Welcome to the

IEEE Seattle Tech Conference 2022

Seattle Washington

Friday June 17, 2022, 8 am

Hilton Garden Inn Redmond Town Center

Register at: https://events.vtools.ieee.org/m/306666

Mike Brisbois, Host | Sanjay Samuel, Co-Host, and Moderator

Schedule – Speaker Line UP

8:00 AM PDT IEEE Seattle Tech Conference 6/17/2022

07:30 AM IEEE Network Breakfast and Registration Check in

07:45 AM IEEE Announcements, Sponsors, Showcase, Speakers

08:00 AM Welcome to Seattle – City of Redmond Mayor Angela Birney

08:10 AM Keynote Speaker HPC Cloud Big Data- Yong Liu

08:35 AM Sustainable Housing – Tadashi Shiga

09:00 AM Nuclear Microgrids – Lindsey Boles

09:25 AM Organizing the IP Process – Jadran (Adrian) Mihailovic

09:50 AM Blockchain – Daniel Robles

10:15 AM Process and Controls – Alicia Gilpin

10:40 AM Smart Buildings – Dennis Heidner

11:05 AM Microgrid Sustainability - Larry Rozcicha

11:30 AM Medical Device Catheter Development - Kendall Waters

11:55 AM Lunch Networking - IEEE Prize Give Away Olympian Sean O'Neill OLY

12:10 PM Keynote Artificial Super Intelligence Financial Markets - Jeff Glickman

12:35 PM Solar Powered Planes – David Zornes

1:00 PM Fusion Energy Power Plants - Dan Jackson

1:25 PM Satellite Payload Technologies Washington State – Stan Shull

1:50 PM Machine Learning - James McNeill

2:15 PM Light Detection and Ranging (LiDAR) - John Black

2:40 PM Hydrogen Locomotives – Sanjay Samuel

3:05 PM Space Technologies Sustainability- Syris Valentine

3:30 PM EV Charging Stations – Andrea Tousignant

3:55 PM Autonomous Sustainable Microvehicles - Tyler Folsom

4:20 PM Green Energy Alternatives Retirement - Tom Doncaster

5:50 PM Tribute to the Speakers, Sponsors and special guest

6:00 PM Networking Event - Roof Top Social - Drink coupon in your registration pack - Live Performance from Seth Pavlik

All times are exact. Please feel free to come and go as you please.
Register at: SeattleElectricalConference.com

Bit Coin financing	Space Technologies	Smart Sensors
AV Technology	Moon Based Housing	Cybersecurity
Inductive Highway	Nano Technologies	Hydrogen Cars

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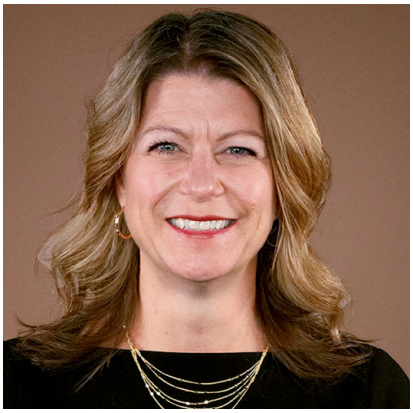
We welcome all our IEEE Consultants:

View all our Showcase page: https://www.seattleelectricalconference.com/showcase

- ✓ Brian Galonek
- ✓ Wendi Walsh
- ✓ Blaine Millet
- ✓ Sayonsom Chanda
- ✓ Kirill Gritsenko
- ✓ Sean Zhou
- ✓ Bob Ke
- ✓ Wally Adamchik
- ✓ Shirly Shemesh
- ✓ Phillip Serna
- ✓ Dan Velando
- ✓ Krishnamurthy Raghunandan
- ✓ Mark Mcgee-Pasceri
- ✓ Marley Smith
- ✓ Pamela Hamblin
- ✓ John Black
- ✓ Bruce Yee
- ✓ Tom Coughlin
- ✓ Tam Tran, PE
- ✓ Dennis Garrett
- ✓ Joe Weiss
- ✓ Jerry Huber
- ✓ Bob Williams
- ✓ Laith Qasir
- ✓ Mike Brisbois
- ✓ Souvik Chandra
- ✓ David Brighton
- ✓ Alex Gamble

08:00 AM Welcome to Seattle – City of Redmond Mayor Angela Birney



City of Redmond Mayor Angela Birney

Angela Birney was elected as Mayor of the City of Redmond in 2019. She is the executive leader who develops the vision and implements the strategies and policies for Redmond, overseeing eight departments and over 700 employees. Mayor Birney serves on multiple regional boards and committees, including serving as President of the Sound Cities Association Board. Birney was elected to City Council in 2015 and served as Council President from 2018 to 2019. Prior to her Council service, she was the chair of the Redmond Parks and Trails Commission and volunteered her time at several different organizations throughout the Redmond community. Mayor Birney is a 2017 Leadership Eastside graduate. She is a Washington native and grew up in Eastern Washington. She moved to Redmond in 1998. Formerly a middle school science teacher, she earned a Master of Education from Heritage University and a Bachelor of Arts in Biology Education from Eastern Washington University.

https://www.linkedin.com/in/angela-birney-b8bb45192/

08:10 AM Keynote Speaker HPC Cloud Big Data- Dr. Yong Liu

Keynote for IEEE Seattle Technology Conference 2022:

Title: **Practical Machine Learning Solutions for Enterprise Digital Transformation**

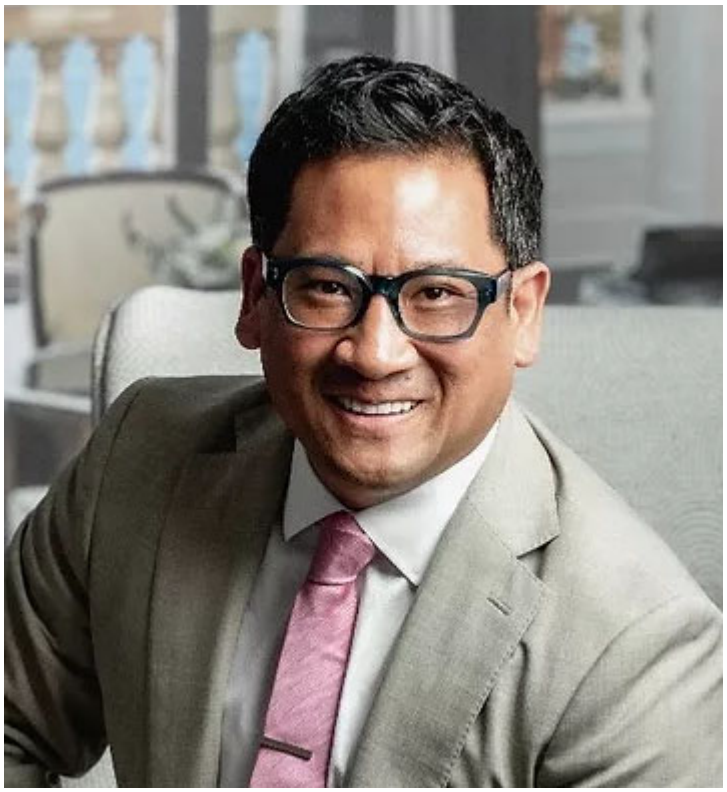
Enterprise digital transformation starts with digitalized data, but real benefits come from actionable insights and predictive understanding of business and operation scenarios. The past decade saw machine learning (ML) and data science (DS) starts to make increasing impact in almost all domains of business and industry. This talk will give an overview of the recent developments in ML/DS technology including deep learning (DL) and share some practical application case studies where ML/DS/DL have been successfully applied including predictive maintenance for industrial equipment, natural language understanding for sales email messages, and entity resolution for large scale sales engagement knowledge graph.

