

CONFERENCE PROGRAM

ADVANCED ENERGY 2011

NEW YORK STATE'S PREMIER CONFERENCE FOR ADVANCED ENERGY



OCTOBER 12 & 13, 2011 • HYATT REGENCY HOTEL AND CONFERENCE CENTER • BUFFALO, NEW YORK, USA



ADVANCED ENERGY
RESEARCH & TECHNOLOGY CENTER

www.aertc.org

WELCOME TO ADVANCED ENERGY 2011

Welcome to what has become an annual event of national importance for every individual, organization or business concerned with the generation and transmission of energy. Indeed, the ideas, initiatives, and innovations that will be presented and discussed over these two days will have the potential to change the quality of life for all of us.

This year the conference is being held in the City of Buffalo. It was here, 125 years ago, that the first long-distance transmission of AC electricity for commercial purposes was achieved when the city began receiving power from the newly built Niagara Power Plant. In essence, the Grid was born in Buffalo.

The **Advanced Energy Conference** is New York State's energy conference, and by bringing this event to Buffalo we are recognizing the important contributions made by companies and academic institutions in the western part of our state, and engage researchers and business leaders who were unable to attend before. It is also an open invitation for entrepreneurs and investors to tap into the region's potential for economic growth. Our two-day schedule of 126 energy subject matter experts is organized into 28 sessions in 6 tracks to dig deeply into these profound and diverse issues. We are especially pleased to partner again with Brookhaven National Laboratory and the U.S. Department of Energy on four dedicated sessions. DOE representatives will showcase advanced programs from our national energy laboratory system and the Offices of Science, Electricity, Energy Efficiency and Renewable Energy. In addition to these national organizations, we are pleased to welcome as returning host sponsors: the New York Energy Research and Development Authority (NYSERDA), the New York Power Authority (NYPA), the New York State Smart Grid Consortium (NYSSGC), National Grid, City College of CUNY, and Stony Brook University, home of the **Advanced Energy Center** (aertc.org).

One of our biggest challenges is developing the efficiency and cost-effectiveness of alternative and renewable technologies to reduce the marketplace barriers that are preventing their adoption as gridscale energy resources. This has been a national goal for almost half a century and, for technologies like wind power, progress has been impressive and the outlook is bright. We must now solve the technology challenges that are holding back our other alternative and renewable sources. As the site of four Smart Grid Demonstration Projects and two Smart Grid Investment Projects, New York is well positioned to create the means to integrate these sources seamlessly into the grid, the key to accelerating the reduction of our carbon footprint. The **Advanced Energy Center** plays a central and collaborative role in all of these areas, including the cybersecurity of the grid, a national energy priority. The challenges are of historic proportions, but so are the possibilities!

We also wish to acknowledge the extraordinary support the **Advanced Energy Center** has received from our state government, Governor Andrew M. Cuomo, and particularly the Long Island delegation to the New York State Senate, including Senate Minority Leader Dean Skelos and Senate Higher Education Committee Chair Kenneth P. LaValle. Without their vision and strong leadership, the AERTC's home would not be up and running as the first Platinum LEED research facility in the state.

With our best wishes for effective energy research and early and rapid deployment,



Robert B. Catell

Mr. Robert B. Catell
Conference Co-Chair
Chair, Advanced Energy Center
New York State Smart Grid Consortium

Dr. Yacov Shamash
Conference Co-Chair
Vice President for Economic Development
and Dean, College of Engineering
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Dr. Yacov Shamash

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Commissioner, NY State Public Service Commission

Dr. Miriam Rafailovich
AERTC Chief Scientist
Department of Materials Science & Engineering
Stony Brook University

Mr. Jim Smith
Director of Industrial Outreach, AERTC
and Assistant Vice President, Economic Development
Stony Brook University



A WORD FROM OUR HOST SPONSORS



“Brookhaven Lab’s impact in the energy arena is directly linked to our basic science discoveries and the new technologies they enable – driving industry and ultimately creating jobs,” said **Sam Aronson, Brookhaven National Laboratory director**. “Our areas of strength and focus include developing new materials for use in superconducting transmission lines, in batteries and other forms of energy storage, in novel solar devices, and in sustainable fuels, including devising ways to improve energy uses of plants – all leading toward more efficient and affordable products for energy generation, delivery, and end use.”

– Dr. Sam Aronson
Director of the U.S. Department of Energy’s Brookhaven National Laboratory



“NYSERDA acts as a catalyst, advancing energy innovation and technology to transform New York’s economy while at the same time empowering residents to choose clean and efficient energy as part of their everyday lives. Our energy-efficiency programs have led to \$3.7 billion dollars in cumulative energy bill savings which is a win-win for all New Yorkers. Through investments in businesses that are researching and developing energy technology, energy efficient equipment and industrial processes, there will be long term opportunities for energy savings. New York is a leader in the clean energy sector due to the strategic partnerships between academia and the private and public sectors which benefits not only our economy but the environment.”

– Francis J. Murray Jr., President and CEO of NYSERDA



“The New York Power Authority (NYPA) is pleased to support the showcasing of the latest clean energy technologies and this forum for industry leaders to advance solutions to some of the nation’s tough energy issues,” said **Gil C. Quiniones, NYPA’s acting president and chief executive officer**. “Recognizing the important role that clean energy can play in supporting our economy, the Power Authority’s low cost hydropower has long been a mainstay for tens of thousands of jobs in western and northern New York. With the advent of Governor Cuomo’s new Recharge New York program, NYPA is poised to do even more in supporting jobs at businesses and industries across all regions of the state.”

– Gil C. Quiniones, NYPA’s acting President and Chief Executive Officer



“The Smart Grid Consortium is a unique collaboration of New York’s large and sophisticated utilities, universities, and research institutions, government agencies, and some of the world’s leading technology developers. Our task is to support and advance New York State-based research development and deployment of smart grid technologies.

As our country rebuilds its aging infrastructure, smart technologies will improve reliability and efficiency, while facilitating rapid recovery, new cleaner sources of energy and more energy choices for an informed consumer.

The extent to which we are successful will determine our competitive energy future and the commerce and quality of life we support.”

– Robert B. Catell, Chairman, NYS Smart Grid Consortium

A WORD FROM OUR HOST SPONSORS



“We are very pleased that the Advanced Energy Research and Technology Center at Stony Brook is helping New York lead the charge toward a sustainable energy future. The Center’s Virtual Smart Grid Test and Validation Facility - a nationally unique resource for pre-deployment analysis of the devices that will make the grid ‘smart’ — is already operational. Other Center programs are addressing grid cyber-security to prevent a smarter grid from becoming a more vulnerable one. One of the Center’s incubator participants, Idalia Solar Technologies, is substantially improving the efficiency performance of solar cells, and the NSF Bioenergy IUCRC, also a Center program, is helping New Yorkers move ahead on NYSERDA’s Renewable Fuels Roadmap. The exceptional program offered at Advanced Energy 2011 will open countless opportunities as we prepare to share information, advance technology and bring affordable cleantech solutions closer to the mainstream.”

