breakthrough energy technologies succeed in the marketplace. Prior to joining ARPA-E, Dr. Martin was an Executive in Residence with the venture capital firm, Kleiner Perkins. Dr. Martin also spent 20 years with Rohm and Haas Company, starting her career as a Senior Scientist for the company's Plastics Additives business. In 2000, Dr. Martin was named Director of Investor Relations and later became Director of Financial Planning. Dr. Martin was named General Manager of the company's Adhesives and Sealants business in North America in 2007 and elected a Corporate Vice President. Most recently, she was the General Manager for the Paint and Coatings Materials business in Europe, Middle East and Africa. Dr. Martin earned a B.A. in chemistry from the College of the Holy Cross and a Ph.D. in organic chemistry from the Massachusetts Institute of Technology (MIT).



Adrian Pinder

Adrian Pinder is the Strategic Marketing Director for GE Energy Storage. He is responsible for developing the value proposition, strategy and marketing for GE's Durathon battery system. He has held a number of technology strategy and innovation roles in GE and the UK Government. He has a degree in theoretical physics from Cambridge University and an MBA from Manchester Business School.



Dominique Poirier

Dominique Poirier was appointed Québec's Delegate General to New York on December 11, 2013. In this role, she is responsible for promoting Québec's excellence and fostering strong working relationships between Québec and the Mid-Atlantic states (New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia and Kentucky), particularly in the areas of trade, investment, research, innovation and culture.

Previously, Ms. Poirier worked for more than 25 years as a journalist for the Radio-Canada network, both in television and radio. During this time, she hosted current and public affairs programs, contributed news analysis and commentary, conducted on-air interviews, and served as anchor for the network's flagship news program. Ms. Poirier is the author of *Philippe Dagenais: ma vie en 3D*, a biography of the Québec designer that was published in October 2013.



Dr. Daniel Poneman

Dr. Daniel Poneman was nominated by President Obama to be Deputy Secretary of Energy on April 20, 2009, and was confirmed by the United States Senate on May 18, 2009. Under the leadership of Secretary of Energy Steven Chu, Mr. Poneman also served as Chief Operating Officer of the Department. Between April 23, 2013, and May 21, 2013, Mr. Poneman served as Acting Secretary of Energy.

Mr. Poneman first joined the Department of Energy in 1989 as a White House Fellow. The next year he joined the National Security Council staff as Director of Defense Policy and Arms Control.

From 1993 through 1996, Mr. Poneman served as Special Assistant to the President and Senior Director for Nonproliferation and Export Controls at the National Security Council. His responsibilities included the development and implementation of U.S. policy in such areas as peaceful nuclear cooperation, missile technology, space-launch activities, sanctions determinations, chemical and biological arms control efforts, and conventional arms transfer policy. During this time, he also participated in negotiations and consultations with governments in Africa, Asia, Europe, Latin America, and the former Soviet Union.

KEYNOTE SPEAKERS

(cont'd)

After leaving the White House, Mr. Poneman served as a member of the Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction and a number of other federal advisory panels.

Prior to assuming his responsibilities as Deputy Secretary, Mr. Poneman served as a principal of The Scowcroft Group for eight years, providing strategic advice to corporations on a wide variety of international projects and transactions. Between tours of government service he practiced law for nine years in Washington, D.C. - first as an associate at Covington & Burling, later as a partner at Hogan & Hartson - assisting clients in regulatory, policy and transactional matters, international arbitration, commercial real estate financing, export controls, and sanctions and trade policy.

Mr. Poneman received A.B. and J.D. degrees with honors from Harvard University and an M.Litt. in Politics from Oxford University. He has published widely on national security issues and is the author of *Nuclear Power in the Developing World* and *Argentina: Democracy on Trial*. His third book, *Going Critical: The First North Korean Nuclear Crisis* (coauthored with Joel Wit and Robert Gallucci), received the 2005 Douglas Dillon Award for Distinguished Writing on American Diplomacy. Mr. Poneman is a member of the Council of Foreign Relations.



Gil Quiniones

Gil C. Quiniones is the President and Chief Executive Officer of the New York Power Authority, the nation's largest state electric utility. He was elected by the NYPA trustees in November of 2011, after Governor Andrew Cuomo nominated him for the position.

Quiniones was co-chairman of the New York Energy Highway Task Force, an initiative that was proposed in early 2012 by Governor Cuomo to rejuvenate New York State's energy system through partnerships between the public and private sectors. As President and CEO of NYPA, Quiniones is responsible for developing and implementing the statewide public power utility's strategic vision and mission, and supervises its operations, legal, and financial matters.

Quiniones is a member of the Board of Directors of the Electric Power Research Institute and the Chair of the Board's Committee on Energy Efficiency, Energy Storage, and Smart Grid. He is active in the Board of the Large Public Power Council serving on the Steering Committee as Co-Chair of its Government Relations Task Force and is NYPA's principal representative to the American Public Power Association. Before joining NYPA in October 2007 as Executive Vice President of Energy Marketing and Corporate Affairs, Quiniones served for more than four years as Senior Vice President of Energy and Telecommunications for the New York City Economic Development Corporation. In that capacity, he was the city's chief consultant on energy policy issues. He established and led Mayor Michael Bloomberg's Energy Policy Task Force and led the development of the energy chapter of PlaNYC 2030, the city's long-term sustainability plan.

Previous to his positions in New York City government, Quiniones worked for Con Edison's regulated and unregulated businesses for 16 years and was one of four co-founders of Con Edison Solutions, the utility's unregulated energy services company.



KEYNOTE SPEAKERS



John Rhodes

John B. Rhodes was appointed President and Chief Executive Officer of the New York State Energy Research and Development Authority (NYSERDA) on September 16, 2013.

Mr. Rhodes brings more than 30 years of experience in business with a focus on the financial and energy industries, having lived and worked internationally in a variety of countries, including India, Germany, Brazil, and Argentina.

Prior to his appointment, Mr. Rhodes served as the Director for the Center for Market Innovation at the Natural Resources Defense Council (NRDC), an international environmental advocacy organization. The Center works to channel private capital towards environmentally beneficial investments with a focus on energy efficiency, renewable energy, green infrastructure, and sustainable food and agriculture.

Before joining NRDC, Mr. Rhodes spent three years acting as Chief Operating Officer at Good Energies, a leading investment firm focused on renewable energy and energy efficiency. As a member of the senior management team, he oversaw operations, strategy and portfolio companies. Additionally, Mr. Rhodes was a partner at Booz Allen Hamilton where he provided strategic consulting for clients across technology-intensive industries including energy, aerospace, chemicals and pharmaceuticals. He has also served as a Trader and General Manager at Metallgesellschaft, a German mining, metals and engineering firm.

Mr. Rhodes currently serves on the board of several non-profit organizations, including the New York Institute for Special Education, American Federation for Aging Research and Cornerstone Literacy. He previously served as a Trustee on the Citizens Budget Commission of New York and as an Advisory Council member for the Metropolitan Policy Program at the Brookings Institution.

Mr. Rhodes is a graduate of Princeton University and the Yale School of Management.