BIO:

Dr. Yong Liu has been working in Big Data Science, Machine learning and Optimization since his doctoral student years at the University of Illinois at Urbana-Champaign (UIUC) and later as a Senior Research Scientist and Principal Investigator at the National Center for Supercomputing Applications (NCSA), where he led data science R&D projects funded by National Science Foundation and Microsoft Research. He then joined Microsoft and AI/ML startups in the industry. He has shipped ML and DL models to production and has been a speaker at the Spark/Data+AI summit and NLP Summit in the past few years. He has recently published peer-reviewed papers on deep learning, linked data and knowledge-infused learning at various ACM/IEEE conferences and Journals. He has delivered practical data science and machine learning solutions in areas such as digital urban informatics, industrial Internet of Things (IIoT), intelligent digital assistant for workplace, entity resolution and natural language understanding for sales engagement knowledge graph.

https://www.linkedin.com/in/yongliu/

08:35 AM Sustainable Housing – Tadashi Shiga



Topic: Sustainable Housing

Tadashi Shiga

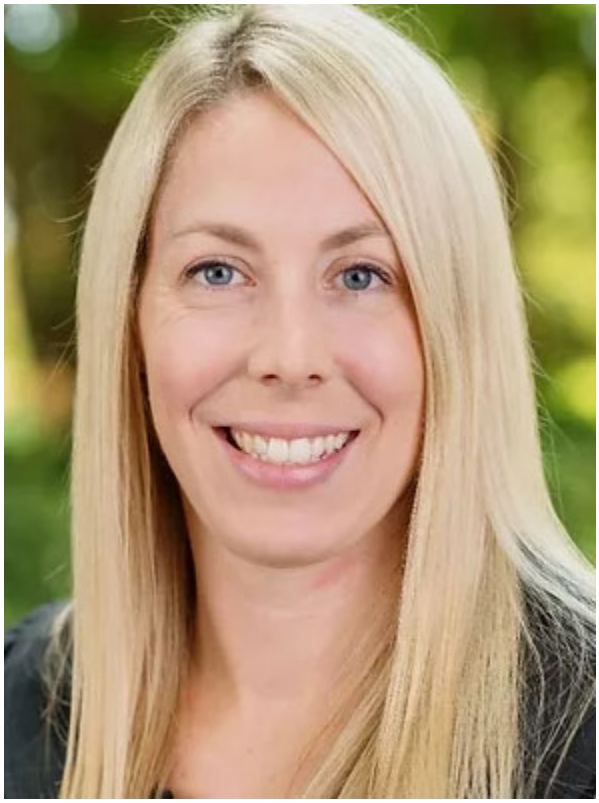
Leader in sustainable building in the Pacific Northwest

Bio

Tadashi Shiga has served as a trusted advisor to developers, third-party brokers, architects, contractors, and other industry experts for over three decades. He is the owner and operator of Evergreen Certified—a leading developer consultancy and certifying agency for sustainable construction practices—and Ekovate, which specializes in cost-effective carbon reducing technologies for developers and builders. Shiga also serves as Executive Director to Realogics Sotheby's International Realty's Land Division, where he leads a team of brokers aimed at expanding the firm's new development portfolio and introducing boutique project lines that promote affordability and sustainability. Evergreen Certified is consistently recognized for its accomplishments and was awarded the Master Builders Association Green Hammer in 2020 & 2013 for "Private Advocate" and the "Pioneer Award" in 2018. In 2019, Shiga was inducted into the University of Washington Bothell "Hall of Alumni Excellence" and was appointed to the institution's Interdisciplinary Arts & Sciences Advisory Board. A skilled land acquisition and development consultant, Shiga navigates the market with a methodical outlook to determine long-term trajectories, leverages a Building Science background to analyze potential projects, and utilizes a strong network of connections to well-established development contacts. Tadashi Shiga is a third generation Seattleite with a family legacy in development, commercial real estate, and fostering community.

https://www.linkedin.com/in/tadashishiga/

09:00 AM Nuclear Microgrids – Lindsey Boles



Topic: Nuclear

Zeno Power is developing next-generation radioisotope power systems (RPS) – compact nuclear batteries that provide a steady supply of clean energy for years at a time. With ambitions to be the first advanced nuclear technology to market, Zeno will enable previously unimaginable capabilities in power-hungry environments – such as in space and undersea. Based in Washington, D.C. and Seattle, WA, Zeno has attracted significant private funding, received numerous government contracts, and is currently developing their first-of-a-kind nuclear prototype.

Lindsey Boles

Vice President of Engineering at Zeno Power

Bio

Lindsey Boles is the Vice President of Engineering at Zeno Power. In this role, she is responsible for growth and development of the Engineering Organization as well as overseeing all engineering work for Zeno's next generation radioisotope power systems and future technologies. Lindsey has 11 years of experience in the Nuclear Industry, with the last 6 years working on advanced nuclear technologies. Before coming to Zeno Power, Lindsey spent 6 years at TerraPower where she last held the role of Director of Engineering and was responsible for management, development, and engineering work execution for all Engineering Disciplines. Prior to TerraPower, Lindsey was a qualified Nuclear Shift Test Engineer at the Puget Sound Naval Shipyard where she worked on US Navy Aircraft Carrier reactor plants. Lindsey holds a Bachelor of Science in Chemical Engineering from the University of Washington.

https://www.linkedin.com/in/lindsey-boles-pmp-048b5035/

09:25 AM Organizing the IP Process – Jadran (Adrian) Mihailovic

Topic: Organizing the IP Process

Jadran (Adrian) Mihailovic

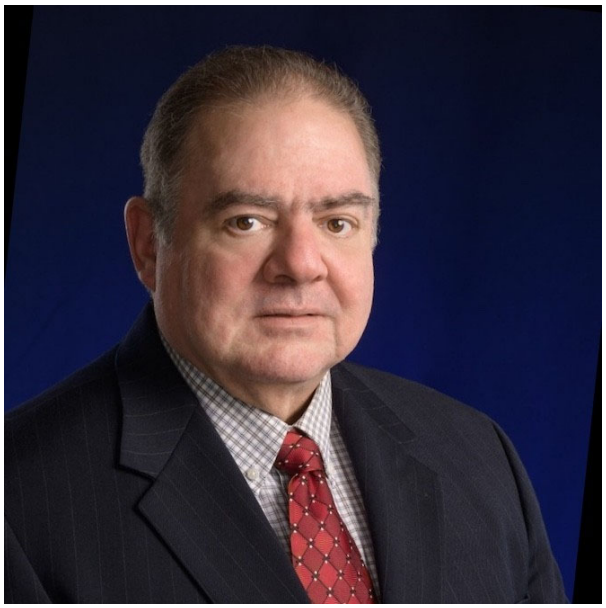
Partner at Christensen O'Connor Johnson Kindness