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



“National Grid’s primary goal is to meet the energy needs of our customers safely, reliably and efficiently. We recently filed a proposal which would significantly lower our customers’ bills in 2012. We also recognize there is both need and opportunity for us to assist our customers in managing their energy use and, in turn, their energy bills. We provide a wide array of programs for all types of customers -- from customer education to grants and economic development funding for research and investment in innovative and energy efficient products -- which help reduce their energy usage and lower their bills. Doing so helps our customers, and is sound policy both economically and environmentally.”

– Kenneth D. Daly, CFA, President, National Grid – New York



“At the City College of New York, we are motivating our diverse, talented student body to tackle the interrelated problems of global warming, fossil fuel dependence, and soaring energy costs from multiple perspectives. At the CUNY Energy Institute, we are researching exciting technologies for grid-scale energy storage with particular attention to their export potential and value in an urban environment. Students from the Spitzer School of Architecture and the Grove School of Engineering collaborated to design and build a prototype solar home installed on rooftops, the city’s most underutilized real estate, that generates affordable electricity from solar panels. We are dedicated to finding more low-cost technological solutions like these for a clean energy future.”

– Dr. Lisa Staiano-Coico, President of The City College of New York



ACKNOWLEDGMENTS

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INDUSTRY, UTILITIES AND FEDERAL AGENCIES



KEYNOTE SPEAKERS



DR. SAM ARONSON

Director of the U.S. Department of Energy's Brookhaven National Laboratory

Sam Aronson is the director of the U.S. Department of Energy's Brookhaven National Laboratory, home to seven Nobel Prizes and a suite of world-leading scientific facilities. He earned an A.B. in physics from Columbia University in 1964, and a Ph.D. in physics from Princeton University in 1968. From 1968 to 1972, Aronson worked at the University of Chicago's Enrico Fermi Institute for Nuclear Studies as a research associate. He then moved to the University of Wisconsin, where he was a faculty member until 1977.

Aronson joined Brookhaven Lab's Accelerator Department in 1978 as an associate physicist, and was named physicist in 1979. He moved to the Physics Department in 1982, was appointed associate chair of the department in 1987, and promoted to deputy chair in 1988.

In 1991, Aronson relinquished this position and, as a senior physicist, served as the head of the PHENIX detector project during the construction of the Lab's Relativistic Heavy Ion Collider, a challenge he successfully completed before he became chair of Physics in 2001. He became Associate Laboratory Director for Nuclear and Particle Physics in 2005 and was named Laboratory Director in 2006.

Aronson is a Fellow of the American Physical Society and of the American Association for the Advancement of Science.



EDWARD REINFURT

Director of NYSTAR, ESD's Division of Science, Technology and Innovation

Edward Reinfurt, formerly the Executive Director of the New York State Foundation for Science, Technology, and Innovation (NYSTAR), currently serves as Director of the Division of Science, Technology and Innovation within the Empire State Development Corporation (ESDC).

Uniting the missions and capabilities of NYSTAR and ESDC recognizes that innovation and technology are an integral part of the state's economic development efforts.

The 2011-2012 state budget for ESDC continued funding for the state's five Centers of Excellence, fifteen Centers for Advanced Technology and ten Regional Technology Development Corporations (RTDC's)

Prior to his appointment at NYSTAR, Mr. Reinfurt served as Vice President of the Business Council of New York State, Inc. The Business Council represented more than 3,000 member businesses, chambers of commerce and professional and trade associations.

Mr. Reinfurt is a graduate of the University at Albany of the State University of New York.

KEYNOTE SPEAKERS



HONORABLE BYRON W. BROWN

Mayor of the City of Buffalo

Mayor Byron W. Brown, the 58th Mayor of the City of Buffalo, was reelected to a second four-year term by a landslide victory in September of 2009. Mayor Brown has continued to emphasize increasing accountability and efficiency in City Hall, improving the quality of life for all city residents, and delivering on his commitment to strengthen and expand the city's economic development activities.

Since taking office, Mayor Brown has pursued those three objectives through the initiation of several key programs. He launched a Zero Tolerance Law Enforcement initiative that targets quality of life crimes, along with other criminal activity in the city. He implemented the management accountability CitiStat Buffalo program, which monitors the service delivery activities of city departments on a weekly basis. He also reconfigured the city's economic development activities through creation of the Department of Economic Development, Permit and Inspection Services, a change that has provided greater coordination and cooperation in all development activities taking place in the City of Buffalo.

A surge of economic development activity has followed Mayor Brown's election, including over \$4 billion in planned, ongoing or completed development projects occurring throughout the City since 2006. Complementing this economic development activity is the continuing decline in crime in the Queen City.

Prior to his election as Mayor of Buffalo, Byron Brown served five years in the New York State Senate. Sworn in on January 1, 2001, he became the first African-American elected to the Senate outside of New York City. He also made history by becoming the first minority member of the New York State Senate to represent a majority white district.

Mayor Brown was first elected to represent the Masten District on the Buffalo City Council in 1995. While on the Council, Mayor Brown was called "bright, creative and hardworking," in a Buffalo News survey and was recognized in 1989 by Ebony Magazine as one of the "30 Leaders of the Future." Mayor Brown is a Silver Life member of the NAACP.



ROBERT B. CATELL

Chairman, Advanced Energy Research and Technology Center (AERTC)

Chairman, New York State Smart Grid Consortium

Mr. Catell was formerly Chairman and Chief Executive Officer of KeySpan Corporation and KeySpan Energy Delivery, the former Brooklyn Union. His career with Brooklyn Union started in 1958. He became Chairman, National Grid, U.S., following the acquisition, by National Grid, of KeySpan Corporation.

He is the Chairman of Cristo Rey Brooklyn High School (formerly: Lourdes Academy), Futures in Education Endowment Fund, and the New York Energy Policy Institute's Advisory Council (NYEPI).

Mr. Catell is a member of the board of numerous organizations, including: Brooklyn Community Foundation, City College of NY 21st Century Foundation, Feinstein Institute for Medical Research, KEYERA Energy Management Ltd., Long Island Angel Network, Long Island Association (LIA), National Grid Foundation, National Petroleum Council, New York Academy of Science, New York City Police Foundation, New York State Economic Development Power Allocation Board, New York State

KEYNOTE SPEAKERS

Energy Research & Development Authority, Our Energy Policy Foundation, and Tomorrow's Hope Foundation.

He also serves on the Advisory Boards for CAI Investments, Hudson Clean Energy Fund, the President's Advisory Council at Adelphi University, SUNY Farmingdale, and the Winthrop Hospital Board of Regents.

Mr. Catell is a past Chairman of the American Gas Association, Brooklyn Chamber of Commerce, Long Island Association, Partnership for New York City, U.S. Energy Association, and the Advisory Board of the City College of New York's School of Engineering.

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.



DR. LISA STAIANO-COICO

President of The City College of New York

Dr. Lisa Staiano-Coico, a nationally prominent educator and researcher in microbiology and immunology, is the 12th President of The City College, founded in 1847 as New York City's first public institution of higher education, The Free Academy.

