



IETC 2017

NEW ORLEANS
JUNE 20-22

The Thirty-Ninth Industrial Energy Technology Conference



The Thirty-Ninth Industrial Energy Technology Conference

Final Program

Hosted By:



ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



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WELCOME

On behalf of the hosts and sponsors of the Thirty-ninth national Industrial Energy Technology Conference (IETC), welcome! Our program brings together nationally prominent experts from many areas of industrial energy management. This year's two-day conference consists of twelve technical sessions and panel discussions and over forty individual presentations. In addition, each day will be highlighted by outstanding corporate, industrial and government speakers.

The IETC staff and your hosts, Texas A&M University System's Energy Systems Laboratory and the Louisiana Department of Natural Resources, along with our many co-sponsors are committed to providing all attendees with a wealth of information that will help them improve the performance of their companies--something to take home and use immediately!

This year's 2017 Energy Managers' Workshop builds on its past successes and will again provide a great opportunity for you to expand your energy management proficiency through an event associated with the conference. Seven top energy managers and industry leaders present an impressive and extensive workshop agenda entitled: "Energy Management: Strategies and Successful Applications."

We are confident that you will profit from the experience and technical expertise of our presenters and panelists, and best of all, the interaction with so many energy professionals in one place.

James A. Eggebrecht, PE, Executive Director
Industrial Energy Technology Conference

MAJOR EVENTS

Technical Sessions

The traditional technical sessions consist of 25-minute presentations followed by a 5-minute question and answer period after each presentation. There will be a 5-minute break between papers to permit movement of conferees between sessions.

Workshops

The Pre-Conference Energy Managers Workshop continues for its twenty-fifth year, exploring the topic of “Energy Management: Strategies and Successful Applications.”

Reception

The IETC reception is at 5:30 p.m. on Wednesday evening June 21.

Sponsored Coffee Breaks

Wednesday's & Thursday's Breaks are sponsored by KBC Advanced Technologies.

Wednesday Keynote Speaker

Features Duncan Rotherham, ICF International.

Thursday IETC Energy Award Luncheon

The IETC Awards Luncheon features IETC Energy Awards presentations to Frank Roberto of ExxonMobil Research and Engineering Company, Tari Emerson of Charter Steel, and Nissan North America.

KEYNOTE SPEAKER

WEDNESDAY LUNCHEON SPEAKER



Duncan Rotherham, Vice President and Managing Director, ICF

Duncan Rotherham has 20 years experience in energy and industry. The topic of his presentation is “The Challenge/ Opportunity to meet Continental Energy and Environmental (Climate) Policy Objectives.”

North American industry’s contribution to GDP (27%) and total energy use (31 quadrillion BTU) have remained relatively stable since 1970. Looking out through 2030 a global low price of oil and a continental low price of natural gas provide North American energy intensive as well as petrochemical sub-sectors an opportunity to reverse trend and retake market share of industrial output. However headwinds associated with increasing electricity costs brought on by a need to invest in aged infrastructure and uncertainty and inconsistency in national and sub-national environmental policy is challenging mid-term and long term planning and global competitiveness for investment capital. Energy and environmental and national and sub-national (state and province) policy will need to be thought through carefully and in tandem to leverage this once in a generation opportunity afforded continental industry and meet environmental objectives including significant reductions in emissions of greenhouse gases associated with increased usage of fossil fuels.

AWARDS LUNCHEON

THURSDAY AWARDS LUNCHEON

Frank Roberto, ExxonMobil Research and Engineering Company **2017 IETC Energy Award Winner**

Frank Roberto is the Senior Section Head of the Offsites and Utilities function in the Project Development Division of ExxonMobil Research and Engineering, located in the company's Spring offices. He supports new project development as well as existing operations worldwide, across the company. Mr. Roberto joined Exxon Chemical Company in their Florham Park, NJ facility in 1976.

Through a variety of engineering and technology assignments in the U.S. and Europe, he focused on energy and utility systems, including key roles in the development of several cogeneration projects and the Global Energy Management System. He has supported existing operations of the company's facilities worldwide, been involved in several major project development activities for new facilities, and has served as the Global Energy Advisor for ExxonMobil Chemical Company, actively involved in the implementation and sustainment of the company's Energy Management System.

