



Welcome to the IEEE Green Energy Conference

Live Stream from Seattle Washington

Friday April 8, 2022, at 8 am PDT

Our Program includes 20 great speakers
Keynote Jana Gerber, our State Senator Reuven
Carlyle, and IEEE Executive Russell Harrison



- ✓ Sen. Reuven Carlyle, Environmental Energy Technology Chair
- ✓ Russell Harrison, IEEE USA executive Non-Profit
- ✓ Jana Gerber, Keynote Speaker on Sustainability
- ✓ Bill Nussey, Freeing Energy Project
- ✓ Scott Miller, Energy Policies, Western Power Trading Forum
- ✓ Nathan Johnson, Professor, Microgrids for resilience with ROI
- ✓ AJ Perkins, Cybersecurity, Instant On
- ✓ Pamela Hamblin, Energy Transition Vitalness Utilities Survival
- ✓ Chris Evanich, Resilience, Cost Savings, Sustainability, SE
- ✓ Sandra Law, Thermal, Energy Development Consultants
- ✓ Bob Williams, Integrated Power Systems, Battery Storage
- ✓ Craig Virgin USA Olympian World X-Country Champion
- ✓ Dave Salem, Combined Heat Power Distributed Energy Resources
- ✓ John Gentile, Cascadia Energy Technologies, Fuel Cells
- ✓ Joseph Martorano, EV Charging Stations, NE Energy Systems
- ✓ Laura Manz, Guidehouse, Energy Sustainability
- ✓ Joe Weiss, Managing Partner at Applied Control Solutions ISA Fellow
- ✓ Stephen Rush, Wind Turbines, Flowgen Technology
- ✓ Rick Rys, ARC Advisory Group, Future of Microgrids
- ✓ David Van Holde, CHP Biofuels Energy Conversion, WSU DOE
- ✓ Frank Rytkenon, PE Microgrid Controllers, Eaton
- ✓ J. Vincent Mirolli, Moon Based Housing Solar

Register at: [SeattleElectricalConference.com](https://events.vtools.ieee.org/m/296104)

<https://events.vtools.ieee.org/m/296104>



Bill Nussey



Scott Miller



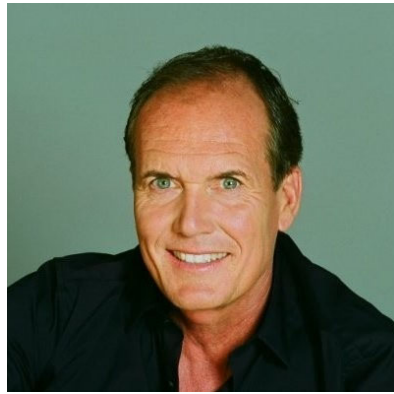
Sandra Law



AJ Perkins



Pamela Hamblin



Craig Virgin



Nathan Johnson



Bob Williams



Joseph Martorano



Laura Manz



J. Vincent Mirulli



Stephen Rush



Chris Evanich



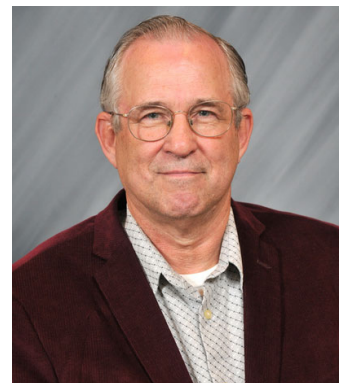
David Van Holde



Dennis Garrett



Frank Rytkonen, P.E.



Rick Rys



Dave Salem



Reuven Carlyle



Russell Harrison



Jana Gerber



Mike Brisbois

IEEE Green Energy Conference – Speaker Line up

All times are exact (PDT Pacific Daylight Savings Time – Seattle). Typical format is 20 min talk with 5 min Q&A. If a speaker goes too long, we will have him/her conclude their topic. If the speaker is short, we will ask him/her more questions. The session will be recorded, and we ask our attendees to type any questions into the chat box. Attendees are welcome to come and go as they please.