Dr. Yacov Shamash

Dr. Shamash is Vice President for Economic Development and the Dean of the College of Engineering and Applied Sciences at Stony Brook University. As Vice President, Dr. Shamash supervises the University's three incubators, two New York State Centers for Advanced Technology, the Center of Excellence in Wireless and Information Technology (CEWIT), the Advanced Energy Research and Technology Center (AERTC), the Small Business Development Center, and the workforce development programs of the Center for Emerging Technologies. The College of Engineering and Applied Sciences has more than 2,500 undergraduate and 1,400 graduate students. During his tenure, College research expenditures have increased six fold to \$30M per year. In 1994 he helped establish the highly successful state-wide SPIR program (Strategic Partnership for Industrial Resurgence). During the past ten years, working through the SPIR program, the College has partnered with more than 395 companies to assist them with more than 2,127 projects.

Prior to joining SUNY Stony Brook in 1992, Dr. Shamash served as the Director of the School of Electrical Engineering and Computer Science at Washington State University, where he established the National Science Foundation Industry/University Center for the Design of Analog/Digital Integrated Circuits.

He is a member of the Board of Directors of Keytronic Corp., and Applied DNA, Inc. He is also a member of the Long Island Software & Technology Network (LISTnet) and the Long Island Angel Network.

Dr. Shamash has also held faculty positions at Florida Atlantic University, the University of Pennsylvania and Tel Aviv University. He received his undergraduate and graduate degrees from Imperial College of Science and Technology in London, England. He has authored more than 130 publications and is a Fellow of the IEEE.

KEYNOTE SPEAKERS



Chair Audrey Zibelman

Audrey Zibelman was confirmed as a Commissioner of the New York State Public Service Commission on June 19, 2013, and was named Chair on September 3, 2013. Her term turns through February 1, 2018.

Ms. Zibelman has extensive experience in the public, private and not-for-profit energy and electricity sectors. She is a recognized national and international expert in energy policy, markets and Smart Grid innovation.

Ms. Zibelman is a Founder and past President and Chief Executive Officer of Viridity Energy, Inc., which she formed after more than 25 years of electric utility industry leadership experience in both the public and private sectors. She has participated as both counsel and expert witness in numerous electric utility proceedings before state and federal regulatory and legislative bodies on such topics as the benefits of power markets and smart grids to consumers. Ms. Zibelman also has served on the boards of organizations responsible for assuring the security and reliability of the nation's power system, including Reliability First, the GridWise Alliance, and the Midwest Reliability Organization.

Previously, Ms. Zibelman was the Executive Vice President and Chief Operating Officer of PJM, a Regional Transmission Organization that operates the world's largest wholesale power market and serves 14 states throughout the eastern United States. Ms. Zibelman also held executive positions at Xcel Energy, served as General Counsel to the New Hampshire Public Utilities Commission, and as Special Assistant Attorney General in the Minnesota Attorney General's Office.

As PSC Chair, she sits on the State Energy Planning Board. She is also Chair of the New York State Board on Electric Generation Siting and the Environment. She sits on the board of the New York State Energy Research and Development Authority (NYSERDA), the board of the Regional Greenhouse Gas Initiative Inc. (RGGI), the New York State Disaster Preparedness Commission, the Bureau of Ocean Energy Management Task Force, and is a member of the National Association of Regulatory Utility Commissioners (NARUC) Committee on Electricity. Ms. Zibelman received her B.A. from Pennsylvania State University and her J.D. from Hamline University School of Law.

Ms. Zibelman, who resides in Glenmont, and her husband, Phillip Harris, are the proud parents of four children.



SESSION CHAIRPERSONS



DR. STEPHANIE McCLELLAN
University of Delaware
Off Shore Wind



DR. RICHARD PEREZ
University at Albany
*Intermittency Mitigation and
Solar Forecasting / Remunerating
Solar Energy at Face Value*



DR. GERALD STOKES
Brookhaven National
Laboratory
Federal Energy Policy



DR. PATRICK LOONEY
Brookhaven National
Laboratory
Regional Energy Policy



DR. MIRIAM RAFAILOVICH
Stony Brook University
*Polymers for Energy / Hydrogen
Production and Utilization*



DR. WILLIAM WOREK
Stony Brook University
Manufacturing Energy Efficiency



PETER DOUGLAS
NYSERDA
Advanced Buildings I



DR. EDWARD BOGUCZ
Syracuse University
Advanced Buildings II



DR. SATYEN MUKHERJEE
Philips Research
Advanced Lighting



CAROL GARCIA
NYPA
MicroGrids



JIM GALLAGHER
NYS Smart Grid Consortium
Utility 2.0



WESLEY YEOMANS
NYISO
Smart Grid & Utilities



DR. ROBERT BROADWATER
Electrical Distribution Design
Grid Integration of Renewables



JOHN MARKOWITZ
NYPA
Electric Vehicle Infrastructure



DR. SOTIRIOS MAMALIS
Stony Brook University
*Advanced Vehicle
Technologies*

SESSION CHAIRPERSONS



ADAM RUDER
NYSERDA
*Implementing New
 Transportation Strategies*



ALYCIA GILDE
CALSTART
*Commercial Vehicle
 Deployment*



JANET JOSEPH
NYSERDA
*Biomass Heating Markets &
 Market Factors I*



KHALED YOUSEF
Pyramid Energy Engineering
*Biomass Heating –
 Designing Successful Projects*



DR. DEVINDER MAHAJAN
**Brookhaven National
 Laboratory**
*Low Carbon Energy:
 Production and Implications*



GREG HALE
NYS Executive Chamber
*Biomass Heating Markets &
 Market Factors II*

2014 POSTER SESSION JUDGES



DR. FARNAZ FARZAN



WALLY LEIGH



ROBERT LOFARO



JUDGED CATEGORIES:

- Undergraduate College student
- Graduate College Student

Sponsored by:



EARLY REGISTRATION – SUNDAY, APRIL 27

2:00 pm -
4:00 pm

Early Registration (Exhibit Booths Closed)

CONFERENCE AGENDA – MONDAY, APRIL 28

8:00 am

Registration Open

By Invitation Only: Pre-Conference Workshop Series

9:00 am -
10:30 am

9:00 am -
10:30 am

By Invitation Only: Cleantech Workforce Workshop
Location: The Capital Room (Event Floor)
Rebecca Hughes (NYSERDA), Pat Malone (Stony Brook University)

9:00 am -
10:30 am

By Invitation Only: Cleantech Startup Workshop
Location: Chambers (Lobby)
Don LaVada (NYSERDA), Dave Hamilton (CEBIP)

10:30 am -
11:30 am

Exhibit Booths Open

11:30 am -
2:00 pm

Lunch – Welcome/Introductions/Keynote
Welcome: Robert Catell (Advanced Energy Center, NYS Smart Grid Consortium)
Dr. Daniel Gerstein (DHS), Jeffrey Katz (IBM), Ken Daly (National Grid)
Dr. Kathleen Araújo (Harvard), Dr. Devanand Shenoy (D.o.E)

2:00 pm - 2:40 pm

Break – Networking/Exhibits

**PLENARY
SESSION**

2:40 pm -
3:20 pm

The coming energy Resource Revolution - renowned author Dr. Stefan Heck
Introduction by Richard Kauffman (Chairman of Energy & Finance, NYS)
Dr. Stefan Heck (Stanford University, former Senior Partner, McKinsey)