Bio

Patent attorney with a background in mechanical and electrical engineering. Legal practice focused on patent drafting and prosecution (USPTO and foreign), infringement analysis, freedom to operate studies and patent valuation. Engineering and management experience in semiconductor industry. Specialties: Patents. Semiconductor test, burn-in, integrated circuit assembly and packaging.

https://www.linkedin.com/in/jadran-adrian-mihailovic-4643/

09:50 AM Blockchain – Daniel Robles



Topic**: Block Chain**

Dan Robles has 35 years of practical engineering experience across the aerospace, building construction, and technology industries. He holds a Bachelor of Science in Mechanical Engineering and a Masters degree in international business administration. Dan serves as an Expert Witness at the intersection of engineering, business, and standard of care. His technical specialties include plumbing systems, building envelope, mechanical failures, defects, investigations, and report writing. Dan is a registered engineer in California and Washington.

Daniel Robles

Mr. Robles began his career working as a mechanical fabricator and designer while attending engineering school. After graduating, he was hired by the Northrop Corporation developing composite structures for military aircraft. He then joined Hughes Aircraft Space and Communication Systems, where he designed precision mechanisms for satellite ejection from an orbiting vehicle. Next, he was employed at Rockwell International where he served as a Test Engineer for the US Space Shuttle modernization program. He also worked at The Boeing Company as a commissioning agent and service manager leading investigations and resolving mechanical problems with new and in-service aircraft for international clients.

By adapting Aerospace methods to the building construction industry, Dan founded CoEngineers, PLLC with the goal of helping HOAs, Condominium Communities, and other building owners to diagnose problems and navigate the world of contractors. CoEngineers, PLLC specializes in feasibility studies, condition assessments, investigations and renovations strategies for plumbing and building envelope systems largely resulting from the effects of corrosion, age, moisture, and high cost of failures.

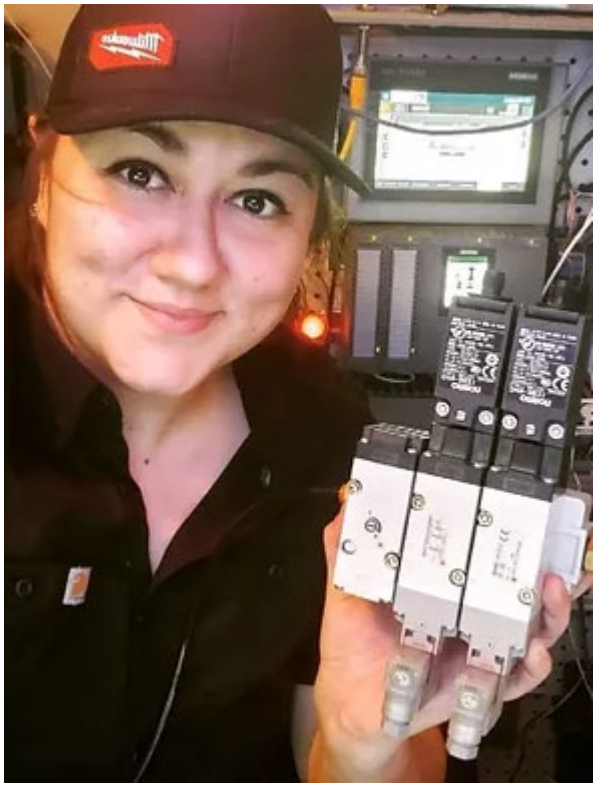
In business, Dan has founded several companies and understands the constraints of delivering products in an imperfect market. In technology Dan is a leader in the application of blockchain and related technologies to the engineering and STEM professions. In education, Dan led a large international comparative education program related to the NAFTA mutual recognition of engineers. Dan has served as an adjunct professor at City University of Seattle and CETyS University in Baja California. Mr. Robles served seven years on the City of Edmonds, WA Planning Board as voting member and one year as President.

Bio

Dan Robles, PE, MBA is the owner of CoEngineers, PLLC, and Director of the Ingenesist Project. Coengineers is a consultancy that serves domestic and international clients related to mechanical engineering systems, feasibility analysis, and expert witness services. The Ingenesist Project is a research platform specializing in applications of blockchain technology specific to the engineering profession. Dan has 35 years' experience in industry on projects such as the US Space Shuttle, military and commercial aircraft and satellites. Dan has crossed over into the construction industry specializing in failures in plumbing, hydraulic, and mechanical systems. He has founded several companies and is currently aggregating resources to build The Innovation bank. He resides in Edmonds, WA.

https://www.linkedin.com/in/ingenesist/

10:15 AM Process and Controls – Alicia Gilpin



Topic: Controllers

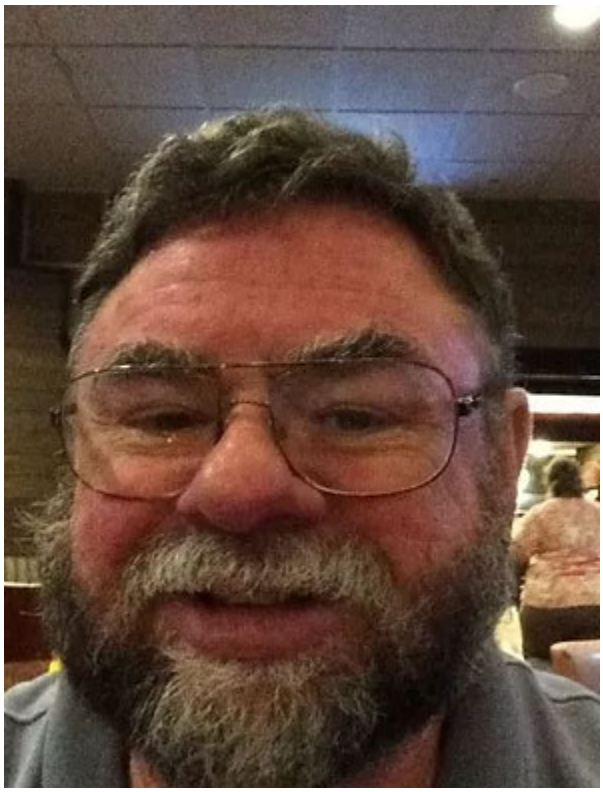
Alicia Gilpin
Founder & Owner
Process & Controls Engineering LLC

