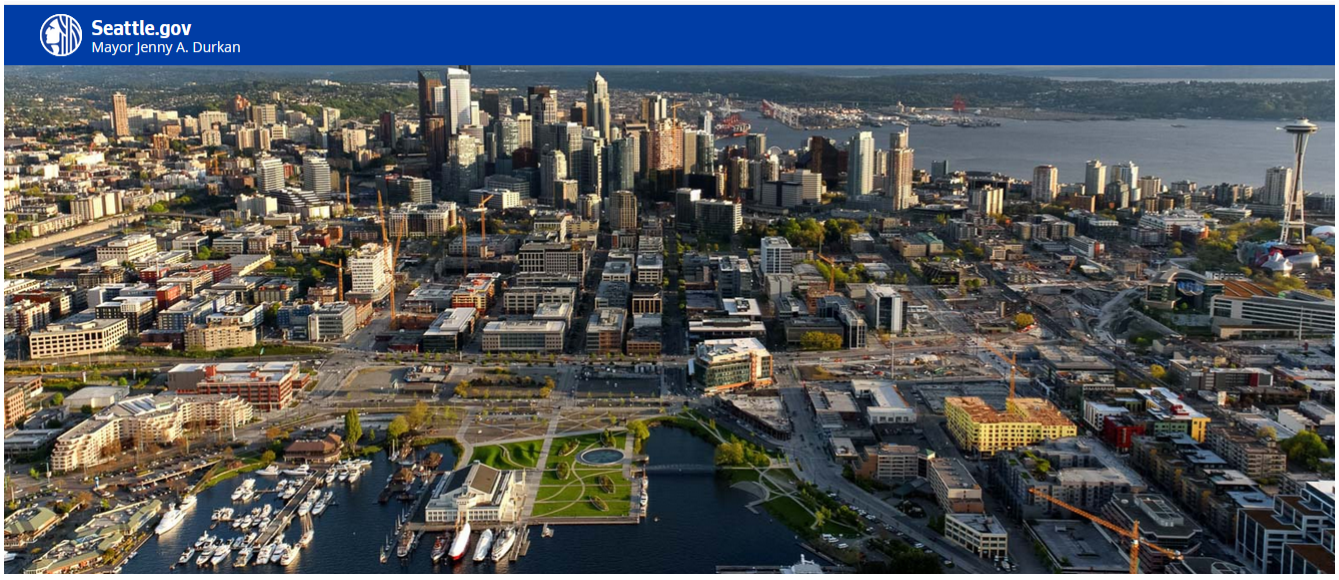
Welcome to the City of Seattle

Seattle Electrical Conference

Friday April 2, 2021

7 am - 4 pm PDT



07:00 AM PDT Keynote Speaker Brian Galonek

Brian Galonek
President, All Star Incentive Marketing
linkedin.com/in/brian-galonek-a477896
allstarincentivemarketing.com

Brian Galonek is a long-standing member of the IMA & IESP and a Certified Professional of Incentive Management (CPIM). He is also the President of All-Star Incentive Marketing, a 50-year-old company with expertise in the areas of boosting employee engagement in order to drive company-wide performance. He has provided seminars and webinars to a wide range of organizations tied to safety, HR, operations, and sales, and authored dozens of articles on wide-ranging topics that all center on the overriding importance of employee engagement.

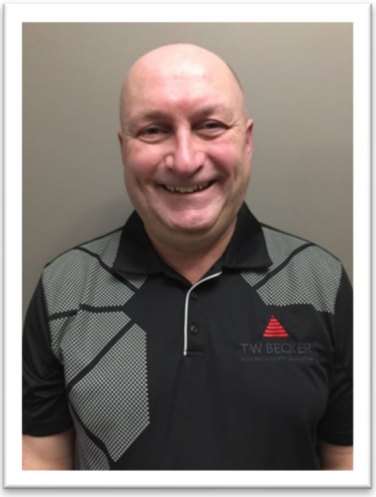
Keynote:

Safety and Wellness Webinar: The Combination that Drives Engagement and Profitability

Session Description:

Attaining high levels of Employee Engagement is critical to the success of any organization. Improving employee engagement will have a direct correlation to improving safety, wellness, training, customers service, sales and much more. Creating programs that target engagement, and infusing them with a recognition/reward component, also generates a measurable positive effect on employee retention, morale, team building, and profitability. Brian Galonek, our Key-Note speaker, will take on this topic and share best practices from his 30+ years of experience building employee engagement solutions for some of the country's largest and most successful companies.