**PLENARY
SESSION**

3:30 pm -
4:15 pm

**Governor's Energy Sub-Cabinet
Panel Session**

Moderator: Robert Catell (Advanced Energy Center, NYS Smart Grid)
Richard Kauffman (Chairman of Energy & Finance, NYS), Gil Quiniones (NYPA), John Rhodes (NYSERDA),
Chair Audrey Zibelman (NYS-DPS), Alfred Griffin (NY Green Bank)

4:30 pm -
6:30 pm

Industry Networking Reception – Exhibits Open/Judged Poster Session
Location: Event Floor
Judged Poster Session • Exhibits and Show Floor Open • Complimentary Food and Beverage



a New York State designated Center of Excellence

CONFERENCE AGENDA – TUESDAY, APRIL 29

7:30 am

Registration Open & Continental Breakfast

8:00 am -
8:45 am

Welcome Breakfast & Keynotes: Dr. Yacov Shamash (*Stony Brook University*), Dr. Doon Gibbs (*BNL*), Chair Audrey Zibelman (*NYS-DPS*), Dominique Poirier - Québec Delegate General to New York

TRACK A Split Track Solar Energy & Offshore Wind

TRACK B Split Track Policy & Energy Materials

TRACK C Split Track Energy Efficiency & Smart Buildings

SESSION I

9:00 am -
10:15 am

Offshore Wind

CHAIRPERSON:

Dr. Stephanie McClellan
University of Delaware
Catherine Bowes
National Wildlife Federation
Dr. Richard Tabors
Tabors Caramanis Rudkevich
Clint Plummer – *Deepwater Wind*
Ward Thomas – *Sentient Science*

Federal Energy Policy

CHAIRPERSON:

Dr. Gerald Stokes
Brookhaven National Laboratory
Dr. Steven Koonin – *NYU-POLY*
Rodney Sobin
Alliance to Save Energy

Manufacturing Energy Efficiency

CHAIRPERSON:

Dr. William Worek
Stony Brook University
Michael Newell – *Ener-G-Rotors*
Richard deFay – *Copper Alliance*
Dr. Holly Shulman – *Ceralink Inc.*
Phil Austen – *National Grid*

SESSION II

10:45 am -
12:00 pm

Intermittency Mitigation & Solar Forecasting

CHAIRPERSON:

Dr. Richard Perez – *University at Albany*
Dr. Morgan Putnam
Clean Power Research
Dr. Jeff Freedman
ASRC, University at Albany
Dr. Hendrik Hamann – *IBM*

Regional Energy Policy

CHAIRPERSON:

Dr. Patrick Looney
Brookhaven National Laboratory
Katherine Rougeux – *NYPA*
Dr. Ralph Masiello – *DNV-GL*
Dr. Vatsa Bhatt
Brookhaven National Laboratory
Christopher Cavanagh – *National Grid*

Advanced Buildings I

CHAIRPERSON:

Peter Douglas – *NYSERDA*
Dr. Giovanni Petrecca
University of Pavia, Italy
Dr. Jon Longtin
Stony Brook University
Michael Perrotta – *MicroGen*
Peter Hofbauer – *ThermoLift*

..... 25-minute break Networking/Exhibits

12:25 pm -
1:55 pm

Luncheon & Keynotes: Robert Catell (*Advanced Energy Center, NYS Smart Grid Consortium*)
Adrian Pinder (*GE Energy Storage*), David Daly (*PSEG-LI*), Dr. Cheryl Martin (*Acting Director ARPA-E*)

..... 25-minute break Networking/Exhibits

SESSION III

2:20 pm -
3:35 pm

Remunerating Solar Energy at Face Value

CHAIRPERSON:

Dr. Richard Perez
University at Albany
Matt Schuerger
Energy System Consulting
Lyle Rawlings – *SEIA Advanced Solar*
Thomas Thompson – *NYSES, JaSolar*
Peter Savio – *NYSERDA*

Polymers for Energy

CHAIRPERSON:

Dr. Miriam Rafailovich
Stony Brook University
Dr. Chang-Yong Nam
Brookhaven National Laboratory
Dr. John T. Welch
University at Albany
Dr. Israel Cabasso
SUNY – ESF

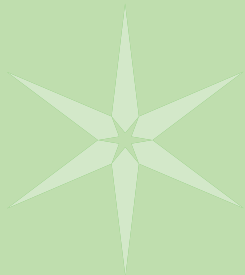
Advanced Buildings II

CHAIRPERSON:

Dr. Edward Bogucz
Syracuse University
Christopher Abbuehl
Constellation
Lou Schick – *Coolerado*
Hugh Henderson – *CDH Energy*

SESSION IV

3:50 pm -
5:05 pm



Hydrogen Production & Utilization

CHAIRPERSON:

Dr. Miriam Rafailovich
Stony Brook University
Dr. Hazem Tawfik
Farmingdale State College
Dr. Anatoly Frenkel – *Yeshiva University*
Dr. Neil Ringler – *SUNY-ESF*

Advanced Lighting

CHAIRPERSON:

Dr. Satyen Mukherjee
Philips Research
Greg Campbell – *Lumenpulse*
Dr. Tessa Pocock
Rensselaer Polytechnic Institute
Dr. Robert Karlicek
Rensselaer Polytechnic Institute

CONFERENCE AGENDA – TUESDAY, APRIL 29

Registration Open & Continental Breakfast

7:30 am

Welcome Breakfast & Keynotes: Dr. Yacov Shamash (*Stony Brook University*), Dr. Doon Gibbs (*BNL*), Chair Audrey Zibelman (*NYS-DPS*), Dominique Poirier - Québec Delegate General to New York

8:00 am -
8:45 am

TRACK D Smart Grid	TRACK E Transportation Efficiency	TRACK F BioEnergy, High Efficiency & Low Emissions	
<p>MicroGrids CHAIRPERSON: Carol Garcia – <i>NYPA</i> John Saintcross – <i>NYSERDA</i> Dr. Robert Currie <i>Smart Grid Solutions</i> James Reilly – <i>Verizon</i></p>	<p>Electric Vehicle Infrastructure CHAIRPERSON: John Markowitz – <i>NYPA</i> Stacey Hughes – <i>National Grid</i> Matt Solomon – <i>NESCAUM</i> Louis Tremblay – <i>AddEnergie</i> Dae-Hwan Kim <i>International Electric Vehicle</i></p>	<p>Biomass Heating: Markets & Market Factors I CHAIRPERSON: Mark Torpey - <i>NYSERDA</i> Dr. Thomas Butcher <i>Brookhaven National Laboratory</i> Mark O'Dell – <i>Econoburn</i> Matthew McArdle – <i>Mesa Reduction</i> Guillermo Metz <i>Cornell Cooperative Extension</i> Dr. Mark Utell <i>University of Rochester Medical</i></p>	<p>SESSION I 9:00 am - 10:15 am</p>
<p>Utility 2.0 CHAIRPERSON: Jim Gallagher <i>NYS SmartGrid Consortium</i> Stuart Nachmias – <i>Con Edison</i> Michael Corso <i>NY Dept. of Public Service</i> Rory Christian <i>Environmental Defense Fund</i></p>	<p>Advanced Vehicle Technologies CHAIRPERSON: Dr. Sotirios Mamalis <i>Stony Brook University</i> Timothy Wells – <i>BAE</i> Keith Sneddon – <i>Exelis</i> Joseph Ambrosio <i>Unique Technical Services</i></p>	<p>Biomass Heating: Designing Successful Projects CHAIRPERSON: Khaled Yousef <i>Pyramid Energy Engineering</i> John Siegenthaler <i>Appropriate Designs</i> William Marzano – <i>MCW Engineering</i></p>	<p>SESSION II 10:45 am - 12:00 pm</p>