Friday April 8, 2022

- 7:45 am PDT IEEE announcements - Showcased Consultant - Speaker Line up
- 8:00 am PDT State Senator Reuven Carlyle, Environmental, Energy & Technology Chair
- 8:10 am PDT IEEE Non-Profit Executive Russell Harrison (Washington DC)
- 8:20 am PDT Keynote Speaker Jana Gerber, SE on Sustainability
- 8:40 am PDT Bill Nussey, Freeing Energy Project
- 9:05 am PDT Scott Miller, Energy Policies, Western Power Trading Forum
- 9:30 am PDT Nathan Johnson, Microgrids for resiliency with an ROIs
- 9:55 am PDT AJ Perkins, Instant On Cybersecurity
- 10:20 am PDT Pamela Hamblin, Energy Transition and the Vitalness of Utilities Survival
- 10:45 am PDT Chris Evanich, Resilience, Cost Savings, Sustainability Can you really achieve all 3?
- 11:10 am PDT Sandra Law, Thermal Microgrids for High Rises
- 11:35 am PDT Bob Williams, Battery Energy Storage Systems
- 12:00 pm PDT Dave Salem, Combined Heat Power Distributed Energy Resources
- 12:25 pm PDT John Gentile, Cascadia Energy Technologies, Fuel Cells
- 12:50 pm PDT Craig Virgin USA Olympian Gold Medalist Marathon World Champion X-Country – Prize Give away
- 1:00 pm PDT Joe Martorano, Northeast-Western Energy Systems, EV Charging
- 1:25 pm PDT Laura Manz, Guidehouse, Energy Sustainability
- 1:50 pm PDT Joe Weiss, Sensor Technologies, Microgrids & Aurora, Managing Partner Applied Controls Solutions
- 2:15 pm PDT Steve Rush, Flowgen, Wind Turbines
- 2:40 pm PDT Rick Rys, R2 Controls, Growth and future of Microgrids and Utilities
- 3:05 pm PDT David Van Holde, WSU Director, US DOE NW, CHP Logical Application Biofuels Energy Conversion
- 3:30 pm PDT Frank Rytkonen, PE Microgrid Controllers, Eaton
- 3:55 pm PDT Moon Based Housing Solar, J. Vincent Mirolli
- 4:20 pm PDT Special Presentation Salute to Speakers and Showcased Consultants
- 4:25 pm PDT Live Entertainment Seth Pavlik Here comes the Sun





State Senator Reuven Carlyle

Bio

Sen. Reuven Carlyle represents Washington’s 36th Legislative District the State Senate. The district is home to the iconic Space Needle as well as the global headquarters of Amazon, Expedia, the Bill & Melinda Gates Foundation, PATH, and other organizations.

Carlyle chairs the Senate Environment, Energy & Technology (EET) Committee and serves on the Senate Ways & Means and Rules committees. As chair, he was lead sponsor of the historic Climate Commitment Act, making Washington the second state in the nation to create an economy-wide cap and invest program to reduce greenhouse gas emissions. He also sponsored the Washington Clean Transformation Act, moving the state’s electric utilities completely off coal by 2025 and to 100-percent clean and renewable energy by 2045. Reuven led passage other key climate elements through the Senate, including a Clean Fuel Standard, clean buildings legislation, and innovative environmental justice measures. The expansive suite of legislation passed from 2019-2021 led national observers to proclaim Washington as the state with the “nation’s most ambitious

climate policy.”

He received a bachelor’s degree in communications from the University of Massachusetts Amherst and a MPA from the John F. Kennedy School of Government at Harvard University.

Please Welcome Senator Reuven Carlyle...

Reuven Carlyle...

<https://www.linkedin.com/in/reuven Carlyle/>

8:10 am PDT IEEE Non-Profit Executive Russell Harrison (Washington DC)



Russell Harrison

As one of IEEE's Top executive Russell will briefly discuss IEEE's USA role on Energy and sustainability.

Bio

Experienced association executive. Russell functions as the Deputy Director and Director of Government Relations for the world's largest technical professional association, representing the interests of 170,000 technology professionals across the United States. Issue area expertise in immigration, STEM education, energy, and technology policy.

As staff lead to the IEEE-USA Nominations and Appointments Committee, He is responsible for identifying and recruiting the leaders of our association, helping to prepare them for this role, and running Board elections. As staff assistant to the Board of Directors he helps Board members understand the unique challenges facing our association and develop a vision for the future of IEEE-USA.

He has spoken to more than 270 IEEE groups, conferences and workshops across the United State, Canada, Australia, and India on politics and policy as one of IEEE's most sought-after public speakers.

Please welcome Russell Harrison...

Russell Harrison...

<https://www.linkedin.com/in/russell-harrison-2a28402/>



Jana Gerber, Sustainability Consulting Principal for North Sustainability Business

TOPIC:

To fight climate change we need to eliminate carbon emissions, over 80% of which are caused by energy production and consumption. In this session, Jana will share why a more electric and digital world is key to addressing the climate challenge, enabling a sustainable and resilient future. Electricity is the most efficient energy and a key vector of decarbonization, and with digital innovation it makes the invisible visible, unleashing huge potential to eliminate energy waste. Only by disrupting the way we manage energy and design buildings, industries and mobility will we be able to deliver a net zero carbon world. Together, we are building the New Electric World – Electricity 4.0.