Mr. Roberto was a very valuable member of the IETC Advisory Board for nine years (2007 to 2015), and served on the American Chemistry Council Responsible Care Energy Award judging committee for many years.

An ardent supporter and participant in the Texas Industries of the Future (IOF) Energy Management Forums, Mr. Roberto continues to serve as the Chair of the Texas IOF Chemicals and Refining Advisory Committee.

Mr. Roberto graduated from Stevens Institute of Technology in Hoboken, NJ with a Bachelor of Engineering degree. In addition to his day-to-day duties, he actively supports ExxonMobil as a head recruiter.

Tari Emerson **2017 IETC Energy Award Winner**

Tari Emerson has more than 25 years of experience in the industrial and retail market sectors, with particular expertise in energy management, generation, procurement and efficiency strategies. Her project experience ranges from efficiency and process improvements at coal fired power plants, to managing electricity and natural gas usage, procurement and contracts at a steel mill, to managing a solar program expansion of 50 MW installed on the rooftops at 159 retail locations. Tari has managed energy efficiency programs and other related projects for several industrial companies, including an electric utility company, a printing company and a fully integrated steel mini mill. Currently, Tari Emerson is the Division Internal Energy Manager at Charter Steel where she provides leadership on energy efficiency improvements for steel melting, rolling and processing facilities. These efforts include performing plant assessments and "energy treasure hunts" focusing on electric, gas and water usage. She has also help Charter Steel strategically partner with external programs such as the DOE's Better Plants program and Focus on Energy.

Previous to her role at Charter Steel, Tari was the Director of Sustainability at Kohl's Department Stores where she managed utilities, sustainability, and energy efficiency for over 1,000 buildings located in 49 states. During that time, she developed an award-winning energy efficiency program (3 consecutive EPA's Energy Star Partner of the Year awards, 2 Sustained Excellence awards, and the Platts Global Energy Award) that resulted in consecutive, year-over-year energy savings of 3% to 5%.

AWARDS LUNCHEON

Nissan North America

2017 IETC Energy Award Winner

Nissan North America has improved its energy efficiency significantly over the past 6 years. Since 2010 the company has improved its cumulative energy intensity for its 3 U.S. plants by 30%. This has been accomplished through a combination of energy management activities and upgrades of large-scale, energy-using systems. In 2012, the Smyrna assembly plant, Nissan's largest plant, achieved certification to DOE's Superior Energy Performance program at the silver level with a 7% improvement in energy intensity over 3 years. In 2015 the plant was able to recertify, this time at the platinum level with an 18% improvement in energy intensity over the 2012 level. This gave the plant a cumulative energy performance improvement of 24% over 6 years.

In addition, Nissan took important steps to improve its water efficiency and reduced its water usage by ~10% and 50 million gallons/year. To achieve this, the company installed an automated water filtration system to eliminate once-through rinse water. This automated technology delivered highly efficient washing and filtration of pre-treatment water, allowing contaminated used water from the rinsing stages to be recycled. The Decherd Machining and Assembly plant in Decherd, TN, also significantly improved energy efficiency with a strong focus on compressed air system optimization. This plant has dramatically improved energy efficiency with the introduction of a gas-fired stack melting furnace as well as general improvements in melt shop operational efficiency.

The company also developed a set of benchmarks of funding practices for energy efficiency projects to determine whether its investment criteria for these projects were restrictive relative to industry norms. Following the benchmarking analysis, Nissan concluded that its policies were conservative. As a result, the company extended its payback threshold (from 1 year to 3 years) and established a capital set aside fund for energy efficiency projects.