Bio

Chief Systems Integrator at Process & Controls Engineering LLC and Co Host at Automation Ladies

https://www.linkedin.com/in/alicia-gilpin-ali-g-8675b322/

10:40 AM Smart Buildings – Dennis Heidner



Topic: Smart Cities

Dennis Heidner

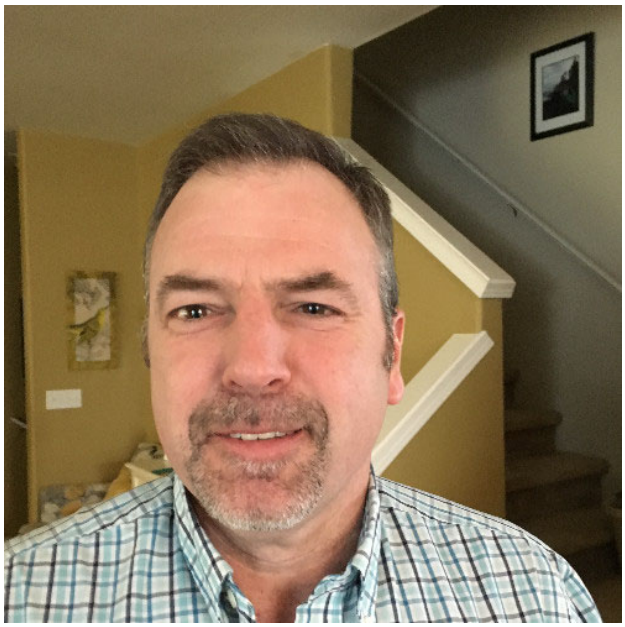
Engineer / Principal
Rextorgroup

Bio

We focus on research for low energy buildings, how to flatten loads across the day, weeks, months, and years. How to make the buildings smarter, more efficient, healthier. Techniques and research into how the buildings work and work more intelligently in the energy grids of the future. We futurist - looking not only what has been done in the past, how it is being done now, but how and at what speeds we can make practical transition into the future. Understanding our future potentials demands that we understand a broad range of technologies, and we must understand our ability to sense the environment around us, predict and model that environment, then finally project forward into the future how these new developing technologies might change the grid. We also work to promote hands on science and engineering studies in middle and high schools. Years ago, I had the great experience of competing in the Society for Science and the Public (SSP) 1971 International Science and Engineering Fair (ISEF - later it became Intel ISEF) in Kansas City. We (Rextorgoup) spend time and effort to help promote the generations of students behind us in their development as the future scientists and engineers. We shape the future by learning from the past, observing the present and moving forward.

https://www.linkedin.com/in/dennis-heidner-19b5b0106/

11:05 AM Microgrid Sustainability - Larry Rozcicha



Topic: Microgrid Sustainability

Larry Rozcicha

Bio

Larry Rozcicha is a Business Development Manager for Eaton Corporation's Electrical Services and Systems Division. He has over 30 years of experience in the electrical distribution industry. He began his career in field service with Schneider Electric and ABB. He has grown in experience to lead organizational teams in operations, sales, and technical applications for Eaton. Presently, he is eagerly pursuing the global energy transition and assisting industry segments to understand and apply sustainability and resiliency metrics towards meeting ESG goals. He has been a member of IEEE since 2001.

https://www.linkedin.com/in/larry-rozcicha-86501a31/

11:30 AM Medical Device Catheter Development - Kendall Waters

Kendall Waters

Title: **Medical Ultrasound – Guiding treatment of the heart**

Abstract: The prevalence of structural heart and heart rhythm problems (think leaky heart valve or fluttery heartbeat) is expected to increase in the coming decades as our population ages. Some of the most challenging procedures to treat patients with these heart disorders include implantation of replacement valves and blocking of chaotic heartbeats. The use of imaging to guide treatment of these patients is critical for safety and effectiveness of these challenging procedures. In this talk I will provide an overview of heart structure and rhythm disorders and the role of ultrasound imaging to guide treatment of these disorders. I will describe the ultrasound image guidance technologies that are used today. I will also share my thoughts on advances in ultrasound imaging devices and robotics that are expected to facilitate expanded use of medical devices to treat structure and rhythm disorders of the heart.

Bio

Kendall R. Waters is Director of Catheter Engineering at Siemens Healthineers Ultrasound. He has been part of the medical device industry for over 15 years with much of his career focused on advanced technology development for medical ultrasound imaging devices and applications. He has been an R&D contributor to over 10 medical products cleared by the FDA. Kendall is an active member of the IEEE having held elected positions for both the Ultrasonics, Ferroelectrics, and Frequency Control Society and Consultants' Network of Silicon Valley. He holds a PhD and MA in Physics from Washington University in St. Louis and a BS in Physics and BA in Mathematics from the University of Texas at Austin.

LinkedIn Profile: https://www.linkedin.com/in/kendallwaters/

11:55 AM Lunch Networking - IEEE Prize Give Away Olympian Sean O'Neill OLY

Lunch Break – IEEE Prize Give away

Sean O'Neill, OLY

An Olympic athlete with over 40 years of experience at the international level in the sport of table tennis. Served as a spokesperson and representative for numerous sponsors and corporations affiliated with the Olympic movement. Provided color commentary and stats for NBC Universal in Seoul, Athens, Beijing, London, Rio, and Tokyo Olympics. Head Coach of US Paralympic Table Tennis Team for Athens, Beijing, and London. Former Director of Communications for USA Table Tennis. Currently serving as the President of the US Table Tennis Hall of Fame and supports local Olympians and Paralympians as a Board of Director member for Oregon Sports Action.

Part-time table tennis coach and web & social media consultant serving Paddle Palace Table Tennis and several small businesses ranging from non-profits, hotels, medical equipment, and high-profile athletes.

We thank our sponsors:

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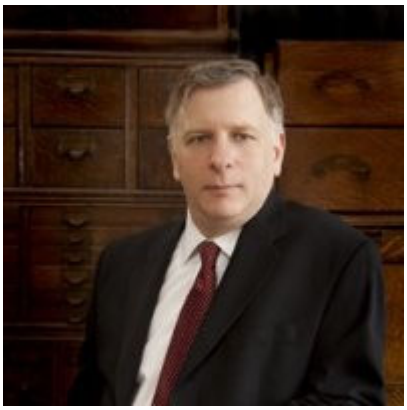
- Absco Solutions

12:10 PM Keynote Artificial Super Intelligence Financial Markets – Jeff Glickman
Keynote



Jeffrey Glickman

Topic: **Artificial Super Intelligence Financial Markets**

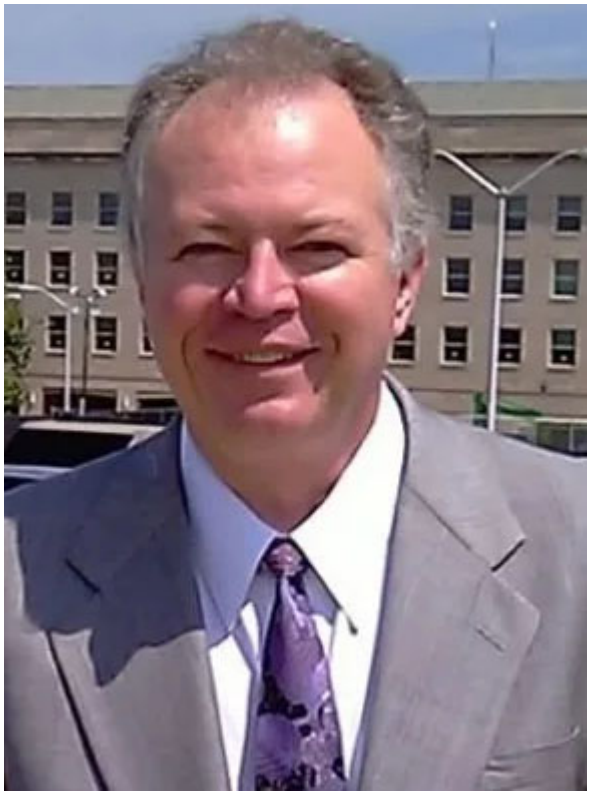
Holds foundational patents for Machine Learning; Developed world's first Artificial Superintelligence which understands how and why the financial markets operate and function.