Keynote Speaker Jana Gerber

Bio

Jana helps clients formulate climate change strategy to execution and deployment of sustainability offers and works as a bridge across her organizations to further bring their collective activities together to originate and provide unprecedented, end-to-end leadership – supporting her clients as she helps them progress on their sustainable transformation. Jana has been with Schneider Electric for 20 years and previously served as the Vice President of Building Segments for the Strategic Customers and Segment organization. Leveraging her past experiences with engineering, marketing, operations, and sales, she has helped healthcare, hotel, data center and commercial real estate customers articulate how digital technologies can reshape design, operations, and performance for their facilities. Jana lives in Dallas, Texas with her husband and two children.

Please welcome Jana Gerber...

Jana Gerber

<https://www.linkedin.com/in/janagerber/>

8:40 am PDT Bill Nussey, Freeing Energy Project



Bill Nussey

Why Decentralized Energy Will Disrupt Our 20th Century Grid

Description

Despite the incredibly positive impact of today's electric grids, their technical architectures and monopoly business models are out of date and out of touch with our 21st century technologies and values. The grid is due for a major upgrade. After four years of research and 320 interviews, Bill will share the surprising insights from his new book, *Freeing Energy*. Decentralized or "local energy" systems will play a far more important and disruptive role than most people realize today. Bill will share the underlying trends and technologies that are remaking electricity in the US, Africa, and rest of world.

Bio

Bill is CEO of Freeing Energy and Solar Inventions. As a career CEO with 30+ years' experience running venture capital backed tech companies he has multiple entrances including IPOs. He most recently launched several ventures aimed at accelerating the world's shift to clean energy. He has a Bachelor of Electrical Engineering from North Carolina State University and an MBA from Harvard Business School.

Please welcome Bill Nussey...

Bill Nussey

<https://www.linkedin.com/in/billnussey/>



Scott Miller

Topic: Energy Policies

bio

Scott is the Executive Director, Western Power Trading Forum (WPTF)

Scott Miller became the Executive Director on July 1, 2018. WPTF is a broad-based organization with over 100-member companies, dedicating to encouraging competition in Western states electric markets. Scott comes to this position from a background that has been dedicated to competitive electric and natural gas markets.

Prior to coming to WPTF, Scott was the Senior Market Advisor in the Policy Office at the Federal Energy Regulatory Commission (FERC) from 2008-2017. He was responsible for advising the Commission and staff on electric and natural gas markets.

Scott worked as Vice President for Regulatory Affairs at Constellation Energy from 2006-2008.

From 2002-2006 Scott was Executive Director for Market Development at PJM and later in charge of relations with the 14 states within the PJM area.

From 2000-2002 Scott was Executive Director of the Energy Markets Division at FERC where he oversaw the FERC staff's first investigation into the Western Energy Crisis in 2000. Scott also directed staff investigation into the Cost-Benefit Study on participation in RTOs.

Scott worked for US Generating Company and its successor, PG&E National Energy Group from 1994-2000, first as Assistant to the President & CEO and later as Director of Market Policy where he coordinated NEG policy on ISO and RTO formation across the US.

Scott began his career in Foreign Policy and National Security working at the US Department of State on Arms Control and Security Assistance.

Scott has a BA in History from Columbia University and an MA in Security Policy Studies from George Washington University.

Please Welcome Scott Miller...

Scott Miller

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Nathan Johnson

Talk Title: **Microgrids for Resilience with an ROI**

Bio

Dr. Nathan Johnson is an Associate Professor in The Polytechnic School of the Ira A. Fulton Schools of Engineering at Arizona State University. He is also Director of the Laboratory for Energy and Power Solutions that provides technical and business solutions to facilitate the global transition to a resilient low-carbon economy.

He has done research on the commercialization efforts emphasizing grid modernization, microgrids, off-grid solutions, critical infrastructure, and workforce development. Dr. Johnson also leads ASU's Grid Modernization and Microgrid Test Bed. Dr. Johnson builds public-private partnerships in the US and internationally to develop and evaluate technologies leading to pilot demonstration and scale.

This work is paired with innovations in business models and regulation to benefit all stakeholders, and value propositions that increase energy access, energy security, and economic development through decarbonization and cost savings. Workforce development is a passion of Dr. Johnson's team, and they train 1000s of people each year in microgrids, cybersecurity, and other emerging technologies to meet demands in the rapidly evolving power sector. Before joining ASU, Dr. Johnson completed product development and business development across 15 countries. His globally focused work continues in sub-Saharan Africa, Middle East, and East Asia.