07:30 AM PDT Terry Becker, 'Electrical Safety in the Workplace' TW Becker



Terry Becker

Terry Becker, P.Eng., CESCP, and IEEE Senior Member, is an independent electrical safety specialist and consultant at TW Becker Electrical Safety Consulting Inc. Terry was the previous owner and visionary of ESPS Electrical Safety Program Solutions Inc, and spent over 10 years growing the company into an industry leading total solutions provider and innovator in electrical safety consulting, electrical safety program development and implementation, external electrical safety audits, and arc flash & shock electrical safety training solutions, including the e-Learning Electrical Safety Training System (ESTS), Electrical Worker, and Non-Electrical Worker training courses.

Terry brings more than 29 years of experience as an Electrical Engineer working in both engineering consulting and for large industrial oil and gas corporations. He is the first past Vice-Chair of the CSA Z462 Workplace Electrical Safety Standard Technical Committee and is currently a Voting Member and leader of the Working Group for Clause 4.1 and the Annexes. Terry is also a Voting Member of the IEEE 1584 Guide for Performing Arc-Flash Hazard Calculations Standard Technical Committee and a Founder Member/Voting Member of the CSA Z463 Maintenance of *Electrical System* Technical Committee. Terry attends all NFPA 70E Technical Committee meetings as a guest and is recognized as an electrical safety subject matter expert and participates in NFPA 70E Working Groups.

Terry is a Professional Engineer in the Provinces of Alberta, British Columbia, Saskatchewan, Manitoba and Ontario, and has presented on CSA Z462, NFPA 70E, Electrical Safety Program Development & Implementation, Electrical Safety Auditing, Arc Flash & Shock PPE and Electrical Safe Work Practices at industry conferences and workshops in Canada, the United States, Australia, and India.

Presentation

NFPA 70E 2021 Edition published in the fall of 2020. The CSA Z462 2021 Edition published January 5, 2021. There are significant changes to both of these work place electrical safety Standards for North America. A review of the key changes to NFPA 70E and CSA Z462 will be provided including significant divergences. A brief review of the implications of the IEEE 1584 2018 Edition to a work task's Arc Flash Risk Assessment will also be discussed. Arc flash PPE has also evolved in the last 5 years providing for improvements in comfort and contributing positively to the reducing the likelihood of occurrence (e.g. human error) of an abnormal arcing fault and arc flash exposure occurring.

07:55 AM PDT Hamzah Shanbari, HERO: Virtual Reality Safety Training Assessment

Hamzah Shanbari

Hamzah is the Manager of Construction Technology & Innovations at Haskell where he oversees vetting and testing new applications of technology on the jobsite. Hamzah joined Haskell in 2016 shortly after completing his Ph.D. in Design, Construction and Planning from the University of Florida. Started out as a Virtual Construction Specialist, Hamzah conducted several successful BIM coordination efforts. He also led innovation efforts in virtual and augmented reality as well as sUAS processes and applications. In his academic years, Hamzah published and presented several conference and journal papers on laser scanning, sUAS, augmented reality and construction management education.

HERO: Virtual Reality Safety Training Assessment

Virtual Reality provides an immersive environment where trainees can experience a new level of training. HERO was designed to enhance workers ability to recognize different hazards that are typical on a jobsite. This would lead to a jobsite where most workers are able to identify hazardous situations and alert safety personnel before an injury occurs. In this third iteration, HERO is ported into a stand-alone VR headset for easier deployment to the field. Moreover, data from assessment sessions are stored in the cloud for easier access and reference by training team. Data collected from these sessions will be used to further enhance safety training and outreach.