President Coico came to City College from Temple University, where as Provost and Executive Vice President of Academic Affairs, and Professor of Surgery, where she was responsible for 17 schools and colleges, including campuses in Tokyo and Rome; its undergraduate, graduate and professional programs, and a budget of more than \$600 million. She has also served as executive director of the Tri-Institutional Research Program, a \$160 million research consortium of Cornell University, Memorial Sloan-Kettering Cancer Center and Rockefeller University. She has held senior academic and administrative leadership positions at Cornell's Joan and Sanford I. Weill Medical College in New York City, and professorships in microbiology in surgery, microbiology in dermatology, and public health.

A native of Brooklyn, President Coico earned a B.S. with honors in biology from Brooklyn College of the City University of New York in 1976, and is the first CUNY alumna to serve as president of City College.

Dr. Coico currently researches alcohol and drug abuse prevention among traditional college-aged students. Recent publications include "Impact of an Online Alcohol Education Course on Behavior and Harm for Incoming First-Year College Students: Short-Term Evaluation of a Randomized Trial" in the Journal of American College Health.

KEYNOTE SPEAKERS



HONORABLE ANDREW M. CUOMO

Governor of New York State

Andrew M. Cuomo became the 56th Governor of New York State on November 2, 2010. Born in Queens, NY, on December 6, 1957, he has demonstrated a lifelong commitment to public service and the proven leadership skills to make government work for the people of the state. His first year in office has emphasized fiscal responsibility, tax reforms, and economic development.

Prior to his election as Governor, Andrew Cuomo served four years as New York State's Attorney General, and made restoring public trust in government and protecting New York taxpayers the top priorities of his administration. During his tenure he brought national reform to the student loan industry, uncovered fraud within the largest health insurers in the country, protected investors from abuses on Wall Street, and made the Internet safer for children throughout the United States. His groundbreaking investigations into the state pension system ended decades of government corruption in New York and set a model for public pension funds across the country.

In 1997, as President Clinton's Secretary of Housing and Urban Development (HUD), he transformed HUD from a bureaucratic backwater into a revitalized engine for economic development and unprecedented housing opportunities. His reforms eliminated years of waste, fraud and abuse, and increased both efficiency and competency while saving millions of taxpayer dollars. With fighting racial discrimination as a priority, he was responsible for bringing 2,000 anti-discrimination cases. Andrew Cuomo's work earned HUD the prestigious "Innovations in American Government Award" from the Ford Foundation and the Kennedy School of Government at Harvard University on three different occasions.

Andrew Cuomo established Housing Enterprise for Less Privileged (HELP) in 1986, which became the nation's largest private provider of transitional housing for the homeless. Based on this pioneering work, New York City Mayor David Dinkins appointed Cuomo to lead the New York City Commission on the Homeless in 1991. Cuomo graduated from Fordham University in 1979 and Albany Law School in 1982, and first practiced law as an assistant district attorney in Manhattan. He has also worked as a partner in a New York City law firm and was of counsel at Fried, Frank, Harris, Shriver & Jacobson.



KENNETH D. DALY, CFA

President, New York, National Grid

Kenneth D. Daly, CFA, is the President of the New York business of National Grid, which provides electricity and natural gas to customers in Upstate New York, and natural gas to customers in Brooklyn, Staten Island, Queens and on Long Island.

Mr. Daly joined National Grid's predecessor, Brooklyn Union/KeySpan, in 1988 as a Management Trainee in the Credit and Collections Department and has spent 21 of his 23 years with the Company in its New York business. Ken was recently based in London, serving for 2 years as Group Financial Controller, and has previously held numerous positions in Finance, Human Resources and Customer Relations throughout his career.

Mr. Daly graduated from St. Francis College with a BA 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 Polytechnic University. He achieved the distinguished Chartered Financial Analyst (CFA) designation in 2002.

KEYNOTE SPEAKERS

Mr. Daly has been an adjunct professor at St. Francis College (SFC), teaching human resource, business and finance courses for 18 years. He was also the past Chairman of the SFC Business Advisory Council and a member of the Development Committee of the SFC Board of Trustees. 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.

Mr. Daly lives in New York with his wife, Laurie, and their four young children.



FRANK MURRAY

President and CEO, NYSERDA

Frank was appointed President and CEO on January 26, 2009. Prior to his appointment, Frank served as Senior Advisor at the international environmental consulting firm Ecology and Environment, Inc. Frank was previously a policy advisor to the United States Secretary of Energy, assisting in the development of the Clinton Administration's national energy policy.

In the early 90's, Frank served as the New York State Commissioner of Energy and Chairman of the NYSERDA Board of Directors. He also served as Chairman of the State Energy Planning Board, a multi-agency statutory board charged with the responsibility of developing a comprehensive energy plan for the State that integrated State energy, environmental and economic development policies.

In 1985, Frank was appointed Deputy Secretary to Governor Cuomo for Energy and the Environment, a position he held until 1992. He represented New York in numerous national and regional energy and environmental activities, including the Coalition of Northeastern Governors, the National Governors' Association, and the Council of Great Lakes Governors. Frank began his work on New York State energy issues as legislative counsel and then as an energy and environmental policy advisor to Governor Hugh Carey.



GIL C. QUINIONES

Acting President & Chief Executive Officer of New York Power Authority

Gil C. Quiniones has served with the New York Power Authority (NYPA) since October 2007 and is currently NYPA's Acting President & Chief Executive Officer. NYPA is the nation's largest state-owned electric utility, and Mr. Quiniones is responsible for developing and implementing NYPA's strategic vision and mission, and supervising NYPA's core business units.

Mr. Quiniones serves on the Steering Committee of the Board of the Large Public Power Council (LPPC), as Co-Chair of LPPC's Government Relations Task Force and as NYPA's principal representative to the American Public Power Association. He is also on the Board of Directors of the Electric Power Research Institute and Chair of the Board's Committee on Energy Efficiency, Energy Storage, and Smart Grid.

Mr. Quiniones received a Bachelor of Science degree in mechanical engineering from De La Salle University in Manila and has completed graduate courses in engineering management and technology management at the Stevens Institute of Technology in Hoboken, N.J.

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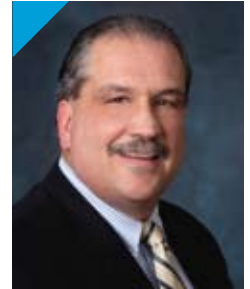
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Electric Vehicles II



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Intelligent Sensors for the
Smart Grid*
*IEEE Practitioner Tutorial
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*Battery & Energy Storage
-Advanced Technologies*



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Brookhaven National
Laboratory
Energy Policy I



JOSEPH WAGNER
NYSERDA
Electric Vehicles I



THE MAJESTIC AMERICAN BISON
2011 Energy Conference Mascot

CONCURRENT ENERGY MEETINGS

New York State Green Jobs Study – LMI (Labor Market Intelligence)
Session I Track B – Clean Energy Jobs – LMI Research Next Steps
Session II Track B – Clean Energy Curriculum Certifications & Credentials



For more information contact: Pat Malone - 631.632.8433



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Stony Brook University



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DR. GUODONG SUN
Stony Brook University

NYEPI

For more information contact:
Dr. Guodong Sun - 631.632.3241



DR. CHARLES RUBENSTEIN
Pratt University

IEEE – Practitioner Tutorial

Session I Track F – IEEE Intelligent Sensors for the Smart Grid
Session II Track F – IEEE Artificial Neural Networks for the Smart Grid

For more information contact: Dr. Charles Rubenstein - c.rubenstein@ieee.org



CONFERENCE AGENDA

Wednesday, October 12

8am

REGISTRATION Networking Continental Breakfast

SESSION I

10:15am -
11:30am

TRACK A HYATT CONFERENCE CENTER G

Energy Policy I

CHAIRPERSON –

Dr. Gerald Stokes
Brookhaven National Laboratory
Suedeen Kelly
Patton Boggs LLP
Michael Jacobs
Xtreme Power
Sidney Davidson III
Utilities Conservation Co.