25-minute break Networking/Exhibits

Luncheon & Keynotes: Robert Catell (*Advanced Energy Center, NYS Smart Grid Consortium*)
 Adrian Pinder (*GE Energy Storage*), David Daly (*PSEG-LI*), Dr. Cheryl Martin (*Acting Director ARPA-E*)

12:25 pm -
1:55 pm

25-minute break Networking/Exhibits

<p>Smart Grid & Utilities CHAIRPERSON: Wesley Yeomans – <i>NYISO</i> Tom Magee – <i>Con Edison</i> William Jones – <i>National Grid</i> Michael Voltz – <i>PSEG</i></p>	<p>Implementing New Transportation Strategies CHAIRPERSON: Adam Ruder – <i>NYSERDA</i> Steven Monks – <i>HEVO Power</i> Paul Lipson <i>Barretto Bay Strategies</i> Dr. Cara Wang <i>Rensselaer Polytechnic Institute</i></p>	<p>Low Carbon Energy: Production & Implications CHAIRPERSON: Dr. Devinder Mahajan <i>Brookhaven National Laboratory</i> Jay Hasty – <i>All Power Labs</i> Dr. Vatsal Bhatt <i>Brookhaven National Laboratory</i> Matthew Tomich – <i>Energy Vision</i> Clair Hessmer – <i>Antares Consulting</i></p>	<p>SESSION III 2:20 pm - 3:35- pm</p>
<p>Grid Integration of Renewables CHAIRPERSON: Dr. Robert Broadwater <i>Electric Distribution Design</i> Robert Lofaro <i>Brookhaven National Laboratory</i> Tom Key – <i>EPRI</i> Philippe Bouchard – <i>Eos Energy Storage</i></p>	<p>Commercial Vehicle Deployment CHAIRPERSON: Alycia Gilde – <i>CALSTART</i> Gino Porter – <i>Frito Lay</i> Jeff Gicewicz <i>TRY-IT Distributing</i> Jim Petrecky – <i>Plug Power</i></p>	<p>Biomass Heating: Markets & Market Factors II CHAIRPERSON: Greg Hale – <i>NYS Executive Chamber</i> Sarah Osgood – <i>NYSERDA</i> Lou Okonski – <i>EvoWorld</i> Pat Curran – <i>CRE</i> David Dungate <i>Bioenergy Project Partners</i> Dr. Philip Hopke – <i>Clarkson University</i></p>	<p>SESSION IV 3:50 pm - 5:05 pm</p>