Mr. Jeff Glickman is a computer scientist trained at the University of Illinois at Urbana-Champaign and is trained in both software and hardware engineering. While there he participated in, and directed, projects in artificial and machine intelligence, pattern recognition, image processing, and stochastic computation. Mr. Glickman studied under Dr. Wolfgang Johannes. Poppelbaum who performed his post doctorate studies under Dr. John Bardeen, the two-time Nobel Prize winner in Physics. While at the University of Illinois, Mr. Glickman was a Teaching Assistant, Research Assistant, Research Associate, Assistant Director of the Information Engineering Laboratory, and Assistant Director of the Computer Research Laboratory. Since 1982 Mr. Glickman has managed and delivered advanced technology and services, for The Department of Defense, Ford Motor Company, General Motors, NASA, InFocus Corporation, The TC and others.

He holds patents in multiple disciplines including computer architecture, communications, and image processing and pattern recognition. Mr. Glickman has provided expert image and video analysis to corporations, law firms, police departments and local and federal government. Mr. Glickman is a Board-Certified Forensic Examiner, a Fellow of the American College of Forensic Examiners, a Senior Member of the IEEE, and a Member of the ACM. He is Chair Emeritus of IEEE Seattle and Past-President of the American Society for Photogrammetry and Remote Sensing, Puget Sound Region, and Member Emeritus of the Washington State Forensic Investigations Council. Mr. Glickman is the past Chairman of the City of Hood River, Oregon, Planning Commission and Past Deputy Mayor of Woodinville, Washington, a suburb of Seattle, where he resides with his wife, daughter, and son.

https://www.linkedin.com/in/jglickman/

12:35 PM Solar Powered Planes – David Zornes



Topic: Solar Powered Planes

David Zornes

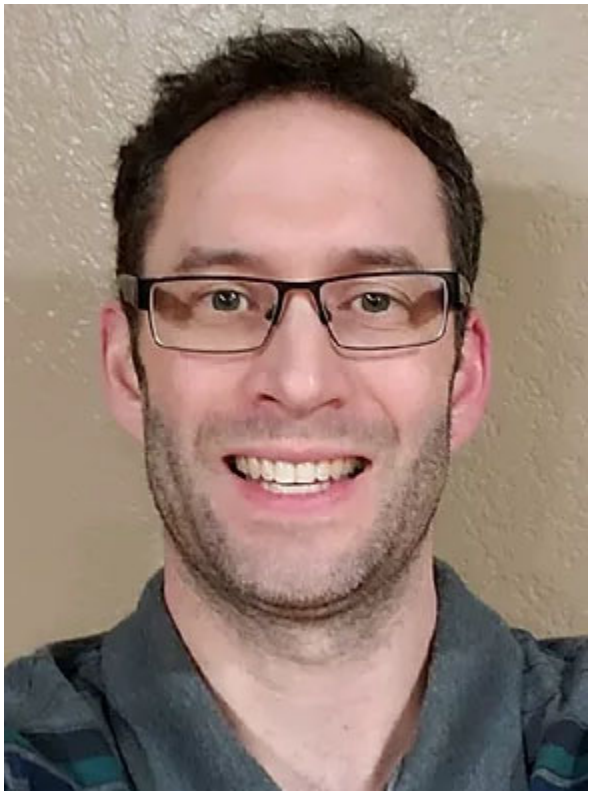
Founder, Inventor of Solar Fuel Free Flight

Bio

A Toroidal Paraboloid Reflector Provides Fuel Free Non-Aerodynamic Aircraft That Morphs into Aerodynamic Shape for High-Speed Flight, Aircraft are Watercraft Too. An Aerodynamic Solar Fuel Free Tube Fuselage Is an Air Screw with Hot Air Balloon Lift.

https://www.linkedin.com/in/davidzornes/

1:00 PM Fusion Energy Power Plants - Dan Jackson



Topic: Electromagnetic fusion energy power plant

Talk Summary

A brief overview of Zap Energy Inc will be presented followed by motivation for and mainstream approaches to achieve a fusion energy power plant. Next, the Z-Pinch formation details and Sheared-Flow Stabilized concept will be illustrated, followed by progress toward scientific breakeven (i.e., Q =1). Finally, the presentation will conclude with a FuZE-Q (breakeven) power supply conceptual overview, and a brief explanation of the magnetic probe array used to obtain the Z-Pinch current.

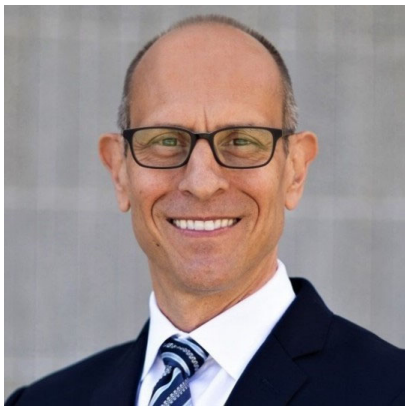
Dan Jackson
Lead High Voltage Engineer
Zap Energy

Bio

Lead High Voltage Engineer. Dan received his master's in electrical engineering at the University of New Mexico in 2005 completing his thesis work at Sandia National Laboratories (SNL) in the Pulsed Power / Z-Pinch group. He first worked as an intern in the early days of ZaP helping to increase main capacitor bank performance. After receiving his Masters, he worked at Boeing Phantom Works supporting composite aircraft lightning testing and developed a digital failure detection imaging technique as well as teaching night courses of Introductory Circuits at SPU. He then returned to SNL where he worked as an electrical engineer on stockpile development, was selected for the prestigious Weapon Intern Program, and finished as a systems engineer supporting sustainment programs. Dan returned to the Pacific Northwest working as a systems engineer for Astronics Advanced Electronic Systems developing products such as a wireless charging module for wirelessly charging passenger Personal Electronic Devices. Finally, Dan is presently the R&D Lead High Voltage Engineer where he directs the design and build of the specialized high voltage power supply that will serve as the main power input for the FuZE-Q device.

https://www.linkedin.com/in/dan-j-7b956717a/

1:25 PM Satellite Payload Technologies Washington State - Stan Shull



The New Space Race: Technology Enablers & Business Drivers (Seattle Edition) The modern, global space economy is complex and dynamic. It is often underappreciated despite its critical importance for many industries and its profound impact on daily life here on Earth. Key technological advances and significant business model innovation are disrupting the space industry like never, which is leading to both new challenges and new opportunities. The burgeoning space ecosystem in the greater Seattle area highlights how key technology, business, and policy trends are coming together to shape humanity's future in space.