TRACK B HYATT CONFERENCE CENTER J

Clean Energy Jobs – LMI Research Next Steps

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TRACK C HYATT CONFERENCE CENTER B

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Dr. J. Patrick Looney
Brookhaven National Laboratory
Dave Kostick
IMT Solar
Robert Schaefer
Also Energy
Joe Brotherton
Advanced Energy Industries, Inc.

11:30am
-12pm
NETWORKING/
EXHIBITS

12:00pm

Welcome/Luncheon/Keynote CONFIRMED TO DATE:
Honorable Byron W. Brown (Mayor of Buffalo), Robert Catell (Chair of Advanced Energy Center, NY Smart Grid Consortium)

2:20pm -
3pm
NETWORKING/
EXHIBITS

SESSION II

3pm -
4:15pm

Energy Policy II

CHAIRPERSON –

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LIPA
Kevin Neumaier
Ecology & Environment
Carolyn Amon
Int'l Advisory Services Group
Echo Cartwright
National Grid

Clean Energy Curriculum Certification & Credentials

CHAIRPERSON –

Kim Lenihan
NYSERDA
Dr. Craig Clark
Alfred State College
Pat Malone
Stony Brook University
Jerry Skaggs
UL DQS, Inc.
John Jones
Building Performance Institute
Roy Butler
Four Winds Renewable Energy

Regional Impact of National Laboratories on Energy

CHAIRPERSON –

Dr. Samuel Aronson
Brookhaven National Laboratory
Aimee McKane
Lawrence Berkeley Laboratories
Dr. Mark Petri
Argonne National Laboratory
Dennis Stiles
Pacific Northwest National Lab

4:15pm - 6:15pm

Networking Reception/

CONFERENCE AGENDA

Wednesday, October 12

Exhibit tables open at 8:30 am

TRACK D

DELAWARE SUITE

Smart Grid Technology I

CHAIRPERSON –

Evan DeCotis
NYPA

Bernard Clairmont
EPRI

Mickey Nix
IBM

Dr. George Stefopoulos
NYPA

Charles Gagnon
IREQ

TRACK E

ELLICOTT

Onshore & Offshore Wind Advances

CHAIRPERSON –

Stephen Hatlee
AWS Truepower

David Flynn
Phillips Lytle

Ward Thomas
Sentient Corporation

Dr. Jason Lowenstein
OwnEnergy

TRACK F

NIAGARA ROOM

8:30am - 11:30am
**IEEE Practitioner Tutorial
Intelligent Sensors
for the Smart Grid**
IEEE Invite only

HONORED CHAIRPERSON –

Dr. Charles Rubenstein
Pratt Institute

CHAIRPERSON –

Dr. Mohammed Safiuddin
STS International

Dr. Darold Wobschall
Esensors Inc.

SESSION I

10:15am -
11:30am

11:30am
-12pm

**NETWORKING/
EXHIBITS**

Gill Quiniones (NYPA), Dr. Sam Aronson (Brookhaven National Laboratory), Frank Murray (NYSERDA)

12:00pm

2:20pm -
3pm

**NETWORKING/
EXHIBITS**

Smart Grid Technology II

CHAIRPERSON –

James Madej
National Grid

Matt Enstice
Buffalo Niagara Medical

Dr. Alex Domijan
University at Buffalo

Representative,
Policy/Regulation

Don Graham
Cisco

Fuel Cell Advances

CHAIRPERSON –

Dr. Doreen Edwards
Alfred University

Dr. Thomas Trabold
Rochester Institute of Tech

Dr. Venkat Venkateswaran
ENrG

Benjamin Emley
Watt Fuel Cell

2:30am - 5:30pm
**IEEE Practitioner Tutorial
Artificial Neural Networks
for the Smart Grid Control**
IEEE Invite only

HONORED CHAIRPERSON –

Dr. Charles Rubenstein
Pratt Institute

CHAIRPERSON –

Dr. Mohammed Safiuddin
STS International

Ramadan ElMoudi
University at Buffalo

SESSION II

3pm -
4:15pm

Exhibits/Judged Poster Session

4:15pm - 6:15pm

CONFERENCE AGENDA

Thursday, October 13

7:30am

Networking Continental Breakfast/

SESSION III

9:00am -
10:15am

10:15am -
10:45am

**NETWORKING/
EXHIBITS**

SESSION IV

10:45am -
12pm

12pm -
12:25pm

**NETWORKING/
EXHIBITS**

1:55pm -
2:20pm

**NETWORKING/
EXHIBITS**

SESSION V

2:20pm -
3:35pm

3:35pm

TRACK A

HYATT CONFERENCE CENTER G

Natural Gas Technology

CHAIRPERSON –

Joseph Rende
National Grid

Ted Conway
Gas Technology Institute

Dr. John Martin
JPMartin Energy Strategy LLC

Don Chahbazpour
National Grid

William Liss
Gas Technology institute

BioEnergy

CHAIRPERSON –

Dr. Ellen Burkhard
NYSERDA

Charles Niebling
New England Wood Pellet

David Dungate
ACT Bioenergy

Scott Layne
NEXTERRA

Dr. Hazem Tawfik
Farmingdale State College

TRACK B

HYATT CONFERENCE CENTER J

Electric Vehicles I

CHAIRPERSON –

Joseph Wagner
NYSERDA

Daniel O'Connell
General Motors

Jesse Shroyer
Smith Electric

Hrshikesh Sathawane,
LUX Research

Dr. Robert Jaworski
Ioxus

Electric Vehicles II

CHAIRPERSON –

Adam Ruder
NYSERDA

John Halliwell
EPRI

Kevin Morrow
Ecotality

Matt Enstice
Buffalo Niagara Medical Center

Michael Leporace
GE Energy Services

Advanced Transportation

CHAIRPERSON –

Joseph Ambrosio
EMD

Dr. Mark Mathias
General Motors

Dr. Lei Zuo
Stony Brook University

Brendan Hayes
Clean Vehicle Solutions

TRACK C

HYATT CONFERENCE CENTER B

Solar Technologies

CHAIRPERSON –

Laurie Reilly
CUNY

Dr. Harry Efstathiadis
SUNY Albany

Gordon Presher
Solar Sentry Corporation

Dr. Ashok Sood
Magnolia Solar

Building Efficiency

CHAIRPERSON – Dr. Edward Bogucz

Syracuse CoE

Crista Shopis
SynairCo

Dr. Michael Gouzman
Stony Brook University

Mike Gagnon
Coolcentric

Bill Bush
Bitzer Scroll

Hugh Henderson
CDH Energy

Energy Efficiency

CHAIRPERSON –

Dr. Timothy Carone
Northrop Grumman

Dr. Gregory Sottile
Research Frontiers-Smart Glass

Tony Abate
AtmosAir Solutions

Dr. Satyen Mukherjee
Philips Research

Dais Introductions/Luncheon/Keynotes CONFIRMED TO DATE:

Bob Catell (Chair of Advanced Energy Center, NYSmart Grid Consortium),

Conference

CONFERENCE AGENDA

Thursday, October 13

Exhibit tables open at 8:00 am

TRACK D

DELAWARE SUITE

IEEE Smart Grid Standards

CHAIRPERSON –

Dr. Charles Rubenstein
Pratt Institute

Thomas Prevost
Omicron USA

IEEE Smart Grids
Standards group

IEEE Issues in MicroGrids

CHAIRPERSON –

Dr. Douglas Hopkins
University at Buffalo

Russell Agrusa
ICONICS

Dr. Mary Reidy
National Grid

William Miller
Maximum Control Technologies

TRACK E

ELLCOTT

Battery & Energy Storage – Renewable Integration

CHAIRPERSON –

Dr. Glen Merfeld
GE Global Research

Dr. James Misewich
BNL

Mari McGowan
Ultralife

Dr. Scott Misture
Alfred University

Battery & Energy Storage – Advanced Technologies

CHAIRPERSON –

Dr. Kamal Shahrabi
Farmingdale State College

Justin Zhou & Julius Regalado
G4 Synergetics

Carl Gurnett
Progressive Machine and Design

Dr. Lev Sviridov
City College of New York

Dr. Mohamad Zoghi
Farmingdale State College

TRACK F

NIAGARA ROOM

Emerging Energy Companies I

CHAIRPERSON –

Martin Casstevens
University at Buffalo

Dr. Vladimir Mitin
Optoelectric Nanodevices

Dr. Ravi Prasad
Helios-NRG

Leo Lipinski
US Drives

Emerging Energy Companies II

CHAIRPERSON –

William Jones
Rochester Institute of Tech

Dr. Mark Boysel
MCB Cleanroom Solutions

Dr. David Brown
Emerald Technologies

Dr. Charles Akers
Isolation Sciences LLC

SESSION III

9:00am -
10:15am

10:15am -
10:45am

NETWORKING/
EXHIBITS

SESSION IV

10:45am -
12pm

12pm -
12:25pm

NETWORKING/
EXHIBITS

Dr. Lisa Staiano-Coico, City College of NY (Dr. Sanjoy Banerjee presenting), Ken Daly (National Grid), Edward Reinfurt (NYSTAR)

12:25pm

SPECIAL OPPORTUNITY Afternoon Tour Leaving @ 2:25pm:

*Buffalo State & Univ at Buffalo
Smart Grid Laboratory*

CHAIRPERSON –

Dr. Ilya Grinberg,
Buffalo State College

IEEE members and
other conference attendees welcome

Grid Level Energy Storage

CHAIRPERSON –

John Love
NYSERDA

Kevin Hummel
NoOutage Electrical Testing

Matthew Lazarewicz
Beacon Power

Brian Perusse
AES Energy Storage

Daryl Wilson
Hydrogenics

1:55pm -
2:20pm

NETWORKING/
EXHIBITS

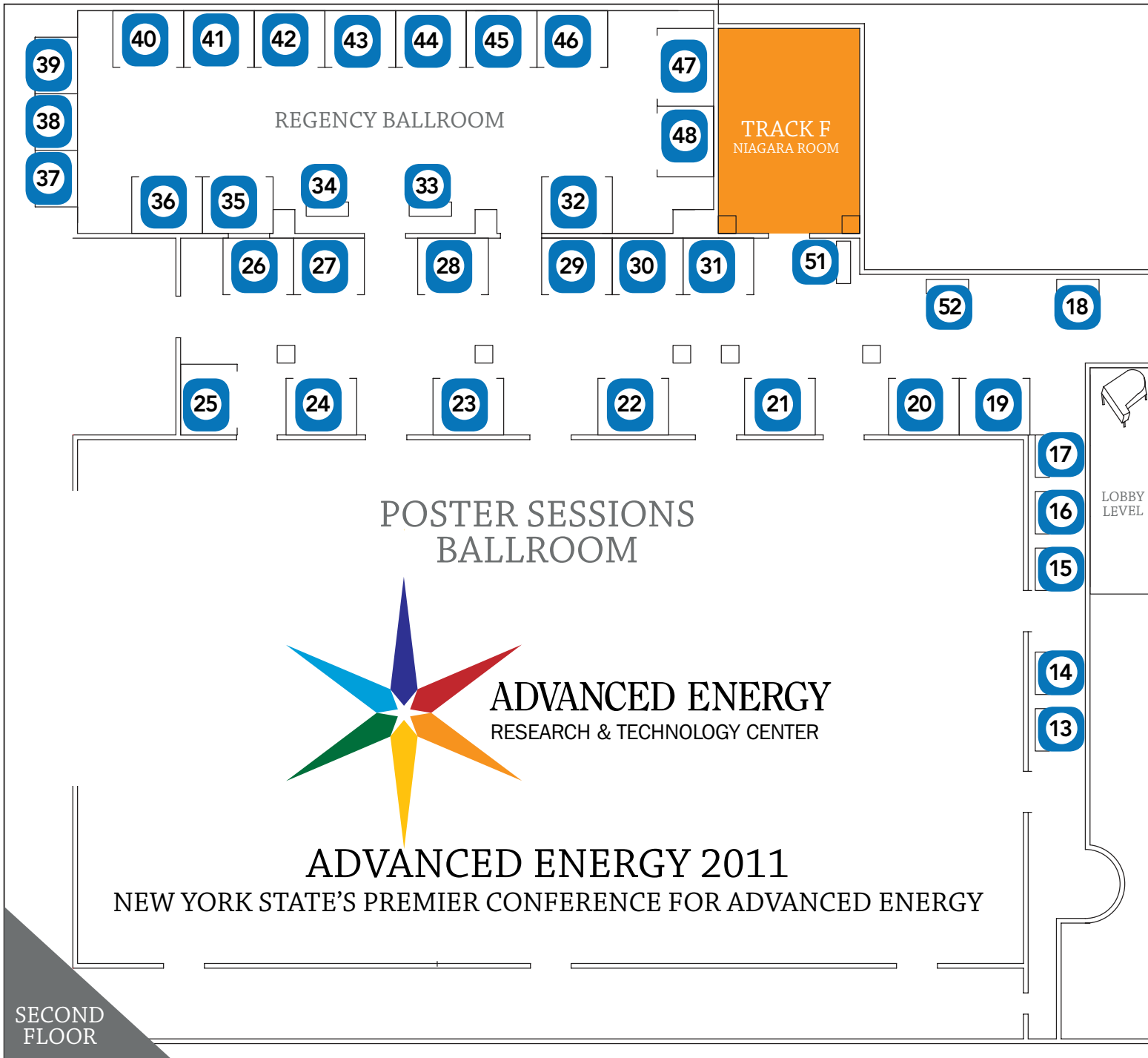
SESSION V

2:20pm -
3:35pm

Adjourned

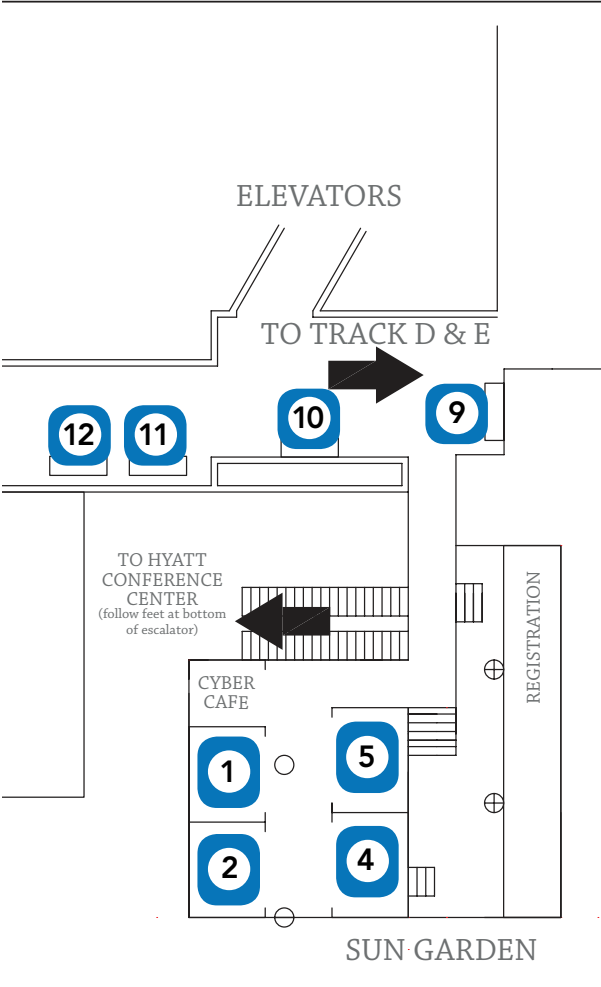
3:35pm

EXHIBIT HALL & BOOTH ASSIGNMENTS

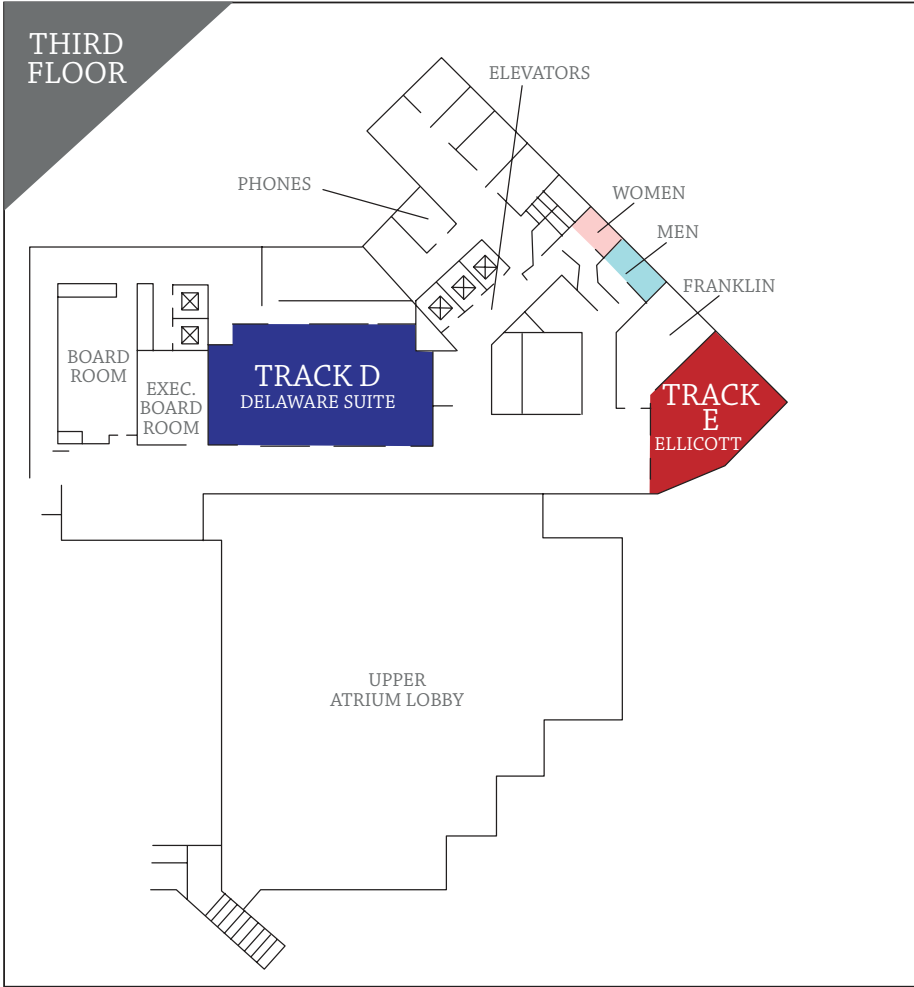
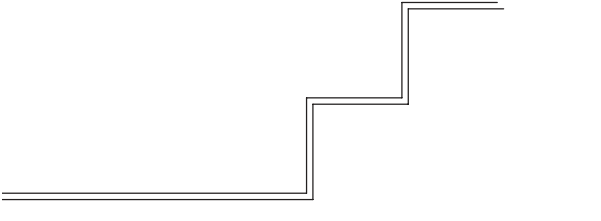


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EXHIBIT HALL & BOOTH ASSIGNMENTS



ATRIUM



TRACK A
HYATT CONFERENCE
CENTER G

TRACK B
HYATT CONFERENCE
CENTER J

TRACK C
HYATT CONFERENCE
CENTER B

HYATT CONFERENCE CENTER

BOTTOM OF ESCALATOR

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U. S. Department of Energy

The Department of Energy's overarching mission is to advance the national, economic, and energy security of the United States; to promote scientific and technological innovation in support of that mission; and to ensure the environmental cleanup of the national nuclear weapons complex. The Department of Energy oversees the nation's preeminent federal laboratory complex, and leverages significant investments in R&D to advance its mission. Today the Department is investing in science to achieve transformational discoveries; fostering the revolution in energy supply and demand while positioning the United States to lead on global climate change policy; increasing American economic competitiveness; and maintaining the nuclear deterrent, reducing the risk of nuclear proliferation, and advancing nuclear legacy cleanup.



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 us at www.bnl.gov or follow us on Twitter: www.twitter.com/BrookhavenLab.