Please Welcome Dr. Nathan Johnson...

Nathan Johnson

<https://www.linkedin.com/in/nathan-johnson-3127976/>

9:55 am PDT AJ Perkins, Instant-On



AJ Perkins

Topic description: Cybersecurity

Communities, hospitals, utilities, the military, and others have started building microgrids, but not fast enough. If a massive cyber-attack knocked out a large section of the grid today, restoration likely would take months or years. One incident after another underscores the urgency of the cybersecurity risk. In December 2015, an attack in the Ukraine left 225,000 people without power for several hours and highlighted the vulnerability of power grids, not just in that country but across the developed world.

Bio

Recognized as an Influential Business Leader of 2021, Mr. Perkins is a growth CEO and highly sought-after public speaker who has written white papers, articles and op-eds for the industry and is quoted frequently in publications as a Subject Matter Expert. His last white paper that he co-authored Nanogrid: A New Opportunity for the Solar Industry, was the #1 downloaded paper in 2020 on Microgrid Knowledge, the largest database of microgrid white papers in the world. He is a regular speaker / contributor at the largest solar and energy storage conference in North America, Microgrid Knowledge, Energy Central Pulse, and universities. He has worked on policy and incentives for the state of California, and he has built a microgrid integration company to be one of the “Most Outstanding Microgrid Integrator”, “Top 50 Most Innovative Companies to Watch” and “Top Energy Storage Solution Providers in 2020”.

Please Welcome AJ Perkins...

AJ Perkins

<https://www.linkedin.com/in/ajperkins808/>



Pamela Hamblin

Energy Transition and the Vitalness of Utilities Survival

Our decarbonization and/or carbon neutralization goals are more aggressive than our generation, transmission and distribution systems can support. Utilities are faced with insurmountable hurdles including demand management, generation capacity/availability, market requirements, access to experienced staff, operational safety, and energy reliability. Not to mention an outdated transmission/distribution system designed for one-way electrical traffic. This session will discuss these challenges, offer solutions to bridge the gap, and encourage the protection of the continued Utility survival.

Bio

Pamela is an account manager at K&A Engineering Consulting. With 24+ years in her Energy career, she has developed a vast knowledge of the many dynamics involved in delivering safe, reliable, and affordable power. Those dynamics have changed drastically over the last decade due to environmental objectives and economic impacts. Her relationships with many corporate level executives at the nation's largest utilities and her extensive industry network connections reflect her highly influential reach in the market. These relationships represent every facet of the Energy dynamics our world currently faces.

Because of her relationships and industry experience, she is regarded as a Subject Matter Expert for safety and reliability of legacy power generation, grid stability and resiliency, energy economics, and alternative green energy resources.

Pamela has been invited as an expert speaker for respected industry conferences and has been published in numerous industry magazines. Her published work includes multiple technical papers for ASME as well as feature articles in Power Engineering Magazine and Inspectioneering Journal. Additionally, Pamela serves as an expert panelist on the ASME Technology Advisory Panel (TAP) for the Pressure Technology group and the ASME Power Plant Cycling Executive Advisory Committee.

She is an active member of ASHRAE.

Please Welcome Pamela Hamblin...

Pamela Hamblin

<https://www.linkedin.com/in/pamelahamblin/>



Chris Evanich, Schneider Electric

Title: Resilience, Cost Savings, Sustainability – Can you really achieve all 3?

Abstract: Microgrids are touted as being able to provide multiple value streams -- resilience, cost savings, and reduced carbon emissions -- but at times these values are in contention with one another. Can microgrid projects really optimize on all three at once? Renewable based DERs and automation are keys to the puzzle as well as a strong customer understanding of project goals and operational strategy.

Bio

Chris Evanich is the Program Director for Energy as a Service at Schneider Electric. He focuses on the global business development and financing of Microgrids. He has over 18 years of experience in the Electrical Power industry and has a wide range of experience in Renewable Energy and Smart Grid components and architecture. Chris has been published in over a dozen different publications worldwide. He holds a Bachelor of Science in Electrical Engineering from Cleveland State University and an MBA from Case Western Reserve University. He is a Senior Member of the IEEE, Author of IEEE P2030.7, “Standard for the Specification of Microgrid Controllers” and volunteers as an IEEE PES Scholar Mentor.

Please Welcome Chris Evanich...