EXHIBIT HALL & BOOTH ASSIGNMENTS

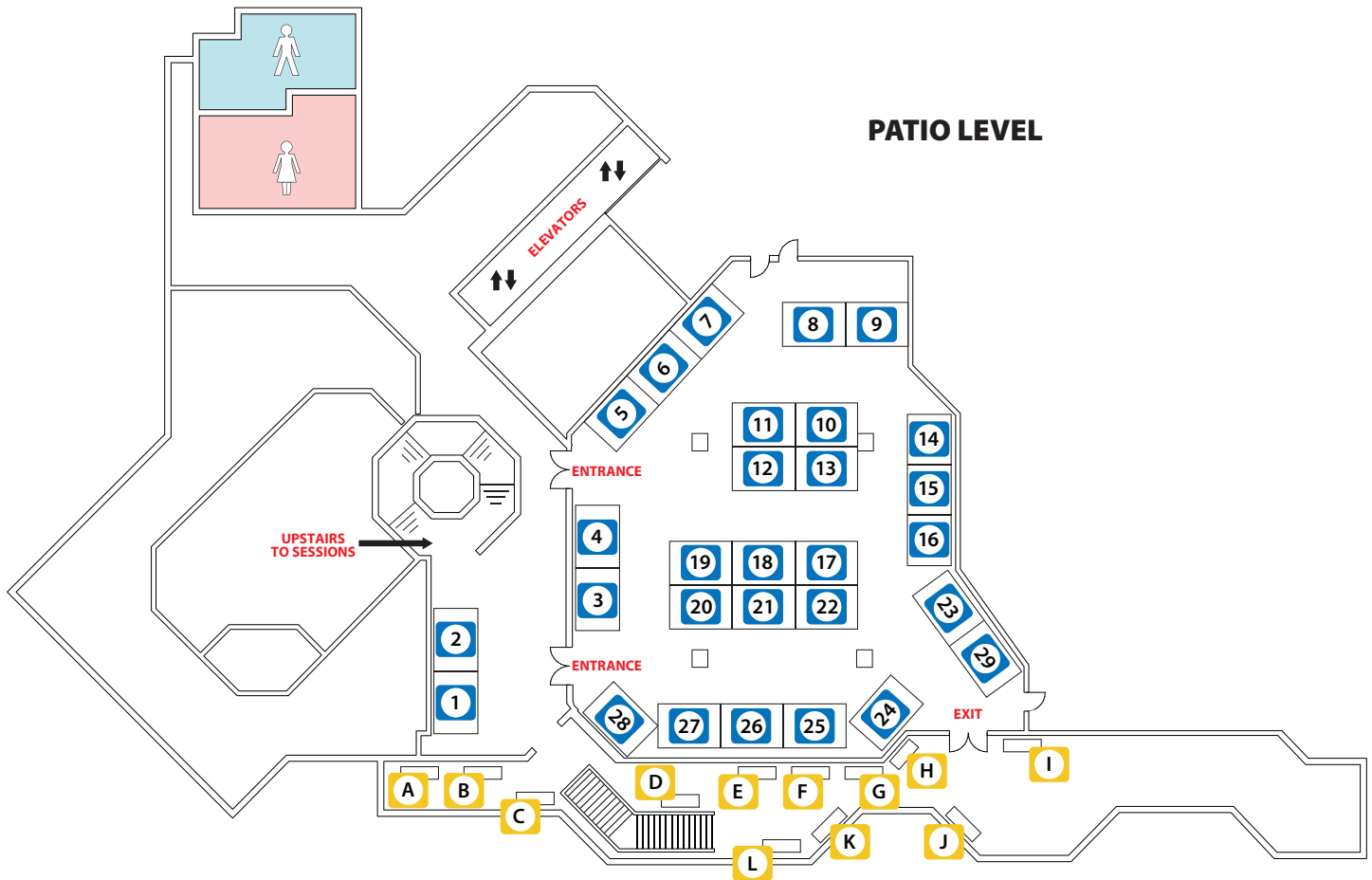


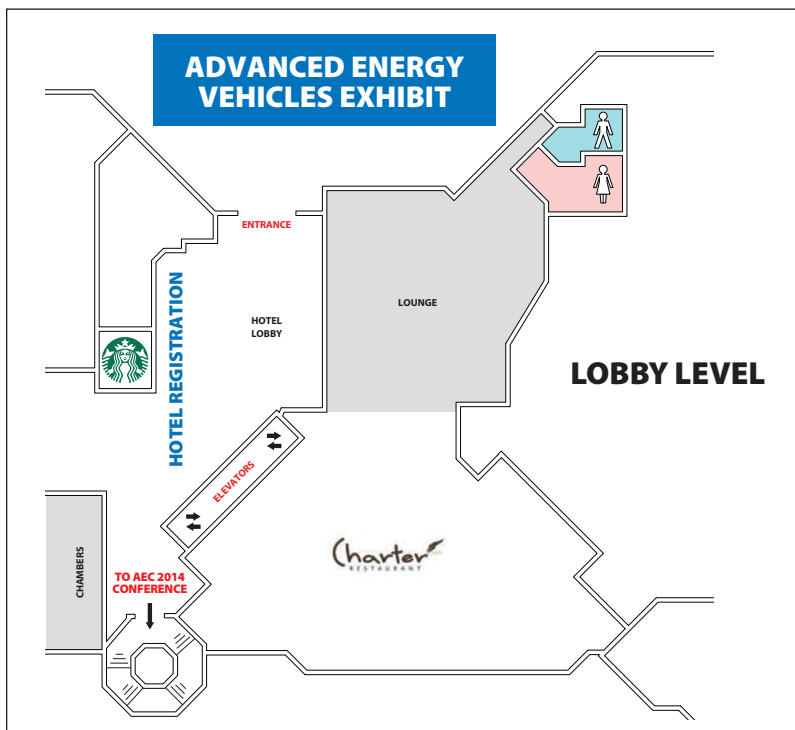
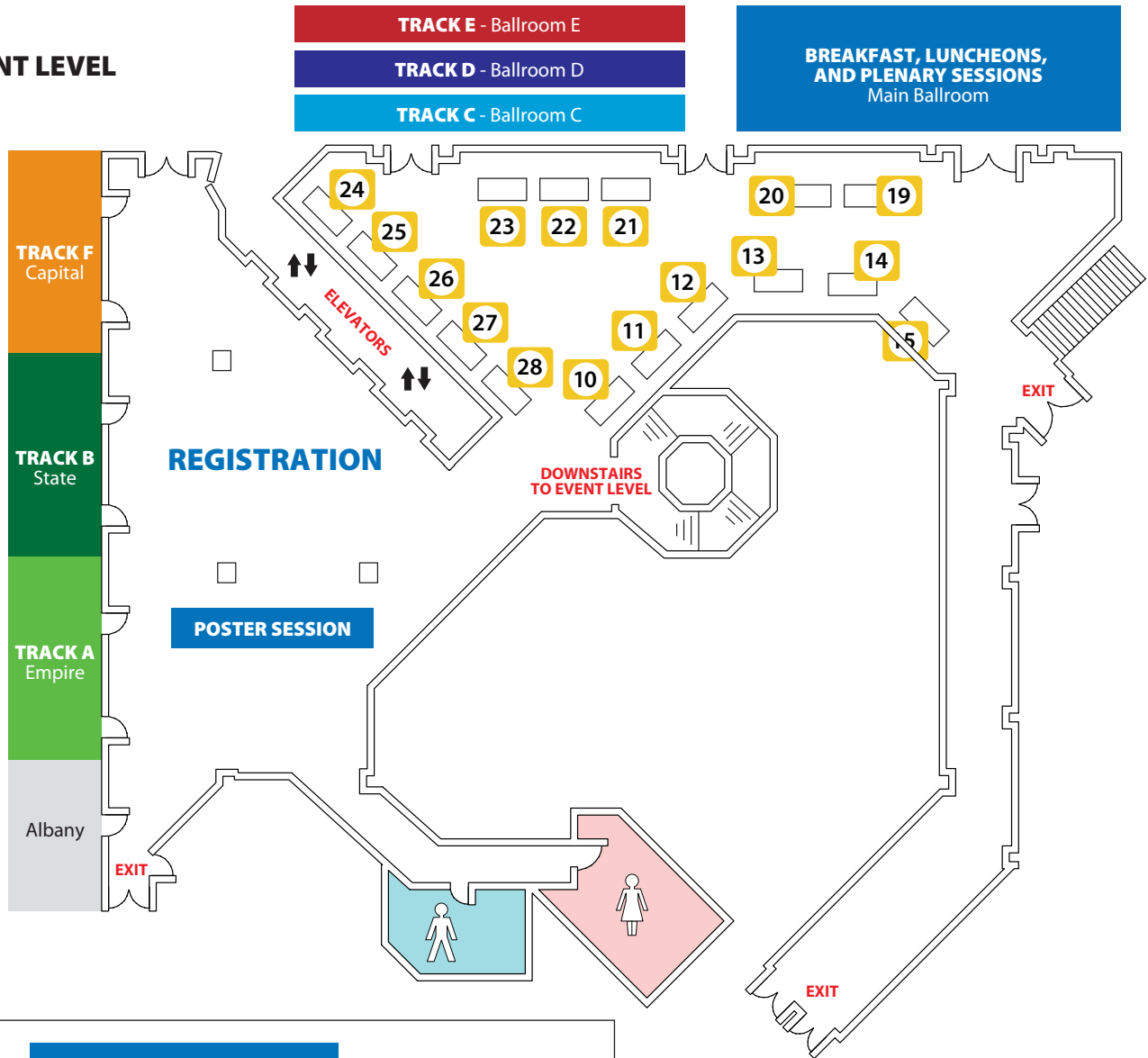
Exhibit Assignments

B = Booth **T = Table**

Advanced Climate Technologies	B-18	NYSTAR	B-17
Advanced Energy Research & Technology Center	T-26	Philips	T-21
Advanced Energy Training Institute.....	T-25	PSEG Long Island	B-10
Alfred University's Center for Advanced Ceramic Technology (CACT)	T-27	Sentient Science Corporation.....	B-7
ASCENSION INDUSTRIES, INC.	B-5	Suffolk County Community College.....	T-14
AtmosAir Solutions	T-12	Syracuse Center of Excellence in Environmental and Energy Systems	B-13
AWS Truepower, LLC	B-22	The City College of New York (CCNY)	B-21
Brookhaven National Laboratory	B-20	The City University of New York (CUNY)	T-23
Carter, DeLuca, Farrell & Schmidt, LLP	B-28	The Tesla Science Foundation.....	T-19 & 20
Center for Economic Growth (CEG).....	T-22	The Valley Group, Inc., a Nexans company	T-10
Copper Development Association Inc.	T-11	ThermoLift	B-19
Deepwater Wind, LLC	B-29	VHB.....	B-25
Denco Energy Management LLC	B-11	Vincent's Heating & Fuel	B-24
DNV GL	B-26 & 27		
EvoWorld.....	B-23		
Farmingdale State College	B-9	NYSERDA Startup Companies	
GEM Energy	B-8	Brimes Energy Inc.	T-A
Jasmine	T-28	ClearGrid Innovations.....	T-J
KAMATICS RWG.....	B-14	Leviathan Energy Renewables, Ltd.	T-C
Leidos Engineering, LLC.....	B-6	ProjectEconomics.....	T-B
National Grid	B-3 & 4	Solar Cool Technologies Inc.....	T-D
National Solar Technologies	B-15	Solid Cell, Inc.....	T-E
New York Biomass Energy Alliance.....	B-16	Triglia Technologies.....	T-F
New York State Smart Grid Consortium	B-12	Unique Technical Services LLC	T-G
NYSERDA.....	B-1&2	Watt Fuel Cell.....	T-I

EXHIBIT HALL & BOOTH ASSIGNMENTS

EVENT LEVEL





NYSERDA

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975. To learn more about NYSERDA's programs and funding opportunities, visit nyserda.ny.gov or follow them on Twitter, Facebook, YouTube, or Instagram.