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NYSERDA

The New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation actively involved in all aspects of New York's energy landscape. NYSEDA provides technical assistance and financial incentives to New York energy consumers in an effort to promote the implementation of energy efficiency improvements; research, development and demonstration of new and renewable technologies; and sustainable decision making, across all sectors. NYSEDA's programs and initiatives span Energy, Environment, Economy and Education. Visit us at: www.nyserda.org



New York Power Authority

The New York Power Authority is the nation's largest state power organization and uses no tax money or state credit in its operations. Nearly 80 percent of the electricity NYPA produces is clean low-cost hydro-power that along with other power resources is helping energize New York's economy by supporting almost 400,000 jobs. A national leader in promoting energy efficiency and alternative energy initiatives, NYPA is studying the feasibility of large-scale solar and wind power programs, and is also involved with biomass and geothermal projects. NYPA also has one of the largest clean transportation programs in the Northeast. Find out how NYPA is generating more than electricity at www.nypa.gov



New York State Smart Grid Consortium

NYS Smart Grid Consortium strategically positions NYS to more effectively define and deploy the Smart Grid by harnessing the collective efforts of key stakeholders across the state to implement an energy delivery system that is efficient, secure, and reliable while simultaneously facilitating renewable resources and enabling customers to reduce cost and energy consumption. Visit us online at: www.nyssmartgrid.com



The City College of New York

The CUNY Energy Institute is a multi-disciplinary lab headquartered at the City College of New York. Distinguished professors and researchers advance sustainable, domestic energy technologies while training the next generation of great scientists and engineers. Our expert team comes from diverse academic fields: fluid dynamics, chemistry, and material science. We work closely with industry partners to develop innovative and affordable energy technologies that have low-carbon footprints and high export potential. Supported by the Department of Energy ARPA-E, and NYSEDA, our current research interests span grid-scale energy storage, high energy density metacapacitors, thermal nano-emulsions, and advanced computer simulations of light water reactors. In 2010, the CUNY Energy Institute demonstrated a 4kWh nickel-zinc battery. Scaled up, these batteries could provide the economical energy storage solutions necessary to build a smarter and more robust electric grid. The technologies being developed at the CUNY Energy Institute support the transition to a cleaner, brighter energy future.



National Grid

National Grid is an international energy delivery company. In the U.S., National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New Hampshire, New York and Rhode Island, and manages the electricity network on Long Island under an agreement with the Long Island Power Authority (LIPA). It is the largest distributor of natural gas in the northeastern U.S., serving approximately 3.4 million customers in Massachusetts, New Hampshire, New York and Rhode Island. National Grid also owns over 4,000 megawatts of contracted electricity generation that provides power to over one million LIPA customers. Visit us at: www.nationalgridus.com



Stony Brook University

Stony Brook University ranks among the top 1% of all universities worldwide. It has an estimated regional economic impact of \$4.7 billion annually and is the largest single-site employer on Long Island. Stony Brook's "Cradle to Fortune 500" suite of economic development programs assists companies of all sizes at any stage of development, focused on but not limited to advanced energy and the high technology sector. Company partners have created or saved a projected total of 17,000 jobs and obtained more than \$600 million in financing. Stony Brook co-manages Brookhaven National Laboratory, joining a select group of institutions with this role. Stony Brook University Medical Center, Long Island's only academic medical center, is also Suffolk County's only tertiary care center and Level 1 trauma center. Stony Brook is responsible for more than 1,400 inventions and 400 issued U.S. patents. For more information, visit www.stonybrook.edu.

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Polytechnic Institute of New York University

Polytechnic Institute of New York University (formerly Polytechnic University), an affiliate of New York University, is a comprehensive school of engineering, applied sciences, technology and research, and is rooted in a 157-year tradition of invention, innovation and entrepreneurship: i2e. The institution, founded in 1854, is the nation's second-oldest private engineering school. For more information, visit www.poly.edu.



SMM Advertising

SMM is the Advanced Energy 2011 official marketing agency. It is a member firm of the American Association of Advertising Agencies and has a 25-year history of serving technology-based clients. The agency has deep roots in the energy industry, as well as electronics, bioscience, healthcare and employee recruitment. SMM has also been recognized by Crain's B-to-B magazine as one of America's top 100 business-to-business advertising agencies since 2003. Visit us at: www.smmadvertising.com



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H Power Group develops advanced lead acid battery technology for renewable power systems, utility scale off grid & grid tied bulk storage, true uninterruptible inline power supply systems, electric & hybrid powered vehicles and fuel saving for combustion driven automobiles.



Ecology and Environment, Inc.

Ecology and Environment, Inc., (E & E) is a recognized global leader in environmental management with smart, innovative solutions to a full range of environmental problems. Employing over 1,100 respected experts in 85 engineering and scientific disciplines, E & E has completed over 50,000 projects in 113 different countries including all aspects of energy development.



AECOM

AECOM provides turnkey energy services focused on an environmentally, economically and socially sustainable future. Taking a holistic approach, our work ranges from ensuring that clients can reduce energy consumption to developing renewable sources, improving grid reliability and cutting emissions from fuels already in use.



Center for Advanced Ceramic Technology/Alfred University

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 at Tel: (607) 871 2473 Email: watkinsb@alfred.edu



City University of New York (CUNY)

As this nation's largest urban university, the City University of New York (CUNY) seeks to play a transformational role in America's sustainable future. Through our Energy Institute, our commercialization program for clean technology at CUNY SustainableWorks, our leadership of the NYC Solar America City Partnership and CUNY's 23 academic institutions commitment to reduce its carbon footprint 30% by 2017, we strive to create a more sustainable future for all. sustainablecuny.org



IBM

IBM celebrated its Centennial in 2011, we reflect on what it takes to be a leader in the markets we serve We remain dedicated to making positive changes to our planet. Nowhere is this more important than in innovations that deal with environmental issues, such as improving energy efficiency in our physical infrastructure.



Northrop Grumman

Northrop Grumman Corporation is a leading global security company whose 120,000 employees provide innovative systems, products, and solutions in aerospace, electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide.



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Phillips Lytle is recognized regionally and nationally for its excellence in providing legal services to a broad range of clients including Fortune 500 companies, global financial institutions and startup companies. The firm has a dedicated Energy Practice with significant expertise in Wind, Gasification, Hydro, Solar, and Biomass. Our collaborative speed-to-market approach to project management has resulted in successful projects for our energy clients. Visit us at www.renewableenergypost.com.



Future Energy Development, LLC

Future Energy Development is a New York MWBE-certified energy consulting firm for parties seeking to secure grant funding for or install alternative and renewable energy projects. FED fast tracks project completion by developing funding and incentive packages, and navigating regulatory, land use, permitting and licensing processes, including NEPA/SEQRA environmental review.

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AtmosAir Solutions

AtmosAir Bi-Polar Ionization systems provide proven energy cost savings of up to 40% in buildings, using fully tested total air purification technology that can attack all major classes of indoor air contaminants (odors, VOCs, particulates, pathogens, mold), resulting in significantly better indoor air quality.



Farmingdale State College

Farmingdale State College prepares students with the education, skills, and critical thinking needed to meet the challenges of tomorrow. As the largest of SUNY's colleges of technology (with about 7,000 students), Farmingdale equips its students with the resources and knowledge sought by today's emerging industries. At Farmingdale, students have abundant opportunities in experiential learning – internships, clinical training, and guided research – that provide practical instruction and personal growth.



The Valley Group

The Valley Group, a Nexans company, is the world leader in providing Dynamic Line Ratings (DLR), a technology whose significance has skyrocketed with the advent of the Smart Grid. DLR provides utilities the true capacity of transmission lines in real time. The industry-leading Valley Group has provided DLR systems to over 100 utilities on 5 continents.



US Didactic, Inc.