Chris Evanich

<https://www.linkedin.com/in/evanich/>



Sandra Law

Topic: Geothermal for High Rise Buildings

Bio

Sandra Law is owner of Energy Development Consultants, LLC. She expands projects experience and expertise to achieve the best success with renewable energy selection, sizing, and configuration to meet the company's need for a reliable, cost-effective microgrid. She specializes in Solar, Storage solutions and configurations, Geothermal Direct Use and Power Generation, Ground Source Heat Pumps and Combined Heat and Power. She reduces energy costs and increases reliability and productivity.

She has a BSME in Mechanical Engineering and a professional certificate in project management Energy.

Please Welcome Sandra Law...

Sandra Law

<https://www.linkedin.com/in/sandralaw/>

11:35 am PDT Bob Williams, Battery Energy Storage Systems



Bob Williams

Topic: **Battery Energy Storage Systems**

Bio

Mr. Williams has design and consulting experience for power quality in datacenters, industrial and commercial environments UPS systems, datacenter power distribution, surge suppression, harmonic mitigation, voltage regulation and power distribution. He has experience with battery energy storage systems for microgrids and carbon reduction in green building construction.

Since 1999 Bob has specialized in the application of power quality equipment in critical environments. He has been working with consultants and design-build contractors on UPS system application, offering the most efficient redundant designs to maximize power utilization, availability, and efficiency.

Bob understands today's political, economic, and environmental needs and trends, and focuses his interest and time toward providing products and solutions that help his customers reduce their operating costs and carbon footprint.

Bob has two decades of experience in the electrical industry on the wholesale level and has a comprehensive understanding of all aspects of product selection, coordination, and the supply chain.

Please Welcome Bob Williams...

Bob Williams

<https://www.linkedin.com/in/bob-williams-76962a51/>



Dave Salem, Managing Partner

Topic: Distributed Energy Solutions

Bio

Dave Salem is the managing partner, of the Brad Thompson Company which specializes in CHP Combined Heat and Power systems that utilize process steam and water with the efficient production of electricity. His client base includes industrial, commercial and university markets. He brings over 30 years of CHP experience to the marketplace. He is a licensed chemical engineer. His company Brad Thomas Company offers a full range of CHP support, from front end feasibility studies to turnkey CHP system installations.

Dave has a BS in Chemical Engineering from the University of Massachusetts

Please welcome Dave Salem...

Dave Salem

<https://www.linkedin.com/in/dave-salem-63bb5713/>



John Gentile

Topic: On-Site Hydrogen Production; on-ramp to more rapid implementation of clean hydrogen fuel for heavy transport industries.

We all want clean, renewable, and zero-carbon fuels for transit system, marine, and trucking applications. But how do we get there, realistically, in terms of an effective implementation strategy and enabling technologies?

Bio

John Gentile is the Principal of Cascadia Energy Technologies. He is a trusted business developer with skills resulting from early and continuing experience with U.S. corporate and government technology projects. He represented leading software firms throughout his career and later co-founded a software company before co-founding Cascadia Energy Technologies & Cascadia Green Solutions. He has served as Account Executive for DNV Kema Energy and Sustainability (DNV GL). He held sales and account responsibility for electric and gas utilities across the United States and Canada throughout his career.

Please welcome John Gentile...

John Gentile

<https://www.linkedin.com/in/john-g-ba034b85/>



Celebrity athlete and nationally known expert in distance running. Besides being self-coached for most of my world-class post-collegiate running career, I have advised and mentored athletes and coaches in developing effective distance running training programs and racing strategies. I have served as presenters at athletic clinics/seminars around the world for many years. Athletic highlights in distance running include:

- * 2-time World Cross Country Champion
- * 3-time U.S. Track & Field Olympian
- * Multiple American national champion & record holder
- * U.S. National Track & Field Hall of Fame, 2011
- * St. Louis Sports Hall of Fame, 2011
- * U.S. National Distance Running Hall of Fame, 2001
- * RRCA Long Distance Hall of Fame, 1984
- * Won 5 Illinois State HS Championships and still holds the state records for both the 3-mile cross country & 2-mile track run.

Arguably the finest distance runner ever come out of the state of Illinois, and one of the top 10 distance runners in American history!

Specialties: Public speaking, media tour and spokesperson, freelance radio/television, and product & event promotion.

Craig Virgin, OLY

Bio

Craig Virgin is a n Olympian, World Champion, Coach, Freelance Broadcaster, Motivational Speaker, Spokesperson, Public Relations Consultant.

Please Welcome Craig Virgin...