INFORMATION

How to contact us:

General conference information, presentations, speakers

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Get updated IETC information at

<http://ietc.tamu.edu/>

Proceedings

The IETC Proceedings are available at the IETC website:

<http://ietc.tamu.edu/programs>

Call for Papers

Abstracts are now being accepted for the Fortieth Industrial Energy Technology Conference. Interested authors should submit one electronic abstract of not more than 400 words by September 29, 2017 to:

James A. Eggebrecht

IETC Executive Director

Energy Systems Laboratory

Phone: (979) 845-1508

Email: jegge@tamu.edu

Continuing Education & Professional Development Credits

The Industrial Energy Technology Conference and the workshops meet the criteria for continuing education and professional development hours required by many state professional engineering boards. Check with Kimberly or Jim at the registration desk for information and a CEU form.



EMWS SCHEDULE

25th Energy Managers Workshop Schedule Energy Management: Strategies and Successful Applications

Tuesday, June 20

- 7:30 am - 8:00 am Registration
- 7:30 am - 8:00 am Continental Breakfast, **Feliciana Room, 10th Floor**
- Workshop held in Feliciana Room, 10th Floor**
- 8:15 am - 8:30 am **Opening Remarks** – James Eggebrecht, Texas A&M University
- 8:30 am - 9:15 am Regulatory and Policy Developments that Affect Industrial Energy Managers
R. Neal Elliott, American Council for an Energy Efficient Economy
- 9:15 am - 10:00 am Resource Productivity - It's Only Natural
Sharon Nolen, Eastman Chemical Company
- 30 minute break -
- 10:30 am - 11:15 am Energy Reliability in Industry
Thomas Theising, Sustainable Energy Solutions
- 11:15 am - 12:00 pm DOE 50001 Ready
Pete Langlois, U. S. Department of Energy
- 12:00 pm - 1:00 pm **Lunch in St. Landry Room, 9th Floor**
- 1:00 pm - 2:30 pm The Energy Manager's Essential Toolkit
Jimmy Kumana, Kumana & Associates
- 30 minute break -
- 3:00 pm - 3:45 pm Presenting the Value of Energy Management and Reporting Systems to Operations and the Facility Financial Analyst
Jim Robinson, DES Global LLC
- 3:45 pm - 4:30 pm More than Just Energy Reduction: Tangible Benefits that Make Fan Efficiency Upgrade Decisions Easy to Make
Vern Martin, FLOWCARE Engineering Inc.
- 4:30 pm - 5:00 pm Wrap-up, critiques & dismissal

CONFERENCE SESSIONS

Wednesday Morning, June 21

- 7:00 am - 5:00 pm** Registration, **Parish Hall, 10th Floor**
7:15 am - 7:50 am Breakfast for Wednesday's and Thursday's Authors and Session Chairs
Feliciana Room, 10th Floor, sponsored by ICF
For all other attendees in **Parish Hall, 10th Floor** Registration Area
- 8:15 am - 8:35 am** **Welcoming Remarks:** James Eggebrecht, Executive Director, IETC and Paul Miller, Director Energy, Louisiana Department of Natural Resources
Louisiana Ballroom, 10th Floor
- 8:35 am - 8:50 am** **American Chemistry Council** Recognition of Energy Awards Recognition of Responsible Care Care Energy Awards, Ray Ratheal, Accelerate Consulting, LLC.
- 9:05 am - 11:45 am** **Sessions 1 - 4**

Session 1 - American Chemistry Council Award Winners 1

Session Chair: Jim Eggebrecht, TAMUS Energy Systems Laboratory
Feliciana East Room, 10th Floor

- 9:05 am - 9:35 am** "Chambers Works Site Energy Reduction Plan," **Meghan Randall, Chemours Inc.**
- 9:40 am - 10:10 am** "Olin Energy Management System," **Lloyd Webb, Olin Corporation.**
- 10:10 am - 10:40 am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:40 am - 11:10 am** Operational Excellence Drives Continuous Energy Improvement at Alpha Olefins," **Danielle Johnson, Chevron Phillips Chemical Company LP.**

Session 2 - Tools for Energy Conservation

Session Chair: Sharon Nolen, Eastman Chemical Company
Feliciana West Room, 10th Floor