National Grid

National Grid (LSE: NG; NYSE: NGG) is an international energy delivery company that connects consumers to energy sources through its networks. In the United States, National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New York and Rhode Island. National Grid owns over 4,000 megawatts of contracted electricity generation that provides power to over one million customers on Long Island. It is the largest distributor of natural gas in the northeastern U.S., serving approximately 3.4 million customers in Massachusetts, New York and Rhode Island. Visit them at www.nationalgridus.com. Follow them on Twitter @nationalgridus.



New York State Smart Grid Consortium

The New York State Smart Grid Consortium is a non-profit organization and forum established to accelerate grid modernization throughout New York State. The Consortium brings together the world's leading utilities, technology providers, policy makers and research institutions to identify opportunities for broader smart grid technology deployment.



Stony Brook University

Stony Brook University has established itself as one of America's most dynamic public universities, a center of academic excellence and an essential part of the region's economy.

U.S. News & World Report ranks Stony Brook among the top 35 public universities in the nation, and the *Times Higher Education World University Rankings* places us among the top 1 percent of all the universities in the world. A member of the prestigious, invitation-only Association of American Universities, Stony Brook is one of the 62 leading research institutions in North America and the co-manager of Brookhaven National Laboratory.

Stony Brook's 1,040-acre campus on Long Island's North Shore encompasses not only the main academic areas of the University, but also Stony Brook Medicine, which includes the five health sciences schools, Stony Brook University Hospital, Stony Brook Children's Hospital, the Long Island State Veterans Home, and our major healthcare centers, programs and clinics. A Medical and Research Translation (MART) building, dedicated to imaging, neurosciences, cancer care and research, and a new Hospital Pavilion and Children's Hospital are set for completion in 2016.

The University's reach also extends to a Research and Development Park, four business incubators, Stony Brook Manhattan, our Southampton campus on Long Island's East End, and to SUNY Korea, a partnership between Stony Brook University, the State University of New York (SUNY) and the South Korean government.

Our Center of Excellence in Wireless and Information Technology and two state-designated Centers for Advanced Technology — in diagnostic tools and sensor systems and in biotechnology — facilitate partnerships between New York State industry and University research. Our Advanced Energy Research and Technology Center brings together academic and research institutions, energy providers and industry to focus on innovative energy solutions.

Polytechnic Institute of New York University

The NYU Polytechnic School of Engineering dates to 1854, when the NYU School of Civil Engineering and Architecture as well as the Brooklyn Collegiate and Polytechnic Institute (widely known as Brooklyn Poly) were founded. Their successor institutions merged in January 2014 to create a comprehensive school of education and research in engineering and applied sciences, rooted in a tradition of invention, innovation and entrepreneurship. In addition to programs at its main campus in downtown Brooklyn, it is closely connected to engineering programs in NYU Abu Dhabi and NYU Shanghai, and it operates business incubators in downtown Manhattan and Brooklyn. For more information, visit www.engineering.nyu.edu.



PSEG Long Island

PSEG Long Island is committed to building an industry leading electric company dedicated to providing the people of Long Island and Rockaways with exceptional customer service, best-in-class reliability and storm response, and a strong level of involvement in the communities in which its employees live and work.

PSEG Long Island is a subsidiary of Public Service Enterprise Group, a publicly traded, diversified energy company with annual revenues of \$10 billion. PSEG has three principal subsidiaries: PSEG Power, Public Service Electric and Gas Company (PSE&G) and PSEG Long Island.



Brookhaven National Laboratory

The U.S. Department of Energy's Brookhaven National Laboratory conducts research in the physical, biomedical, and environmental sciences, energy technologies, and national security. Brookhaven also builds and operates major scientific facilities available to university, industry, and government researchers. Brookhaven is managed by Brookhaven Science Associates, a 50/50 partnership between Stony Brook University and Battelle. Visit them at www.bnl.gov; follow them on Twitter, or like them on Facebook.



Carter, DeLuca, Farrell & Schmidt, LLP

Carter DeLuca Farrell & Schmidt, LLP, a leader in intellectual property law, provides cost-effective services to a large cadre of national and international clients. Throughout the phases of product or brand development, we form a critical part of our client's development teams to provide preparation, prosecution and clearance services to maximize protection while navigating through freedom-to-operate challenges. We also provide extensive IP due diligence services and follow on IP asset assimilation to help our clients achieve their business objectives.



Deepwater Wind, LLC

Deepwater Wind is America's leading offshore wind developer. Deepwater recently began construction on the Block Island Wind Farm; a demonstration-scale project that will be America's first offshore wind farm. Last July, Deepwater won the Federal Government's first auction for offshore wind development rights and now owns the exclusive rights to develop a 265 square-mile site located 30 miles off the coast of Montauk. At this distance, the project will not be visible from shore. Deepwater has proposed to supply 200 MW from this wind farm to Long Island's East End, where it is expected to help defer costly upgrades and/or the addition of new fossil-fired generation.

The City College of New York (CCNY)

Since 1847, The City College of New York has provided low-cost, high-quality education for New Yorkers and people from around the world. Each year, more than 16,000 students pursue undergraduate and graduate degrees in a wide variety of disciplines. *U.S. News & World Report*, *Princeton Review*, and *Forbes* all rank City College among the best colleges and universities in the country.



SMM Advertising

SMM Advertising: Humanizing Brands – SMM is the Advanced Energy 2014 official marketing agency. SMM has a 29-year history of serving technology-based clients, and has deep roots in the energy industry, as well as electronics, bioscience, healthcare and employee recruitment. A full-service advertising and marketing agency headquartered on Long Island, NY, SMM has been a member of the 4A's (American Association of Advertising Agencies) and rated on *Crain's* Top Agency list since 2003. SMM has been humanizing brands since 1985. They do that by building authentic and engaging communication strategies through all available media platforms. Visit them at: www.smmadvertising.com.



Alfred University's Center for Advanced Ceramic Technology (CACT)

The Center for Advanced Ceramic Technology (CACT) specializes in applied and technical research of engineered materials which are a key component of most technologies for generating, storing, distributing, and utilizing energy.

Our energy research includes: Fuel cells, including anode, cathode, electrolyte, and vitreous sealants; Hydrogen storage materials; Photocatalytic materials for hydrogen production; Optical coatings for solar energy devices; Membranes for hydrogen purification and biomedical; Materials for energy storage batteries; High temperature thermoelectric materials.

Contact Barry Watkins: watkinsb@alfred.edu • www.cact.alfred.edu



Caithness Long Island, LLC

Caithness Long Island, LLC sited, permitted, financed and constructed one of the cleanest, most energy efficient and water conserving power plants in New York State. The Caithness Long Island Energy Center was brought online in the summer of 2009, and is currently providing Long Island, NY with approximately 350 MW of clean, reliable power.