Craig Virgin, USA Olympian

<https://www.linkedin.com/in/craigvirgin/>



Joe Martorano

Topic: EV (Electric Vehicle) Charging

The 3Rs of EV charging and how to serve locations where grid access is not possible based on demand or congestion issue.

Bio

Mr. Martorano is a dynamic and results oriented professional with 30 years' experience working in energy as a member of senior management. Joe has overseen teams of engineers, traders, designers and other professionals in the procurement and development of some of the nation's largest energy portfolios. He consistently meets or exceeds goals while mentoring staff and developing clients at the "C" Level. In his 3 years leading Kiely's engineering group, he grew the firm to be an ENR 500 design firm and ranked the 10th fastest growing company in New Jersey by NJBiz with year over year sustained triple digit growth. Special abilities include, creativity, problem solving and leadership.

Please Welcome Joe Martorano...

Joe Martorano

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Laura Manz

The transformation of the energy industry has witnessed changes on many fronts. Clean energy policies are driving new renewable and distributed energy resources with requirements for new delivery infrastructure. The quest for resource adequacy has introduced storage as a vital component of the grid of the future. Severe weather impacts have shifted toward a resilience paradigm. Continued electrification policies drive thought leadership at the intersection of forecasting and physics for 'no regrets' grid modernization and power quality investments. Harnessing surplus renewable energy has led to innovations including hydrogen and renewable natural gas. Will bold visions of our European colleagues arrive in the US?

Global energy and sustainability leader with experience in electric and gas utilities, electric transmission and distribution, power markets, smart grid, and distributed energy resources. Lead solutions in renewable interconnection and integration, power purchase agreements, operating protocols, energy policy and grid reliability and resilience. Ability to solve complex issues and implement strategic initiatives, including wildfire mitigation and natural disaster protection plans. Experienced facilitator with expert, community, and public outreach initiatives to collaborate in innovative and harmonize priorities. Applying real-world experience as an industry thought leader.

Bio

Ms. Mantz is a director at Guide house's Global Energy Practice which is the largest energy management consulting team in the industry. Her team of experienced professionals serves leading energy companies to address their most complex business opportunities and challenges. Their team of professionals combine market insights and business strategy knowledge with exceptional energy operational experience to deliver technically and financially viable solutions.

She has a BS in Electrical Engineering from Lafayette College and an MBA from Drexel University Lebow College of Business

Please welcome Laura Mantz...

Laura Mantz

<https://www.linkedin.com/in/ljmanz/>



Topic: Sensor Technologies, Microgrids & Aurora

40+ years in industrial instrumentation controls, and automation

20+ years in cyber security of industrial control systems

Authored Protecting Industrial Control Systems from Electronic Threats ISBN: 978-1-60650-197-1

Authored Cyber Security Chapter Electric Power Substations Engineering

Authored Cyber Security Chapter Securing Water and WasteWater Systems

Co-Author Cyber Security Policy GuideBook

Patent: Steam Turbine Fuzzy Logic Turbine Controller

Patent: Field-Mounted Fiber Optic Sensors for Long-Term Strain Monitoring in Hostile Environments

Patent: Security System, Device, and Method for Operational Technology Networks

Testified to 5 Congressional Hearings

Authored more than 100 articles on instrumentation, controls, and control system cyber security

Provided more than 100 presentations on instrumentation, controls, and control system cyber security

ISA Fellow

IEEE Senior Member

Ponemon Fellow

US Expert to IEC TC65 WG10 - Industrial Process Measurement, Control and Automation

US Expert to IEC TC45A - Nuclear Plant Cyber Security

Managing Director ISA67 Nuclear Plant Standards

Managing Director ISA77 Fossil Plant Standards

Managing Director ISA99 Automation and Control Systems Security

Specialties: instrumentation, controls, and automation

cyber security of industrial control systems across all process industries

Please Welcome Joe Weiss...

Joe Weiss

<https://www.linkedin.com/in/joew1/>



Stephen Rush, Flowgen

Topic: Wind Turbines

FlowGen Development & Management AG, founded in Switzerland in March 2015, has developed an attractive clean energy solution which combines its proprietary small wind turbines with solar and storage in a smart micro-grid to generate electricity in a decentralized manner. This solution is highly scalable from kW to MW through pre-designed modules and covers the rapidly growing needs for clean electricity in emerging markets and in the developed world. We presently use third party suppliers for solar and storage.