- 9:05 am - 9:35 am** "Why Energy Should be a C-Suite Priority," **Jay Zoellner, EnerNoc.**
- 9:40 am - 10:10 am** "Tools for Accelerating Adoption of ISO 50001 in the US," **Peter Langlois, U.S. Department of Energy.**
- 10:10 am - 10:40 am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:40 am - 11:10 am** "Industrial Energy Efficiency Programs: How to Ensure the Value Proposition to Manufacturers," **Robert Lung, US Department of Energy.**
- 11:15 am - 11:45 am** "U. S. DOE's Energy Treasure Hunt Exchange In-Plant Trainings – DOE Resources, Early Results and Lessons Learned.," **Walt Brockway and Sachim Nimbalkar, Thomas Wenning, and Kiran Thirumaran, Oak Ridge National Laboratory, and Robert Bruce Lung, U.S. Department of Energy.**



Session 3 - Energy Storage Options

Session Chair: Neil Elliott, American Council for an Energy Efficient Economy
St. Landry Room, 9th Floor

- 9:05am - 9:35am** “Hybridization of a Gas Turbine for Compressed Air Energy Storage,” **Adefolaoluwami Odeniyi, Stephen Terry, and John Nickel, Department of Mechanical and Aerospace Engineering, North Carolina State University.**
- 9:40am - 10:10am** “Stacking Energy Storage Revenue Streams - Integration is Key”, **Suzanne Escudier, S&C Electric Company.**
- 10:10am - 10:40am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:40am - 11:10am** “Multi-Hour Energy Storage: The Thermal Energy Storage Option,” **John S. Andrepont, The Cool Solutions Company.**

Session 4 - Water and Energy Issues

Session Chair: Vern Martin, FLOWCARE Engineering Inc.
St. Tammany Room, 9th Floor

- 9:05 am - 9:35 am** “Plant Water Profiler Tool for Industry,” **Sachin Nimbalkar, Oak Ridge National Laboratory.**
- 9:40 am - 10:10 am** “Mitigation of Scaling and Fouling in Membrane Distillation Process for Industrial Water Treatment and Reuse,” **Markus V. Lesemann, Young Chul Choi, Zachary Hendren, RTI International, and Hervé Buisson, Veolia Water Technologies North America.**
- 10:10 am - 10:40 am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:40 am - 11:10 am** “A Proven Methodology for Studying Energy-Water Technology Efficiency: Findings from the Seawater Desalinization Bandwidth Study,” **Sabine Brueske & Caroline Dollinger, Energetics, Joe Cresko, Department of Energy, and Prakash Rao and Arian Aghajanzadeh, Lawrence Berkeley National Laboratory.**
- 11:15 am - 11:45 am** “Steam Heating Reduction in the Secure Environmental Treatment Area”, **Mark Richmond, Chemours, Inc.**