08:20 AM PDT Thomas Domitrovich, 'NFPA 70 2023' Vice President Technical Eaton

Thomas A. Domitrovich

Mr. Domitrovich is an Electrical Engineer within Eaton Corporation's electrical group with experience in engineering, sales & marketing, business development and product management. Domitrovich is actively involved with various electrical industry organizations and focuses on the continued growth of electrical safety. Domitrovich is an author with a wide range of trade magazine articles including columns in two industry trade magazines. He sits on NFPA Code Making Panels 2 and 10 for the continued development of the National Electrical Code (NFPA 70). He is also on other NFPA committees including NFPA 70B, 73, 78, 1078, 110, and 111 and chairs various committees for other electrical industry organizations. Domitrovich is a LEED® Accredited Professional, a licensed Professional Engineer and holds a Bachelor of Electrical Engineering from Gannon University. Specialties: Power Systems Engineering, Sustainable Development, Energy Management, Profit & Loss Management, Business Development, Sales Planning & Forecasting, Market Planning, Account Management, National Accounts, Relationship Selling, Strategic Planning.

Updates to the NEC NFPA 70 2023

The NEC has made some considerable changes over the past few editions of this document that, if missed, could have a considerable impact on your project. Some of these changes could also offer ideas for implementation in areas not addressed by the NEC for a safety by design approach to power systems design. This session will review some of the key areas that have been getting attention over the past couple NEC cycles and will probably continue into the next edition of the NEC. NEC 2023 first draft has not been completed but the journey of electrical safety that we have been experiencing over at least the last two cycles will continue and will be discussed in this session focusing on the following areas.

1. Service entrance equipment changes
2. Working space
3. Incident energy reduction
4. Shock protection

The attendee will be equipped with a list of sections of the NEC to look for on their next project to ensure compliance and smooth execution of your next project.

08:45 AM PDT Bianca Holtier Coury, Building Construction, Eagle Software

Bianca Holtier Coury

Construction Technology Manager | Eagle Point Software Corporation Bianca is responsible for content creation and curation of the construction library and technology alignment for Pinnacle Series, Eagle Point's flagship e-learning system. Bianca is driven to enhance the way companies do business by developing content that will promote project teams to optimize, upskill, and embrace digital tools. She has more than 15 years of experience in construction project management, procurement, and urban planning, alongside technology, business development, and sustainability. Bianca has been featured in several publications, construction podcasts and speaker panels, most recently teaming up with Skanska, Lend Lease, KPF, and The Walsh Group for Trends to Follow in 2021. A LEED Green Associate, Bianca currently serves as the Director of Partnerships for the Construction Progress Coalition. Bianca holds a bachelor's degree in Urban Design and Architecture Studies from New York University.

Presentation Title: The Importance of a Construction Playbook – Using Technology as a Catalyst for Adaptive and Responsive Change

Presentation Description: This talk will explore what inevitable technological changes are on the horizon for the AECO space and the need to have a playbook ready in response to the paradigm shift. The bottom line is that anyone hesitant to fully embrace cutting-edge construction technology in the past is now rethinking this position. To start, daily workload rhythms will require project teams to situationally adapt and strategically shift to digitize workflows, subsequently making the construction jobsite smarter, streamlined, and synergistic. Wearable technology will ensure workers are safer and are able to successfully collaborate with remote teams. We will see many more owners and owners' representatives involved in mapping out how the construction project flows, and will witness the construction industry carve out winning strategies when using 3D printing, machine learning, robotics, laser scanning, reality capture, prefabrication, and more. Tackle continuous improvement needs with a fresh take on learning and development. The time is now to optimize your construction digital toolbox.