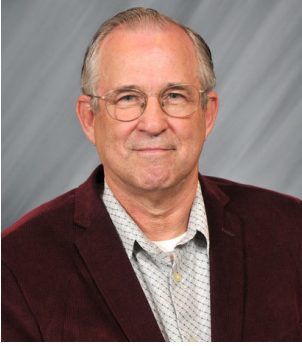
Bio

Steve is vice president of Flowgen Power Systems USA which specializes in design, development, and installation of wind Turbines. His team of experts has developed an attractive clean energy solution which combines its proprietary small wind turbines with solar and storage in a smart micro-grid to generate electricity in a decentralized manner.

Please welcome Steve Rush...

Stephen Rush

<https://www.linkedin.com/in/steve-rush-a65a30/>



Rick Rys

Topic: Future Growth of Microgrids

What are the factors that influence the growth of microgrids? How do utilities really feel about microgrids? What is the future for microgrids?

Hands on experience designing, building, and commissioning control systems, algorithms, graphical displays, simulation, and optimization for chemical, oil, gas, nuclear and renewables.

At ARC, I cover “grid automation” – i.e., Substations, T&D SCADA, microgrids, grid scale batteries, and operator training simulators.

Personally wanted to learn how to nearly eliminate my family carbon footprint– so I designed and built a solar net zero house to passive house standards, and this includes a utility-controlled EV charger

As a light commissioner in our small town of Princeton MA, we own and operate two 1.5 MW wind turbines and interact with other utilities and our grid operator ISO-NE.

Bio

Rick is a Senior Consultant at ARC. He has experience designing, building, and commissioning control systems, algorithms, graphical displays, simulation, and optimization for chemical, oil, gas, nuclear and renewables. He specializes in grid automation for substations, microgrids and grid scale batteries. He has a Bachelor of Science in Chemical Engineering from the University of Massachusetts.

Please Welcome Rick Rys...

Rick Rys

<https://www.linkedin.com/in/richardrysr2/>



David Van Holde

Topic: Combined Heat and Power – The Logical Application for Biofuels Energy Conversion

Combined Heat and Power (CHP) is the most efficient known method for useful application of thermal energy or fuels when heat-driven electricity generation is proximal to appropriate thermal loads, such as building or district heating. While hydropower, wind and solar energy provide may ultimately much or all our energy resource needs in the Pacific Northwest, many other regions are not so fortunate. Also, many applications of thermal energy – notably high temperature industrial ones - will not readily be converted to electricity. Biofuels (as well as nuclear and geothermal energy) provide relatively low carbon sources of thermal energy. While these sources may drive electric generation through several types of prime movers, the efficiency of that conversion is relatively low, due to Carnot’s laws. CHP offers an elegant mitigation to this problem: In its most common form, CHP uses waste heat rejected from the power generator prime mover usefully at a lower temperature. Practically, this means that the addition of CHP can increase the net energy efficiency of thermal electric power plant from less than 50% to greater than 75%. Mr. Van Holde will describe how CHP works, show examples of a diversity of bio-fueled CHP systems in the region and explain how the US Department of Energy’s is supporting unbiased information and analysis to expand CHP applications nationwide.

Bio - David Van Holde, P.E., CEM

David Van Holde is Director of the US Department of Energy’s Northwest Combined Heat and Power Technical Assistance Partnership and a Senior Energy Systems Engineer with the Washington State University Energy Program. David leverages broad and deep experience working for and with utilities, government, and consulting firms to implement demand and supply-side energy solutions and lead organizational change. His expertise includes practical applications of combined heat and power and other distributed energy systems; energy efficiency technologies and program implementation; strategic energy management, and government/utility energy policy – all developed through an energy industry career spanning more than 28 years. Before joining WSU, David served in technical leadership positions with EMI Consulting, King County Dept. of Natural Resources and Parks, Seattle City Light, and E Source. He also taught mechanical engineering at Oregon State University and Portland State University. David holds an M.S. in mechanical engineering from Oregon State University and a Bachelor of Mechanical Engineering from Pratt Institute in Brooklyn, N.Y. He is a registered engineer in Oregon and Washington and a Certified Energy Manager (CEM).

Please Welcome David Van Holde...

David Van Holde

<https://www.linkedin.com/in/davidvanholde/>

3:30 pm PDT Frank Rytkonen, PE, Microgrid Controllers, Eaton



Frank Rytkonen, P.E.

Microgrid Controllers: Specification Standards and Practices

Description:

Specification of microgrid controllers is a key part of developing microgrids. While there are a few standards, they have various shortfalls when it comes to developing construction specifications. This presentation addresses the current standards available, lessons learned from several years of designing and implementing microgrid control systems, and best practices moving forward for engineers attempting to specify microgrid controls.