12:00 pm - 1:30 pm Keynote Luncheon
Louisiana Ballroom, 10th Floor

PROGRAM AT A GLANCE

Monday, June 19 – Registration				
5:00 pm - 6:30 pm	Registration and Information - Parish Hall, 10th Floor			
Tuesday, June 20 – Energy Managers Workhop				
7:30 am - 5:00 pm	Registration and Information			
7:30 am – 8:00 am	Continental Breakfast - Feliciana Room, 10th Floor			
8:00 am – 12:00 pm	Energy Managers Workshop Morning Sessions - Feliciana Room, 10th Floor			
10:00 am - 10:30 am	Coffee and Snack Break - Parish Hall, 10th Floor			
12:00 pm - 1:00 pm	Energy Managers Workshop Lunch - St. Landry Room, 9th Floor			
1:00 pm - 5:00pm	Energy Managers Workshop Afternoon Sessions - Feliciana Room, 10 Floor			
2:30 pm – 3:00 pm	Coffee and Snack Break - Parish Hall, 10th Floor			
Wednesday, June 21 – Day 1 of Conference				
7:00 am – 5:00 pm	Registration and Information - Parish Hall, 10th Floor			
7:00 am - 7:30 pm	Exhibits - Parish Hall, 10th Floor			
7:15 am - 7:50 am	Conference Authors/Presenters Breakfast Sponsored by ICF - Feliciana Room, 10th Floor			
7:15 am - 7:50 am	Continental Breakfast - Parish Hall, 10th Floor			
8:15 am – 8:35 am	Opening Welcome - Louisiana Ballroom, 10th Floor			
8:35 am – 8:40 am	American Chemistry Council Recognition of Energy Awards - Louisiana Ballroom, 10th Floor			
Technical Sessions 1 - 4	Feliciana East Room 10th Floor	Feliciana West Room 10th Floor	St. Landry Room 9th Floor	St. Tammany Room 9th Floor
9:05 am – 11:45 am	1 – American Chemistry Council Award Winners 1	2 – Tools for Energy Conservation	3 – Energy Storage Options	4 – Water and Energy Issues
10:10 am – 10:40 am	Coffee and Snack Break Sponsored by KBC Advanced Technologies - Parish Hall, 10th Floor			
12:00 pm – 1:30 pm	IETC Luncheon & Keynote Address			
Technical Sessions 5 - 8	Feliciana East Room 10th Floor	Feliciana West Room 10th Floor	St. Landry Room 9th Floor	St. Tammany Room 9th Floor
1:45 pm – 5:00 pm	5 – Compressed Air	6 – Combined Heat & Power	7 – Improvements in Plant Utility Systems	8 - American Chemistry Council Award Winners 2
2:50 pm – 3:20 pm	Coffee and Snack Break Sponsored by KBC Advanced Technologies - Parish Hall, 10th Floor			
5:30 pm – 7:30 pm	Reception - Parish Hall, 10th Floor			
Thursday, June 22 – Day 2 of Conference				
8:30 am - 2:00 pm	Registration and Information - Parish Hall, 10th Floor			
8:30 am - 12:00 pm	Exhibits - Parish Hall, 10th Floor			
8:30 am - 9:00 am	Continental Breakfast - Parish Hall, 10th Floor			
10:05 am - 10:35 am	Coffee and Snack Break Sponsored by KBC Advanced Technologies - Parish Hall, 10th Floor			
Technical Sessions 9 - 12	Feliciana East Room 10th Floor	Feliciana West Room 10th Floor	St. Landry Room 9th Floor	St. Tammany Room 9th Floor
9:00 am – 11:40 am	9 – American Chemistry Council Award Winners 3	10 – Steam Plants & Equipment	11 – Energy Impact Analysis	12 – Modeling and Software Simulation
10:05 am – 10:35 am	Coffee and Snack Break Sponsored by KBC Advanced Technologies - Parish Hall, 10th Floor			
11:50 am – 1:30 pm	IETC Awards Luncheon - Louisiana Ballroom, 10th Floor			

Wednesday Afternoon, June 21

1:45 pm - 5:00 pm Sessions 5 – 8

Session 5 - Compressed Air

Session Chair: Thomas Theising, Sustainable Energy Solutions LLC

Feliciano East Room, 10th Floor

- 1:45 pm - 2:15 pm “Ten Most Productive Compressed Air System Questions” **Thomas Theising, Sustainable Energy Solutions LLC.**
- 2:20 pm - 2:50 pm “Compressed Air System Design and Custom Controls – Ideas to Improve Efficiency and Performance”, **Mark Ames, John Henry Foster Company.**
- 2:50 pm - 3:20 pm Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 3:20 pm - 3:50 pm “Reducing Site Cost Through Ultrasonic Air Leak Surveys and Repairs,” **James Nipper, Petro Chemical Energy.**
- 3:55 pm - 4:25 pm “Development of a Compressed Air Flow Meter Installed at the Compressor Inlet,” **Anthony Taylor, Glenn Cunningham, and Ehsan Languri, Tennessee Tech University.**