09:10 AM PDT Krishnamurthy Raghunandan (RAGHU), 'Wireless and Progress in Society' MTA

Krishnamurthy Raghunandan

Mr. Raghunanadan currently leads new wireless technology deployment effort in MTA New York City Transit. Part of this effort was to provide 4G service in all the below ground subway stations. Also, deployed were 60GHz Millimetric wave links with point-to-multipoint WiFi network that brought video traffic to security booths. This method is used as an alternative to fiber in difficult terrains. An integral part of his work is to try new wireless technologies in the transit environment. He is a member of FCC Region-8 regulatory body, that coordinates frequency allocations for public safety in the tri state region.

Prior to joining Transit, he worked in Bell Labs leading the RAN (Radio Access Network) team at 3GPP standards body that is currently spear heading 5G standards. He was instrumental in development of cellular handsets by leading the field test and interoperability effort. He was responsible for developing Sirius satellite radio chipset currently used in all premium cars and trucks throughout Canada, USA and Mexico. He has several publications in the IEEE and has a US patent. Through IEEE he regularly provides talks, tutorials and mentors graduate and research students. He is an examiner in the IEEE ComSoc's coveted WCET certification exam (only exam that certifies wireless engineers globally). He is chair of AP/EMC/VT chapter for NJ coast and Princeton section areas of IEEE.

Raghu has undergraduate degree in EE from Univ. of Mysore, Master's degree in EE from Indian Institute of Technology, Kharagpur and Research degree in EE from University of Surrey, England. Last year he was selected by the IEEE Communication society to write a textbook entitled "Wireless Communications and Networks: A Practical Perspective" for undergraduate students of science and business. The textbook is expected to be published this year.

Wireless and Progress in Society

Most people are familiar with the WiFi access point, and 5G but wireless communication is far more than that. Every aspect of technology that wireless has touched, makes major impact on society. This talk touches on a few examples to how society feels the freedom and flexibility that wireless brings. It also highlights security and other aspects where wireless has significant advances changing communication networks and the way professionals have come to embrace this technology.

09:35 AM PDT Ted DellaVecchia, 'Blockchain Technology and Artificial Intelligence in Healthcare' Symbotix

Ted DellaVecchia

Ted DellaVecchia is Chief Executive Officer and Managing Partner of Symbotix, a management consulting group that inspires and leads IT-enabled business reinventions of influential organizations in the healthcare industry.

Ted is a proven leader who has delivered durable, step level EBITA CAGR in all executive assignments. His combined, disparate areas of expertise and a broader view of problems brings unique insights into solutions, evolving them as digitally enabled business innovations. Examples include delivering global elements of a corporate turnaround at IBM Corporation, implementing world-wide supply-chains and accelerating market/earnings growth for Starbucks Coffee Company, and restructuring IT divisions and transforming enterprise business capabilities for three multi-billion-dollar BlueCross BlueShield Health Insurance Companies.

SYMBOTIX™

While CEO of Symbotix, Ted was recruited to be the Chief Healthcare Strategist at Red Hat Software where he designed and co-founded "LinuxForHealth"; a licensed Linux Foundation Community open-source movement. LinuxForHealth is the kernel of a comprehensive health operating system for manifesting a healthier society.

Ted is the founding chair of the Healthcare Industry Transformation Project (HITP). Established in 2010, the HITP is a digital-health innovation ecosystem of early-adopting healthcare organizations collaborating to design and execute digital transformation of the healthcare industry.

Ted collaborates with the MIT Media Lab / Trust::Data and MIT Connection Science on research initiatives, serves as board member of the IoT Community, Chairs the IEEE Group Track on Blockchain and AI in Healthcare, and frequently speaks at industry events promoting symbiotic health collaboration.

Conference Talk: Blockchain Technology and Artificial Intelligence in Healthcare

Our track will explore how the family of technologies collectively referred to as Blockchain compliments the evolving IoT apparatus and in many ways, extends the ability to efficiently and effectively train federated learning models, feed AI engines in real-time, and contextualize the experience of healthcare - where, when, how the consumer prefers and with trusted durability.