Providing Innovative Training Equipment for Renewable Energy including Solar, Wind, Fuel Cells, and BioFuel; Smart Grid with Power Generation, Transmission, Distribution, Consumption and Energy Management; Distributed Power Generation, Smart Grid with SCADA Monitoring & Control; Steam Power Plants, Gas Turbines, Cooling Towers, Pump & Valve Maintenance; Instrumentation & Control; Water Treatment.



Advanced Energy Training Institute (AETI)

Training for the New Green Economy

The Advanced Energy Training Institute (AETI), under the auspices of Stony Brook Corporate Education and Training (CET) is the training arm of the Advanced Energy Research and Technology Center. Working with core partners from all the key players in the green economy, AETI is creating a platform for honest credential brokering in the elusive "green" landscape. AETI is offering new and innovative programs in energy and sustainability ranging from green project and management skills to green building, energy efficiency, power and smart power.



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ICONICS

ICONICS is an independent software developer of award winning real-time visualization, data historians, and suite of energy and facility analytics software solutions.



Long Island High Technology Incubator (LIHTI)

The Long Island High Technology Incubator (www.LIHTI.org), manages the NYSERDA funded Clean Energy Business Incubation Program (CEBIP) that provides assistance and resources for developers of clean energy technologies.



NYIT

In addition to our 50 undergraduate, graduate, and professional degree programs, New York Institute of Technology's Center for Metropolitan Sustainability supports research and interdisciplinary efforts in the field of alternative energy. More than 14,000 students attend classes at NYIT's campuses in New York, online, the Middle East, China, and Canada. Visit us at: www.nyit.edu



Northville Industries

A third generation petroleum trading, marketing, storage and distribution company based on Long Island, Northville is committed to selling alternative fuels like bio-heat and E85 gasoline.



Ascension Industries, Inc.

Ascension Industries, is an ISO 9001:2008 turnkey manufacturer of green energy equipment, specializing in engineering and design services for your project. www.asmfab.com



Esensors

Esensors specializes in networked sensors for the smart buildings and smart grid. Products include Websensors, digital power meters and several categories of wireless sensors.



IMT Solar

Together with our world partner, the Ingenieurbüro Mencke & Tegtmeier GmbH of Germany, IMT Solar has specialized in providing quality control, test, and measurement equipment to the world since 1993. Based in Western New York, we are world renowned for irradiance sensors, I-V curve analyzers, monitoring equipment and sun simulators.

CONFERENCE SPONSORS



KJ Electric

KJ Electric is a premier distributor of motors, VFD's, controls and power transmission products. Providing on-site field services, including energy saving audits and engineering services. Locations include Syracuse (HTQ), Albany, Binghamton, Buffalo, and Rochester, NY



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Mechanical/Electrical
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Solar Liberty

Solar installation – turnkey design and installation of solar panel systems for all types of sites. NYSERDA and NABCEP certified. PV solar experience since 2003. www.solarliberty.com



Lake Wind Power

Dealer/installer of American manufactured and engineered wind turbines and solar modules representing Swift and Northern Power turbines and Solar World modules. www.lakewindpower.com



OwnEnergy

OwnEnergy partners with landowners to develop renewable energy projects, with an initial focus on 10-80 MW wind energy projects. Our partners take an active role in the development and installation process and in return they are provided with a significant ownership stake in the resulting renewable energy project. www.ownenergy.net



Suffolk County Community College

Suffolk County Community College is a leader in energy efficiency education and training, including energy auditing, solar technology and LEED- certified training.



University at Buffalo
The State University of New York

University at Buffalo

Directed Energy is one of six NYSERDA-funded renewable energy incubator programs in New York State which works with entrepreneurs and early-stage businesses to start/grow energy companies and launch innovative renewable energy products/services. Directed Energy serves clients in 10 counties through a variety of innovative and flexible programs consistent with the university's technology transfer and economic development missions.



The Center for Future Energy Systems (CFES) – Rensselaer Polytechnic Institute

The Center for Future Energy Systems (CFES) is one of 15 Centers for Advanced Technology (CAT) funded by the New York State Office of Science, Technology and Innovation (NYSTAR). The Center's mission is to connect novel energy materials and systems research, knowledge, and technology in academia to the needs of industry through technology transfer and/or collaborations to spur economic development.

SUPPORTING ORGANIZATIONS

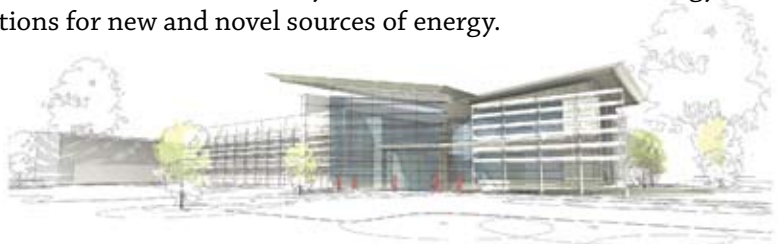


AERTC MISSION STATEMENT

The **Advanced Energy Center** (AERTC) located at Stony Brook University is a true partnership of Academic institutions, Research institutions, Energy providers and Industrial Corporations. Its mission is innovative energy research, education and technology deployment with a focus on efficiency, conservation, renewable energy and nanotechnology applications for new and novel sources of energy.



ADVANCED ENERGY
RESEARCH & TECHNOLOGY CENTER



AEC: A FOUR-YEAR HISTORY OF GROWTH AND SUCCESS

Since the inaugural year of 2007, the **Advanced Energy Conference** has demonstrated continued growth in terms of attendance, interest, influence or any other standard you may choose to apply. Then the conference was a single-day event held on the campus of Farmingdale State College campus, and was attended by less than 300 people from 100 organizations. Just three years later, attendance by both individuals and organizations had increased five-fold at **Advanced Energy 2010**, and had moved its venue to a major conference center in Midtown Manhattan.

The charts presented below quantify the success of the **Advanced Energy Conference**. However, it is the quality of participation – both by individuals and organizations – that truly validates its reputation as the premier conference of its kind in the Northeastern United States. Advanced Energy 2010 attracted high-level speakers from both the state and federal agencies, including NYPA, NYSERDA, DOE, DHS and NIST, as well as the Governor of New York State. Among the 232 presenters were top researchers from the Argonne, Brookhaven and Oak Ridge National Laboratories, the National Renewable Energy Laboratory, and NASA. Sponsors included many of America’s largest technology-based corporations in America, such as General Electric, IBM, National Grid, Verizon, Computer Associates, and Northrop Grumman.

Sustainable energy technologies are critical to the future of New York State and our nation as a whole. The **Advanced Energy Conference** will continue to play an important role as a venue for inspiring communication and cooperation in this vitally important economic sector.

Individuals Attending

	2007	2008	2009	2010
Attendees	270	960	1080	1441

Individuals Presenting

	2007	2008	2009	2010
Presenters	21	136	192	232



AEC: A FOUR-YEAR HISTORY OF GROWTH AND SUCCESS

Corporate/Organizational Participation

	2007	2008	2009	2010
Represented	100	375	466	533
Exhibiting	18	47	67	114

Academic Participation

	2007	2008	2009	2010
College and Universities	6	17	31	37
Posters Presented	8	36	48	59



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Exhibitors