Bio:

Frank Rytkonen is currently a lead microgrid/DER controls engineer with Eaton Corporation's Electrical Engineering Services and Systems Division. He has worked on design and integration projects in a wide variety of energy fields: nuclear (fission, fusion research), hydropower, geothermal, biogas (production, power plants), photovoltaics, batteries, hydrogen fuel cells, and wind. In past roles, he was an electronics technician/nuclear reactor operator/maintenance supervisor with the U.S. Navy, a control system integration engineer, a field service engineer, a facility instrumentation and controls engineer, a senior instrumentation and controls consulting engineer, and a senior hydropower electrical consulting engineer. Additionally, he has taught reactor operations in the Navy nuclear power program, as an electronics technology instructor at a tech school, as an adjunct engineering instructor at multiple universities, and an assistant professor and program director in electrical engineering and renewable energy engineering at the Oregon Institute of Technology. He has a B.S. in liberal studies with depth areas in physics and mathematics and a M.S. in electrical and computer engineering. He is a professional engineer registered in Oregon.

Please Welcome Frank Rytkonen...

Frank Rytkonen

<https://www.linkedin.com/in/frankrytkonen/>



Topic: How the establishment of a Moon Base, will lead to the next industrial revolution in energy

J. Vincent Mirolli will discuss the necessity of increasing our energy consumption in a space-based economy. He will make the case for innovative solar panel insulations on the surface of the Moon, and the need for advanced Fuel Cell Batteries to survive the Long Lunar Nights. He will lay out a rough timeline for the energy demand on the Moon, and how meeting those needs will rapidly help reduce Earth's carbon footprint, and ultimately lead to a future with practically limitless solar energy from space.

Bio

J. Vincent Mirolli is an ambitious yet empathetic disciple of Jesus Christ. He is a young space professional with a family background and undergraduate degree in Finance from The Terry School of Business at the University of Georgia. After working in the financial sales sector for a few years he dedicated himself fully to his boyhood passion of becoming *Intrinsically involved in the industrialization of space*. He is now pursuing a Master of Science in Space Resource Utilization from the Colorado School of Mines. And is launching a Longform Space Podcast where he interviews top Executives and academics of the space age in-person for 2~3 hours + The Show Launches on April 15th, Follow along on LinkedIn for updates.

Please Welcome J. Vincent Mirolli...

J. Vincent Mirolli...

<https://www.linkedin.com/in/j-vincent-mirolli-b78393a9/>



Dennis Garrett, CEO Blue Lake Energy

Bio

Dennis Garrett is an accomplished operating executive with a demonstrated ability to deliver mission-critical results. He has successfully managed operational support services and project activities in high-risk environments for the builders and operators of power, renewable energy, clean energy, communications, heavy civil, and oil & gas infrastructure projects. A Columbia University textbook: Operations Management by Professor Martin K. Starr profiled Mr. Garrett.

He has successfully managed more than 150 million dollars of energy infrastructure projects. The projects were for clients including ConEdison, The New York Power Authority, Delmarva Power, Baltimore Gas & Electric, Philadelphia Gas Works, The Port Authority of New York and New Jersey, EQT, Dresser-Rand Co-Generation, Eco-Battery, Gilston Electric, and NERemsco Transformers.

In the U.S. Army Corps of Engineers, Dennis served as a commissioned officer and platoon leader of a combat engineer company. Later, he held management positions in such companies as Computer Science Corporation, Amtrak, Cintas Corporation, and Federal Express.

He is currently a member of The Eastern Minority Supplier Development Council Board of Directors and the EMSDC Energy Industry Group, The Houston Minority Supplier Development Council MBEI Committee, The American Association of Blacks in Energy, Clean Energy for America, the Clean Energy Business Network, the International Solar Society, The Microgrid Group, and the Equity in a Clean Energy Economy Collaborative. Mr. Garrett is also a graduate of the inaugural class of the Exelon Foundation Program for Minority Entrepreneurs in the Clean Energy Industry.

Dennis Garrett

<https://www.linkedin.com/in/djgarrett/>



Mike Brisbois, IEEE Host and Moderator

Mr. Brisbois is an Electrical Engineer with design experience, project management and leadership skills. He has worked in the building, space, and technology sectors. He has hosted and presented at many technical sessions and conferences. He is a technical competent leader and able to get things done. Mr. Brisbois has his Professional Engineering license in the State of Washington, Texas, Illinois, California, Oregon, Hawaii, Alaska, and Missouri. His focus is on leading sustainable energy projects. He is a board member on several technical organizations.

Mike Brisbois

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for attending today's session

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