10:00 AM PDT Sharan Kalwani, ‘Proactive Approach to protecting our Distributed Energy Grids’

Sharan Kalwani

Mr. Kalwani is an industry technology specialist with 25+ years of experience. Sharan has degrees in both Engineering and Computer Science and has worked in many diverse areas. He is a senior member of IEEE-Computer Society, IEEE-Education Society and IEEE-Vehicle Tech Society, an Emeritus member of Michigan!UNIX/user group, Association for Computing Machinery (ACM) and also leads the SIG-Linux section of SEMCO. He enjoys teaching, holds an adjunct position at several universities. He has published a book on "Linux and Internet Security" and is now working on his second. He is also the recipient of the IEEE MGA Achievement award for his contributions to IEEE activities in 2018.

Proactive Approach to protecting our Distributed Energy Grids

We have made major strides in our energy grids, especially with different sources (renewables, etc). however, we have paid scant attention to protecting them, it is usually an afterthought in many instances. What is proposed is a proactive approach to educating energy professionals in cybersecurity aspects and baking in this mentality in current and future distributed grid set ups.

10:25 AM PDT Siva Jayaram, Long Duration Energy Storage Systems, RRC Companies

Siva Jayaram

Siva Jayaram is the BESS Manager and Innovation Engineer at RRC Power and Energy where he focuses on providing technical solutions for BESS projects. Prior to joining RRC, Siva worked for Doosan GridTech designing, executing, and commissioning Microgrid and Energy Storage projects. Siva also worked with Black and Veatch as part of the Microgrid team in the past. Siva has a Master of Electrical Engineering from Missouri University of Science and Technology and pursued his bachelor's in electrical and Electronics Engineering from Anna University, India.

Long Duration Energy Storage Systems

With the higher penetration of renewable energy power such as wind and solar, there is a variability in power production from these sources in the grid. To reduce this variability, energy storage systems are currently being deployed to smoothen out the electricity supply from the renewable energy sources to ensure supply matches demand. Prolonged periods of calm wind speeds that could last days or low solar insolation during the winters are challenging for renewable energy dominated systems to handle with the Li-ion and other "short-duration" energy storage technologies that are currently being installed. This could be solved with the deployment of long duration energy storage (LDES) systems on the grid that can provide power for durations greater than 10 hours. This presentation will cover the basics of energy storage, the need for LDES, the existing LDES technologies and the technologies currently being researched.

10:50 AM PDT Dr. Sayonsom Chanda How Smart Meters and Simulations are helping to develop customer-focused resilience in Smart Cities

Sayonsom Chanda

Dr. Chanda is a product designer and tech evangelist for grid modernization, digital transformation in electric utilities, and citizen science. He is currently serving as the CEO of Sync Energy, a TechStars-backed company, developing next-generation disaster prediction and resilience analytics platforms for utilities and other critical infrastructure networks. He has received his Masters and Ph.D. degree in Electrical Engineering from Washington State University. Prior to his entrepreneurial journey, Dr. Chanda has been a senior analyst at National Grid and a research engineer at Idaho National Laboratories. He has served as the VP of IEEE Young Professional Society. He has published 15 papers in high impact journals and secured two US patents related to smart grid simulations and analytics. He is the author-cum-editor of a forthcoming book "Resilience of Power Distribution Systems" to be published by Wiley in 2021. He lives with his family in Long Island, New York.

"How Smart Meters and Simulations are helping to develop customer-focused resilience in Smart Cities"

Rapid climate change is unleashing a battery of unpredictable, violent natural disasters in all parts of the world, including several economic hubs of the USA, like Texas, Washington, and California. Extreme events - hurricanes, wildfires or snowstorms - have grown in frequency and their destructive capacity, while our nation's economy and security of our citizens have become increasingly dependent on reliable electricity, information and transportation infrastructure. These two trends have pushed our aging critical infrastructure's operational capacity to their limits. Till date, residential customers have ranked low in terms of a utility's list of critical loads, or when they set out to restore power lines following a damaging event.