DNV GL

DNV GL unites the strengths of DNV KEMA, GL Garrad Hassan, and GL Renewables Certification. DNV GL's 3,000 energy experts support customers around the globe in delivering a safe, reliable, efficient, and sustainable energy supply. They deliver world-renowned testing, certification and advisory services to the energy industry including renewables and energy efficiency. Their expertise spans onshore and offshore wind power, solar, conventional generation, transmission and distribution, smart grids, and sustainable energy use, as well as energy markets and regulations. Their testing, certification and advisory services are delivered independent from each other. Learn more at www.dnvgl.com/energy.



Philips

Royal Philips Electronics of the Netherlands (NYSE: PHG, AEX: PHI) is a diversified health and well-being company, focused on improving people's lives through meaningful innovation. As a world leader in lighting, lifestyle and healthcare Philips integrates technologies and design into people-centric solutions, based on fundamental customer insights. Headquartered in the Netherlands, Philips employs

approximately 122,000 employees with sales and services in more than 100 countries worldwide. The company is a market leader in energy efficient lighting solutions and new lighting applications, cardiac care, acute care and home healthcare, as well as lifestyle products for personal well-being.



The City University of New York (CUNY)

As this nation's largest urban university, the City University of New York (CUNY) plays a transformational role in America's sustainable future. The 21st Century challenges that graduates and citizens face are interwoven with economic development, workforce development, energy, the health of our community and climate change. Leveraging CUNY's deep academic and administrative resources, Sustainable CUNY partners with utilities, government agencies and the private sector, effectively bridging silos to implement energy efficiency measures and renewable energy infrastructure.



Farmingdale State College

Green then. Green now. A pioneering institution in sustainability and renewable energy since its founding in 1912, Farmingdale State College hosts the Renewable Energy and Sustainability Center (RESC) which includes the Institute for Research and Technology Transfer (IRTT), the Solar Energy Center (SEC), and the Green Building Institute (GBI), all involved with energy-related education and research.



GEM Energy

GEM Energy optimizes the efficiency of your facility for reduced operating costs. Their expertise includes combined heat and power (CHP) system design and integration as well as comprehensive solar development from funding through array installation. They have design/build capabilities to manage your energy productivity project from construction to commissioning. GEM Energy is an approved vendor in the NYSERDA CHP Acceleration Program. www.gemenergy.com



NextEra Energy Resources, LLC

NextEra Energy Resources, LLC is a clean energy leader and one of the largest wholesale generators of electricity in the U.S., with approximately 18,300 megawatts of generating capacity primarily in North America. The company is also the largest generator in North America of renewable energy from the wind and sun.



NYSTAR

Empire State Development's Division of Science, Technology and Innovation's (NYSTAR) mission is to accelerate the growth of New York State's high-tech economy.

NYSTAR's programs are designed to enable new and existing businesses to become more competitive through the use of innovative technologies, and emphasize the importance of working with industry to leverage the state's technology strengths to produce new products and, therein, new and expanded jobs in the state.



FUZEHUB

FuzeHub is a new initiative that works to better connect New York's small and mid-sized manufacturing companies to the resources, programs and expertise they need for technology commercialization, innovative solutions and business growth. FuzeHub unites and integrates a broad network of multi-disciplinary public and private sector technology, industry and commercialization services, experts and partners.



Syracuse Center of Excellence in Environmental and Energy Systems

Syracuse Center of Excellence accelerates the creation of environmental and energy innovations for a sustainable future. Syracuse CoE engages collaborators at 200+ companies and institutions to address global challenges in clean and renewable energy, indoor environmental quality and water resources. Our members conduct targeted research, demonstrate new technologies and commercialize innovations.



VHB

VHB is a planning, engineering, and environmental services firm with 950 staff in 22 offices, including Albany, White Plains, Hauppauge, and New York City. They work closely with the energy industry on site design, permitting, and regulatory needs and provide technical support to the New York State Smart Grid Consortium.



Advanced Energy Training Institute

The Advanced Energy Training Institute (AETI), part of Stony Brook University's Center for Corporate Education, is the training division of the Advanced Energy Research and Technology Center. Working with core partners and leaders in the clean energy economy, AETI is establishing a platform for skills, knowledge, and credentials necessary in this evolving area.



AWS Truepower, LLC

AWS Truepower is a leader and innovator in renewable energy consulting with 30 years of experience in providing technical consulting, software, and advisory services for wind and solar energy markets. www.awstruepower.com.



Center for Economic Growth (CEG)

The Center for Economic Growth is the leading regional economic development and marketing organization serving an 11-county area in New York's Tech Valley.



The Omnicon Group

Since 1984, companies throughout the world have turned to The Omnicon Group to analyze and improve the reliability and safety of their products, to develop robust software and hardware systems, and to provide comprehensive test engineering services.

Their customers are in every industry where mission, revenue, and safety are critical for success. From assisting with design of an electrical power system to providing the technical expertise on a solar power solution, The Omnicon Group provides quality engineering solutions and strives to form lasting partnerships with its customers.

For additional information, please visit www.OmniconGroup.com



The Valley Group, Inc., a Nexans company

Nexans is the world leader in providing Dynamic Line Rating (DLR) systems, which unlock the true capacity of overhead transmission lines.

**Advanced Climate Technologies**

Advanced Climate Technologies (ACT Bioenergy) manufactures the most efficient, ASME compliant, fully automated solid state computer controlled wood chip/pellet boiler built in the USA.

**ASCENSION INDUSTRIES, INC.**

Ascension Industries - Your Green Energy Partner for innovative product development, engineering, design and contract manufacturing. ISO 9001:2008.

**Denco Energy Management LLC**

YOUR NEXT STEP IN ENERGY SAVING – Utilizing proprietary Power Quality Correction and Harmonic mitigation technology in coordination with more traditional efficiency measures to lower kilowatt usage by 10% to 30% GUARANTEED. www.dencoenergymanagement.com

**EvoWorld**

EvoWorld is a manufacturer of advanced two stage pellet and wood chip boilers. Troy Boiler Works partnered with Evoworld to fabricate and introduce high efficiency biomass boilers into the North American Market.

**KAMATICSRWG**

Kamatics RWG designs and manufactures high-performance mechanical products used in the aviation, marine, hydropower and other industries. These products primarily consist of the Karon self-lubricating bearing.

**Leidos Engineering, LLC**

Leidos Engineering is an award-winning program implementer for many successful energy efficiency programs across the US. They service their client’s residential, commercial, and industrial customers.

**National Solar Technologies**

Founded in 1997, National Solar Technologies (NST) manufactures, engineers and supplies a wide range of solar energy systems and solutions. NST holds both a Federal GSA Contract and a New York State OGS Contract.

**New York Biomass Energy Alliance**

The New York Biomass Energy Alliance is demonstrating every day that sustainably harvested biomass can meet local energy needs while creating long-term jobs, reducing greenhouse gas emissions and achieving New York State renewable energy goals.



ThermoLift, Inc.

ThermoLift

ThermoLift, with funding from NYSERDA and DOE, is developing a “game-changing” natural gas-driven HVAC system with dramatic improvements in efficiency and reductions in operational costs.

**Vincent's Heating & Fuel**

Vincent's Heating & Fuel is a forward thinking company focused on creating cleaner air through pellet heating, and bagged pellet waste reduction through bulk delivery.