Stan Shull

Bio

Stan Shull is Managing Director at Alliance Velocity where he advises space and software companies on growth and partnership strategies. Stan has worked on satellite programs, classified military space initiatives, and NASA's Space Station program. At The Boeing Company, he directed corporate strategic planning and led an initiative to develop an aerospace data analytics business through joint ventures and acquisitions. As the executive in charge of partnerships at four software companies, he negotiated dozens of strategic partnerships and helped drive successful exits by acquisition and IPO. Stan was an early proponent of space commercialization, and he actively promotes the space ecosystem in Washington State. He holds a BS in aerospace engineering from MIT and an MBA from Harvard Business School.

https://www.linkedin.com/in/stanshull/

1:50 PM Machine Learning - James McNeill

James McNeill

Topic: Machine Learning

Changes on the electrical grid, such as the electrification of loads, adoption of electric vehicles, increased supply of renewable energy generation, and increased frequency of extreme weather events are driving the need for new approaches to the interaction between buildings and the grid. Currently building grid-interaction is limited due to a lack of technology for building-to-grid communication, the complexity of building control, and need for improved forecasting tools. To achieve this integration, building operation must be able to receive signals from the grid, anticipate future loads, and determine appropriate strategies for altering the building electrical demand curve through shedding, shifting, or modulating loads. This requires robust methods for forecasting building loads, and models to determine optimal operational control strategies. The use of machine learning (ML) has become increasingly popular for various applications in buildings, such as classification of components, forecasting of loads, quantifying the impact of energy efficiency and demand flexibility measures, and optimization of control setpoints. This talk will provide an overview of concepts in building-to-grid integration, identify key technical challenges, discuss commonly used ML methods, and highlight needs for deploying ML systems at scale over thousands of buildings. Ongoing work by Edo at the Eco District in Spokane, WA will be used to demonstrate the development of ML techniques for forecasting and optimizing building operation in response to electrical grid needs.

Bio:
James McNeill is a Senior Machine Learning Engineer at Edo. His current work focuses on developing physics-based simulation and machine learning strategies for optimizing buildings for energy efficiency and demand flexibility. Before joining Edo in 2022, he was a Research Engineer at Pacific Northwest National Laboratory. James holds a PhD in Architectural Engineering from the University of Colorado Boulder, and a BS in Mechanical Engineering from the University of Vermont. He is a registered Professional Engineer in the State of Washington and an ASHRAE Certified Building Energy Modeling Professional (BEMP). He is a member of ASHRAE, IBPSA and ASME.

https://www.linkedin.com/in/james-mcneill-52993018/

2:15 PM Light Detection and Ranging (LiDAR) - John Black

John Black, Glannaventa

Topic: LiDAR techniques in medical diagnostics and therapeutics

Abstract: Light Detection and Ranging (LiDAR) has become ubiquitous in modern-day autonomous vehicle technology and in robotic platooning and collision-avoidance strategies. Optical Time-Domain Reflectometry, where a short pulse of light is sent out and the arrival time of the returning photons yields a distance to target, is a common embodiment of LiDAR, but has limited range and is prone to interference. Another embodiment is Optical Frequency Domain Ranging, where a frequency-modulated continuous wave (FMCW) optical source is split into signal and reference paths, and where the light returning from the target is recombined with the reference local oscillator in an interferometric heterodyne detection scheme. OFDR has several advantages over OTDR, including allowing the use of coherent detection, which extends the dynamic range of the system by several orders of magnitude, and much higher immunity to background light and other interference. Real-time imaging ranges of > 40 km in (clean) air with resolutions around 50 meters, and > 40 meters in ocean seawater with a resolution of ~5cm are quite possible, with minimal dead volume and with access to Doppler information from the motion of the target. In this talk we will discuss the biophotonics embodiment of FMCW LiDAR, Swept-Source Optical Coherence Tomography, and how biological tissues with attenuation coefficients as high as 10 – 20 dB/mm round-trip can be imaged with near-cellular-level 5-micron resolution over a few mm of depth using contemporary fiber optics technology to provide surgical tools with real-time diagnostic and therapeutic image guidance. John Black. Founder and CEO, Glannaventa, Inc. jblack@glannaventa.com

Bio

About the speaker: John Black has over 25 years of experience in the medical, scientific / research and industrial segments of the lasers and photonics industry. He founded Glannaventa to develop an outpatient endoscopic imaging technique to screen for the most lethal histotype of serous ovarian cancer, and consults with companies in laser design and development, optical coherence tomography (OCT), medical device design and development, image-guided surgery, and optical remote sensing. He led the optical engineering team at Foxhollow Technologies (now Medtronic) in the successful development of the Nighthawk™ image-guided plaque excision catheter, the first real-time OCT-guided intravascular surgical procedure performed in humans, and possibly the first OCT-guided human surgical procedure of any kind. Prior to Foxhollow he worked at Lightwave Electronics (now Lumentum), initially on advanced fiber lasers for RGB projection systems in consumer electronics, and subsequently on the design of the Xcyte compact ultraviolet mode-locked laser for flow cytometry. John has a B.Sc. in Chemistry and a PhD in Physical Chemistry from the University of Nottingham. He received a SERC/NATO Research Fellowship to do post-doctoral research in photochemistry at Stanford University and was a post-doctoral research fellow at Columbia University developing new lasers for molecular spectroscopy and reaction dynamics. John has 30 publications and 15 issued US patents in the fields of molecular reaction dynamics, laser design and development, photochemistry, biophotonics, optical diagnostics and medical devices. He is an IEEE Senior Member, past chair of the Santa Clara Valley Engineering in Medicine and Biology Society, guest lecturer at the University of Arizona Biomedical Engineering department, and a member of OSA, APS, SPIE and Sigma Xi.

https://www.linkedin.com/in/john-black-87a7691/

2:40 PM Hydrogen Locomotives – Sanjay Samuel

Sanjay Samuel
Sound Transit
Corridor Design Manager- Systems

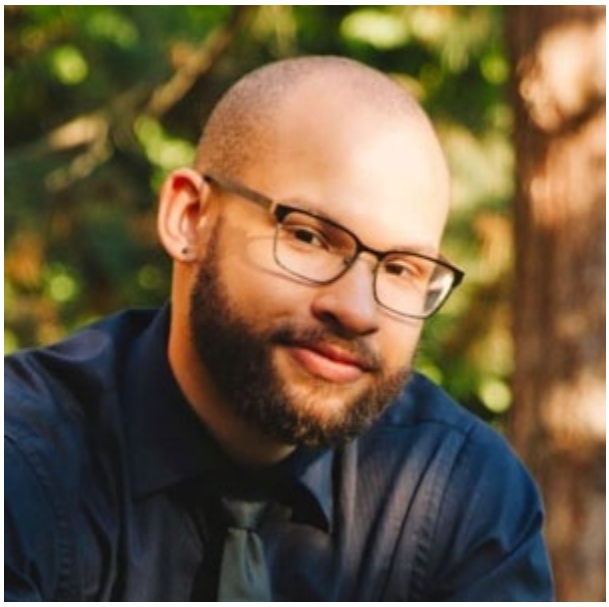
Co-host and Moderator

Bio

A decisive technical leader with more than 27 years of experience in leading and developing high-performing engineering teams. Domain expertise in Systems Engineering, AI/IoT/ Digital Twin, Bus Rapid Transit Systems, Implementation of Asset Management systems for Rail Roads, RF Communication, and fiber network engineering for the railroad. I am experienced in managing cross-functional teams in designing and implementing infrastructure development projects. My background and expertise in lean six sigma, kaizen, 5S, and agile methodologies allow for sustainable and positive results. Exceptional team leader with a clear understanding of defining clear, direct, and decisive lines of communications between engineering teams to achieve goals. Builds and directs responsible and responsive teams with a climate of openness, honesty, real-time feedback, and clear direction.