In post-COVID world, several business-critical meetings will be held from people's residences. In 2026, more than 1 in 5 cars will be electric vehicles and charged at homes. There are several people who already depend on the utility's service at their residences to charge their EVs to get away to safe shelters ahead of an impending coastal disaster, and several million such customers will be added over the next few years. In 2020, the International Code Council voted to approve that all new homes would have EV-ready charging ports - making it easy for electric vehicle adoption to exponentially grow even in circuits with traditionally low load factors. Severe and unexpected weather conditions like heat waves or unprecedented snowstorms (such as the recent Texas event) will require the power grid to adjust demand and reactive power at very short notice. In view of such circumstances, the utility's way of modeling risk, reliability, and resilience and operational priorities will need a paradigm shift.

To our advantage, more than 100 million smart meters have been already installed for electric consumers. Analysis of this data can help to profile energy usage patterns and detect customers dependent on EVs for their safety. Several distribution systems, networks, energy modeling tools have been developed over the years through federally and commercially funded research at national laboratories and private companies. Maturing computing technologies like Artificial Intelligence, machine learning, and data science helps unlock unique insights with very little tedious efforts of data gathering and processing. A nuanced combination of these software and hardware assets can be humanity's greatest weapons against the evils and uncertainties induced by catastrophic circumstances created by climate change.

In this talk, Dr. Chanda will speak about how combining building level simulations with smart meter data, can help electric utilities forecast energy demand with highest levels of accuracy, help customers lower their energy use, and develop early warning systems for mitigating factors that cause widespread power outages. And under severely dire circumstances, such simulations and predictive analytics can help utilities to alert customers about upcoming power outages, giving them enough time to relocate or prepare for the period of darkness.

11:15 AM PDT Hind Abi-Akar, 'Maintenance Requirements Fluids' Fluids Engineering Caterpillar

Hind Abi-Akar

Hind Abi-Akar is a Lubricants and Fuels Technical Expert at Caterpillar Inc. Hind received her PhD in Materials Science with a focus on Electrochemistry and Surface Science from the University of Alabama in Huntsville. Hind joined Caterpillar's Advanced Materials Technology in 1995 where she conducted corrosion and coatings research as well as failure analysis. In this research, Hind used electrochemical corrosion techniques and various analytical and electron microscopy approaches. Hind then joined Caterpillar's Fluids and Filters group as a Technical Expert focusing on technical development of lubricants, diesel fuels, gas fuels, and alternative fuels. She develops specifications and publications for Caterpillar Fluids. Dr. Abi-Akar represents Caterpillar in the EMA (Engine Manufacturing Association), ASTM, and multiple external organizations. She is the Lubricant Committee Chair for EMA. Hind holds multiple patents in various technical fields and have authored chapters in two lubrication books.

Abstract of the talk:

The talk will provide a review of pathways to reduce CO2 emissions from diesel engines using alternative and renewable fuels. Mandates for renewable fuels, US and global will be reviewed and comparisons of the chemistry of diesel and alternative fuels will be presented. Specifications and guidelines for successful use of biodiesel and alternative fuels will be shared including various cases that provide a practical guide to end users. A look forward to options in fueling will be summarized.

11:40 AM PDT INTERMISSION - NETWORK SWAG - SPECIAL GUEST – Greg Billington 2016 Olympic Triathlete in the Rio Games

Greg Billington

Gregory Billington is an American triathlete. He was born in the United States and raised in Six Mile Bottom, England. He traveled a lot in his youth when his father served as instructor on U.S. military bases. He started competing in triathlon aged 10 and placed 37th at the 2016 Rio Olympics.