Session 6 - Combined Heat & Power

Session Chair: Patti Garland, U. S. Department of Energy

Feliciano West Room, 10th Floor

- 1:45 pm - 2:15 pm “Financing CHP Projects,” **Anna Shipley and Anne Hampson, ICF International, and Claudia Tighe, US Department of Energy.**
- 2:20 pm - 2:50 pm “Optimal Integration of Steam Turbines for Industrial CHP Applications,” **Jimmy D. Kumana, Kumana and Associates.**
- 2:50 pm - 3:20 pm Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 3:20 pm - 3:50 pm “Capacity Utilization, Efficiency Trends and Economic Risks for Modern Combined Heat & Power Installations,” **David Dismukes, Center for Energy Studies, Louisiana State University.**
- 3:55 pm - 4:25 pm “The Value of Metered Data in CHP Design,” **Jesse Remillard and Richard Doughty, Energy and Resource Solutions.**
- 4:30 pm - 5:00 pm “The Advantages of Utility-Owned CHP at Industrial Facilities” **Meegan Kelly, American Council for an Energy Efficient Economy, Ken Duvall and Levi Hoiriis, Sterling Energy Group.**

Session 7 - Improvements in Plant Utility Systems

Session Chair: Scott Harrison, Vistra Energy

St. Landry Room, 9th Floor

- 1:45 pm - 2:15 pm** "Daily Management of Primary and Secondary Utilities at General Mills," **Leslie Marshall, General Mills.**
- 2:20 pm - 2:50 pm** "Demand Controlled Ventilation: Opportunities for Energy Reduction and the Pros and Cons of this Approach", **Vern Martin, FLOWCARE Engineering, Inc.**
- 2:50 pm - 3:20 pm** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 3:20 pm - 3:50 pm** "Energy Cost Optimization in a Sugar Industry", **Ven V. Venkatesan, VGA Engineering Consultants, Inc.**
- 3:55 pm - 4:25 pm** "Energy Efficiency Retrofit Options in Process Evaporation," **Bryan W. Hackett, kW Engineering, Inc.**
- 4:30 pm - 5:00 pm** "Energy Management in the Oil and Gas Industry," **Mark Philpott, Chevron Power and Energy Management.**

Session 8 - American Chemistry Council Award Winners 2

Session Chair: Jay Zoellner, EnerNOC

St. Tammany Room, 9th Floor

- 1:45 pm - 2:15 pm** "Optimize Steam Efficiency through Utilization of New Cogeneration Capability", **David Slivensky, Eastman Chemical Company.**
- 2:20 pm - 2:50 pm** "BASF Corporate Energy Management Process", **Ty Geiger, BASF Corporation.**
- 2:50 pm - 3:20 pm** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 3:20 pm - 3:50 pm** "Dryer Regeneration Procedure Improvements", **Tom Lessard, Chevron Phillips Chemical Company.**

5:30 pm - 7:30 pm Reception
Parish Hall, 10th Floor

Thursday Morning, June 22

8:30 am - 12:00 pm Registration for New Arrivals, **Parish Hall, 10th Floor**
8:30 am - 9:00 am Continental Breakfast, **Parish Hall, 10th Floor**
9:00 am - 11:40 am **Sessions 9 - 12**

Session 9 - American Chemistry Council Award Winners 3

Session Chair: Ray Ratheal, Accelerate Consulting, LLC.
Feliciana East Room, 10th Floor

9:00 am - 9:30am "Reduction of Water Load on TPA's Steam Supplied Distillation Column," **Sharon Nolen, Eastman Chemical Company.**

9:35 am - 10:05am "2016 Fire-tube Boiler Reduction in Fuel Gas Consumption," **Camellia Bowie, Olin Corporation.**

10:05 am - 10:35 am Coffee Break and Exhibits – **Parish Hall, 10th Floor**

10:35 am - 11:05 am "LAO Energy Systems Automatic Process Control for Offgas Management and Power Market Advantage," **Heidi Holmes and The DOW Chemical Company.**

11:10 am - 11:40 am "Selkirk New York Line 16 Extruder Replacement," **Jon Moscovic, SABIC.**

Session 10 - Steam Plants & Equipment

Session Chair: Jim Robinson, DES Global LLC
Feliciana West Room, 10th Floor

9:00 am - 9:30 am "Steam Trap Management: Do Something, Anything, ...Please," **James R. Risko, TLV Corporation.**

9:35 am - 10:05am "Thermodynamic Analysis of Steam Turbines for Industrial Applications," **Jimmy D. Kumana, Kumana and Associates.**