**AtmosAir Solutions**

AtmosAir's air purification technology allows for significant energy reduction while improving indoor air quality. Our green patented bi-polar ion technology reduces airborne contaminants and odors and also allows buildings to lower outside ventilation rates and reduce HVAC energy costs. These systems can be designed into both new and existing buildings.

**Copper Development Association Inc.**

CDA is the market development, engineering and information services arm of the copper industry in North America. For information contact CDA at www.copper.org.

**Jasmine**

Jasmine provides energy suppliers with enhanced revenue opportunities and stronger customer relationships by enabling consumers to realize savings through both Demand Response and Home Automation and an unprecedented level of convenience.

**Sentient Science Corporation**

Sentient Science offers prognostic solutions commercially to help companies improve the life and performance of their rotating products in service, in testing, and in design.

**Suffolk County Community College**

Suffolk County Community College is a leader in energy efficiency education, training and certification, including LEED, energy auditing (BPI certification) and solar technology (NABCEP certification).

**The Tesla Science Foundation**

The Tesla Science Foundation is a 501(c)(3) nonprofit organization dedicated to promoting the life, legacy and scientific innovations of Nikola Tesla. Having successfully hosted numerous lectures, seminars, forums - to include the annual Energy Independence Conference and Tesla Memorial Conference - the Foundation is the most active Tesla related organization in the United States today. Through their dedicated efforts and generous support from their contributors, the Tesla Science Foundation network of distinguished scientists, engineers, academics, artists, students and other Tesla enthusiasts worldwide continues to grow. Visionary and scientist Nikola Tesla is included in the UNESCO Memory of the World register.

**Brimes Energy Inc.**

Brimes Energy is dedicated to the design of a hydrokinetic marine energy device that produces energy from the constant movement of ocean waves.

**ClearGrid Innovations**

ClearGrid enables utilities to use smartphone images, camera cars, and outage data to prevent tree-caused outages and assess storm damage on distribution lines.

**Leviathan Energy Renewables, Ltd.**

Leviathan Energy is a group of companies with major innovations in large and small wind, hydroelectric, underwater, and wave energy. It is headquartered in New York.

**ProjectEconomics**

ProjectEconomics allows utilities to extend their services beyond-the-meter by providing them with a platform to originate, manage and fund customer sited energy efficiency, solar and distributed-generation projects.

**Solar Cool Technologies Inc.**

The SolarCooler is the world's first Portable, Solar-Powered, Refrigerating Cool. From transporting vaccines around the world – to keeping beer cold on the beach!

**Solid Cell, Inc.**

Solid Cell manufactures critical components for SOFC's, include interconnects and fuel processors. Solid Cell also manufactures catalytic reformers for conversion of flare gas to natural gas under its NOVOROCS trade-name.

**Triglia Technologies**

Triglia Technologies patent protected method of Microwave drying lumber has the potential to provide significant benefits to the wood drying industry, significantly reducing energy costs.

**Unique Technical Services LLC**

UTS is an integration and validation company for early stage technologies in the energy storage and advanced propulsion system technology field.

**WATT Fuel Cell**

WATT Fuel Cell is a developer of advanced SOFC systems that can operate on readily available fuels with its proprietary catalytic reforming technology.

ADVANCED ENERGY CONFERENCE SERIES: A SEVEN-YEAR HISTORY OF GROWTH AND SUCCESS

Individuals Attending

	2007	2008	2009	2010	2011	2012*	2013	2014**
Attendees	270	960	1080	1441	443	1640	1662	600

Corporate/Organizational Participation

	2007	2008	2009	2010	2011	2012*	2013	2014**
Represented	100	375	466	533	214	237	254	250
Exhibit Booths	18	47	67	114	49	90	130	64

Individuals Presenting

	2007	2008	2009	2010	2011	2012*	2013	2014**
Presenters	21	136	192	232	123	342	369	128

Academic Participation

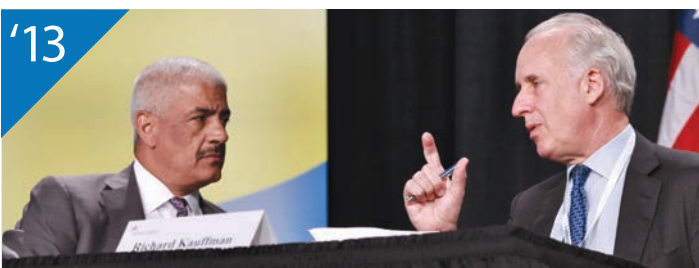
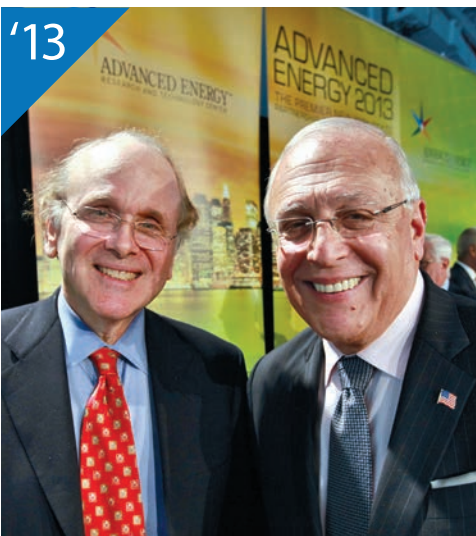
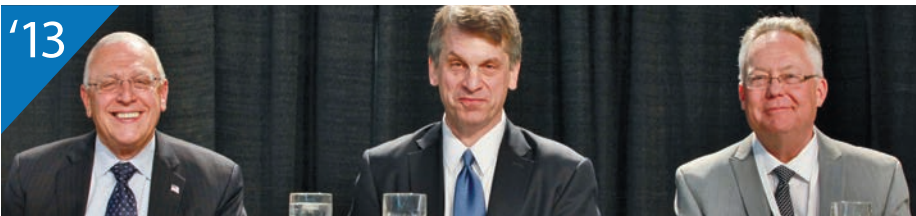
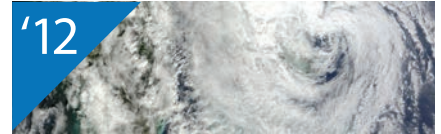
	2007	2008	2009	2010	2011	2012*	2013	2014**
College/Universities Represented	6	17	31	37	25	31	72	29
Posters Presented	8	36	48	59	37	60	96	31

* Advanced Energy 2012 canceled due to Hurricane Sandy. (estimates)

** Estimates based on Data as of April 2014



ADVANCED ENERGY CONFERENCE SERIES: A SEVEN-YEAR HISTORY OF GROWTH AND SUCCESS



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Leidos Engineering, LLC • National Solar Technologies • New York Biomass Energy Alliance • ThermoLift • Vincent's Heating & Fuel
AtmosAir Solutions • Copper Development Association Inc. • Jasmine • Sentient Science Corporation • Suffolk County Community College
The Tesla Science Foundation • Brimes Energy Inc. • ClearGrid Innovations • Leviathan Energy Renewables, Ltd. • ProjectEconomics
Solar Cool Technologies Inc. • Solid Cell, Inc. • Triglia Technologies • Unique Technical Services LLC • Watt Fuel Cell

SUPPORTING ORGANIZATIONS