https://www.linkedin.com/in/sanjaysamuel/

3:05 PM Space Technologies Sustainability- Syris Valentine



Syris Valentine

Space Technologies Climate Action

Most of the news coming out of the space technology industry these days seems to focus on what Blue Origin and SpaceX are doing to send humanity out into space. With all the problems we're facing here on Earth today, it's natural to look at that news and wonder, "what's even the point?" What's the point of investing billions of dollars in space technology if it doesn't benefit us today? The point is that it does benefit us today, in more ways than most people can imagine. Space technology has a lot to offer when it comes to facing the biggest problem humanity has ever encountered: climate change. From forecasting extreme weather and monitoring emissions to responding to natural disasters and combating deforestation, Syris will explore some of the ways space technology can help humanity fight climate change and the practices space technology companies can employ to accelerate climate action.

Bio
Interested in the intersection of technology and social justice? Syris Valentine is your guy. Between working for space tech startups and serving in community organizations for social justice, Syris has gained a wealth of insights into the ways technology can be used to help or hinder movements for social justice. In particular, he has focused his attention on climate justice. While at BlackSky, Syris investigated the ways they could use their constellation of Earth-imaging satellites to combat illegal deforestation, monitor oil spills, and respond to natural disasters. Syris also currently serves on Seattle's Green New Deal Oversight Board where he helps to guide the City's climate action priorities. He brings all that experience to this IEEE conference where he'll be speaking on the use of space technology to advance climate action.

https://www.linkedin.com/in/syris-valentine/

3:30 PM EV Charging Station - Andrea Tousignant

Andrea Tousignant

Topic: EV Charging Stations

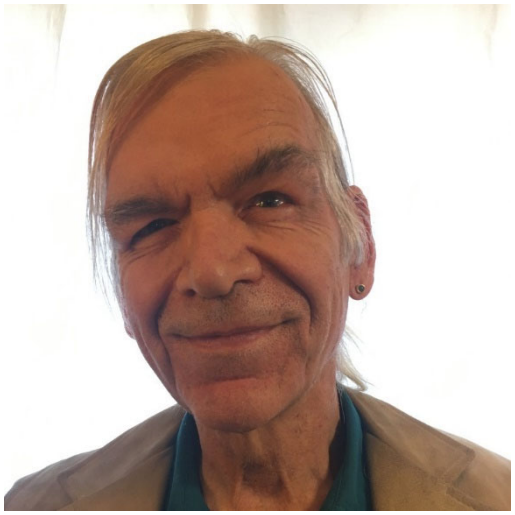
Andrea is a small business owner and consultant in Transportation Electrification, who recently left the sales and installation side to concentrate on communicating the more technical aspects for specialized audiences.
In part, to educate potential fleet owners on the physical and process barriers to electric vehicle charging station installation, overcoming fear and failure common to electrification conversions. As well as working at a strategic level with multi-level stakeholders defining barriers and developing solutions to Electric Vehicle (EV) adoption. Creating solutions, sharing technical research, tools, and industry expertise with policy stakeholders. Experienced Sr Consultant with 4 years of Business Development with variety of EVSE (Electric Vehicle Supply Equipment) charging hardware vendors and 6 years demonstrated history working in the Electrical Vehicle infrastructure field. Initiated consulting business Ions for EVs in 2018.

Skilled in Project Portfolio Management, Business Process Improvement, Program Development, Software Development Life Cycle (SDLC), SharePoint, with 20 years non-profit board work in parks and open space, community gardening and organic gardening, and variety of Research Analytical Skills.
Strong business development professional with a Master of Public Administration (MPA) focused on Urban Studies/Affairs from Evans School of Public Policy and Governance, University of Washington.

Bio:
Andrea Tousignant – 7 years of experience developing EV charging infrastructure; initially with a Puget Sound solar installer and then in sales of L2 and DCFC charging infrastructure- representing 5 top brands in WA and Alaska. Currently providing technical assistance to public fleets as they transition light-duty, trucks, and School buses to electric vehicles.

https://www.linkedin.com/in/actous091206/

3:55 PM Autonomous Sustainable Microvehicles - Tyler Folsom



Topic

Automated Micro-Vehicles

The distinction between a bicycle and a single occupancy vehicle (SOV) may become ambiguous. Electrification and automation are revolutionizing the automobile. If automation can deliver on its promise to reduce accidents by an order of magnitude, an SOV could safely evolve into a motorcycle. If the cycle is electric, adds a light-weight cover for weather protection and a third wheel for stability the result can be a vehicle that weighs less than the rider. If operated at city speeds, it could be legally classified as a bicycle. As the price of hardware and software for vehicle automation continues to fall, automated vehicles could wind up looking a lot like bicycles. Small

Tyler Folsom

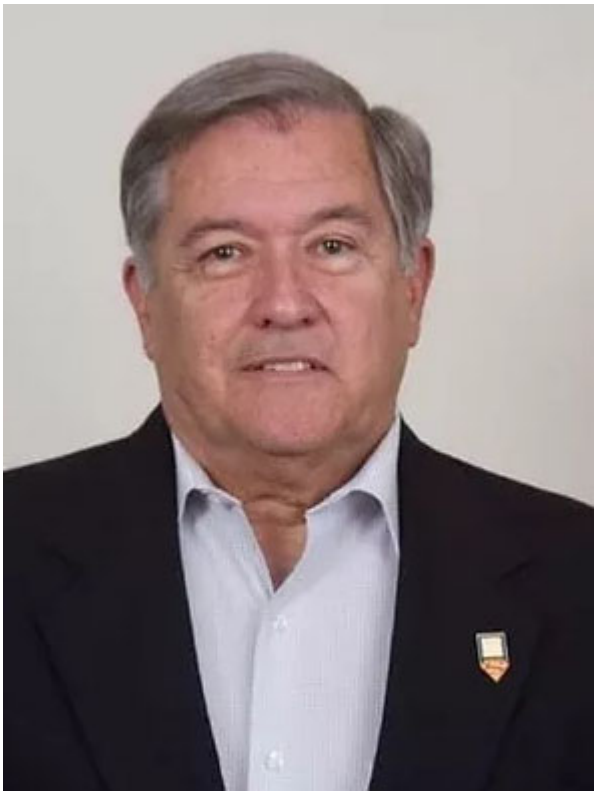
vehicles reduce congestion. A 10 kg battery could be sufficient, which enables refueling by battery swap. greatly reduces demand on the grid and eliminates the need for electric vehicle charging stations.