10:05 am - 10:35 am Coffee Break and Exhibits – **Parish Hall, 10th Floor**

10:35 am - 11:05 am "Improving Plant Efficiency Through Faster and More Stable Boiler Dynamics," **Ben Janvier and Marc Guerin, Enero Solutions.**

11:10 am - 11:40 am "Tuning Up Your Facility's Steam Trap Management," **Cameron Kinney, Jon Maxwell, and Nathan Throop, Energy and Resource Solutions.**

Session 11 - Energy Impact Analysis

Session Chair: Bruce Lung, U. S. Department of Energy
St. Landry Room, 9th Floor

- 9:00 am - 9:30 am** “Smart Manufacturing Technologies and Data Analytics for Improving Energy Efficiency in Industrial Energy Systems” **Sachin Nimbalkar, Thomas Wenning, Daryl Cox, Wei Guo, and Kiran Thirumaran, Oak Ridge National Laboratory, and Joe Cresko, US Department of Energy.**
- 9:35 am - 10:05 am** “Manufacturing Energy Bandwidth Studies,” **Sabine Brueske and Heather Liddell, Energetics Incorporated, Joe Cresko, U.S. Department of Energy, and Alberta Carpenter, National Renewable Energy Laboratory.**
- 10:05 am - 10:35 am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:35 am - 11:05 am** “Lean Manufacturing Principles and Their Impact on Process Energy Efficiency,” **Mike Stowe, Advanced Energy.**
- 11:10 am - 11:40 am** “A Techno-Economic Assessment of Centralized Carbon Capture in US Petroleum, Refineries,” **William R. Murrow III, Lawrence Berkeley National Laboratory, John Marano, JM Energy Consulting Inc. and Yuan Yao, North Carolina State University.**

Session 12 - Modeling and Software Simulation

Session Chair: Kirtan Trivedi, ExxonMobil Chemical Company
St. Tammany Room, 9th Floor

- 9:00 am - 9:30 am** “Development of the Extended Motor Product (XMP) Database: A New Tool for Energy Efficiency Programs and Equipment Manufacturers,” **Ethan Rogers, American Council for an Energy Efficient Economy.**
- 9:35 am - 10:05 am** “Maximizing Return on Invested Capital for the Enterprise Energy Management Program,” **Kevin Quinn, Pactiv.**
- 10:05 am - 10:35 am** Coffee Break and Exhibits – **Parish Hall, 10th Floor**
- 10:35 am - 11:05 am** “Cloud Based Energy Management Information System (EMIS) Seamlessly Integrating Energy Supply and Demand Improvements,” **Oscar Santollani, Carlos Ruiz, and Tim Shire, KBC Advanced Technologies.**
- 11:10 am - 11:40 am** “Next-Generation Utilities Optimization for Refineries and Large-scale Chemical Production Sites,” **Penny Stanger, Alfredo Ramos, and Gerardo Sanchis, Process Systems Enterprise Inc.**

11:50 am - 1:30 pm IETC Awards Luncheon
Louisiana Ballroom, 10th Floor

IETC Staff

James A. Eggebrecht, Executive Director

Kimberly Greer, Conference Manager

Advisory Board

Joe Almaguer

Walter Brockway, Brockway Consulting

Neil Davies, Spirax Sarco, Inc.

R. Neal Elliott, American Council for an Energy Efficient Economy

Peter Garforth, Garforth International LLC

Scott Harrison, Vistra Energy

Dave Lauterbach, DuPont

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Cynthia Mascone, Chemical Engineering Progress

Paul Miller, Louisiana Department of Natural Resources

Sharon Nolen, Eastman Chemical Company

Bryan Rasmussen, Texas A&M University Mechanical Engineering

James Robinson, DES Global, LLC

Scott Rouse, Energy @ Work

Steve Schultz, 3M Company

Eric Soucy, Natural Resources Canada

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Kirtan K. Trivedi, ExxonMobil Chemical Company

Vestal Tutterow, Project Performance Corporation

Thomas Wenning, Oak Ridge National Laboratory

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