Bio

Tyler Folsom currently teaches in the Computer Science and Electrical Engineering Departments at the University of Washington, Bothell. Their lab has converted three tricycles to automated vehicles, which have been featured on NBC, PBS, ABC, and the Discovery Channel. A grant from Amazon Catalyst was helpful in developing the program. Dr. Folsom founded Micro-AV Social Purpose Corporation two years ago and is currently focused on secure methods for vehicle platooning. Dr. Folsom holds BS and MA degrees in Mathematics and MS and PhD in Electrical Engineering and is a senior member of IEEE. Their career has mostly been in industry, specializing on software for industrial inspection and control.

https://www.linkedin.com/in/tfolsom/

4:20 PM Green Energy Alternatives Retirement - Tom Doncaster



Topic: Investment Strategies

Tom Doncaster

Bio
Tom's focus is working with Small Business Owners, like himself, to assist them in the areas of Insurance, Investment Advisory, Consulting and Business Exit Planning Strategies so that business owners can sell and exit their business' in style. Tom is a great presenter and mentor that has assisted others succeed in the business. Specialties include Executive Compensation, Employer Benefits, Deferred Compensation, Salary Continuation Plans and Business Exit Planning for Business Owners. Certifications include CLU, CWM, RFC, PPC, AIF. Information is provided from sources believed to be reliable however we cannot guarantee or represent that it is accurate or complete. Because situations vary, any information provided on this site is not intended to indicate suitability for any investor. Hyperlinks are provided as a courtesy. When you link to the 3rd party website you are leaving our site and assume total responsibility for your use at these sites.

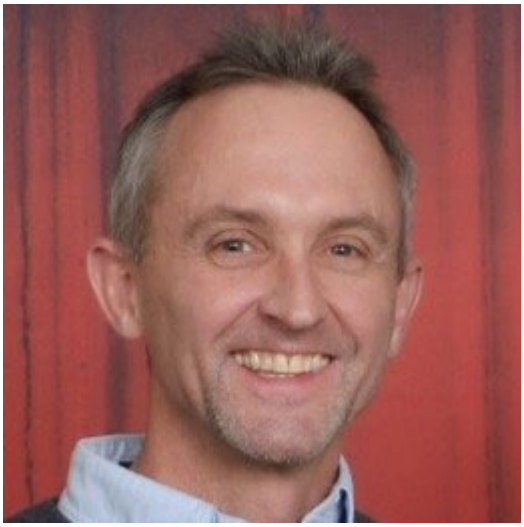
https://www.linkedin.com/in/thomasdoncasterclu/

5:50 PM Tribute to the Speakers, Sponsors, and special guest

6:00 PM Networking Event - Roof Top Social - Drink coupon in your registration pack - Live Performance from Seth Pavlik

All times are exact. Please feel free to come and go as you please.

Register at: SeattleElectricalConference.com



Mike Brisbois, PE

Senior Electrical Engineer AKANA
Microgrid Technologies
Program Manager

Host and Moderator

Bio

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, and Missouri. His focus is on leading sustainable energy projects. He is a board member on several technical organizations.

https://www.linkedin.com/in/mike-brisbois-pe-2b79207/

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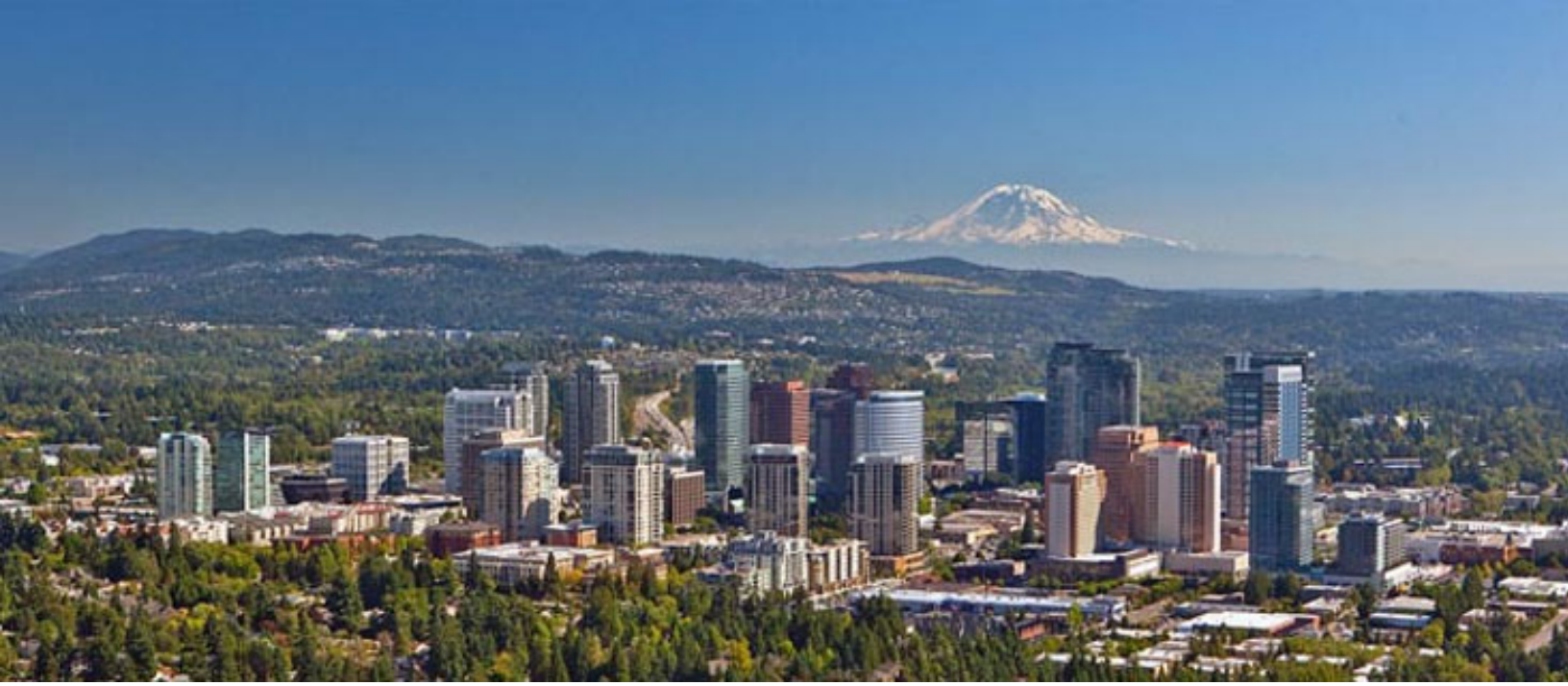

Thank You!

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