12:00 PM PDT AFTERNOON KEY NOTE Wally Adamchik, Transformational Construction Influence

Wally Adamchik CMC, CSP, MBA

We work with organizations to improve the ability of their leaders. We consult with self-performing contractors to design their leadership development strategy. We deliver presentations on leadership and leadership related issues. We provide executive coaching to leaders in the construction industry with a focus on self-performing contractors that improves retention and increases productivity.

Presentation

We work with organizations to improve the ability of their leaders. We consult with self-performing contractors to design their leadership development strategy. We deliver presentations on leadership and leadership related issues. We provide executive coaching to leaders in the construction industry with a focus on self-performing contractors that improves retention and increases productivity.

12:25 PM PDT Blaine W. Millet, author and publicist, 'How to become REMARK'able

Blaine W. Millet

Blaine is an Author, Nationally recognized Speaker, and President & Chief Advocate at **WOM[10]** Word-of-Mouth on Steroids. WOM[10]. He is the author of three books. The most recent one released in December of 2020 is a revolutionary book that literally teaches leaders how to create a "*REMARK*"able™ organization! His latest book, **STOP Marketing – Your Customers Are Dying To Do It For You – How to Become "*REMARK*"able™** is simply game-changing. As a Nationally recognized Speaker, Blaine has given over 1000 speeches, including keynote addresses and workshops for Associations, Organizations, Industry Groups, Non-Profits, Private Companies, and his Seminars and Workshops. His speeches inspire leaders to think differently and take advantage of the enormous opportunity in front of them today when they become "*REMARK*"able™. Blaine is also a strategic advisor for business leaders. He helps them execute his unique formula and model to realize the unique benefits of being Customer Obsessed and becoming "*REMARK*"able™. He has an **MBA in Marketing and Finance** and has worked in organizations from "start-up" through the "Big 5," and the Fortune 500.

Of all the things a company covets, DIFFERENTIATION tops the list for every company on the plant. Why? Because it leads to all the other good stuff. Things like more revenues and profitability, better employees, and the best customers. Everyone wants to work with a company that is clearly different from all the others in the industry. There is a way companies can be seen as truly DIFFERENTIATED…without changing any product or service. It's called CUSTOMER OBSESSION. And when you make this transformation to being CUSTOMER OBSESSED, you are on the journey to becoming "*REMARK*"able™…where your customers go out of their way to tell others (remark) about how incredibly awesome and amazing you are!! Everyone on the planet wants more of this…now you can get it!! I'll share the exact recipe and formula for how you can achieve this level of DIFFERENTIATION in your own business.

12:50 PM PDT Tom Steding, ‘Achieving Peak Performance: Real Teams Win’ Voise, Inc

Thomas L Steding, Ph.D.

Dr. Steding is a senior corporate executive with an excellent track record in founding and growing successful businesses based on complex, leading edge technologies. He has been CEO of over 12 high tech companies and active chairman of several others. His startups have ranged from cybersecurity, semantic analysis, and AI, photoelectric solar, protein expression and transgenics, optical networking, internet encryption and privacy, and complex document management. He also has an active interest in depth psychology and mythology as member, Board of Trustees, Pacifica Graduate Institute, a high-profile academic center for depth psychology, mythology and clinical certifications, and co-founder and member, Board of Directors, the Academy of Imaginative Arts and Sciences, focusing on the convergence of advanced technology and depth psychology. He was co-author of Built on Trust – How to Gain Competitive Advantage in Any Organization, Contemporary Press, 2000 and now author of Real Teams Win: What Smart Leaders Need to Know Now About Achieving Peak Performance, Humanix Books, December 2020. He has a MS in Management (Sloan Fellow) Stanford University Graduate School of Business, Stanford, California, Ph.D., Electrical Engineering, University of California, Berkeley, California, and MS and BS in Electrical Engineering, University of Michigan.

Real Teams Win: What Smart Leaders Need to Know Now About Achieving Peak Performance

Real Teams Win provides a full cycle, top-to-bottom Blueprint for achieving breakthrough results as the emerging New Leadership Model for future competitive advantage. Based on his Silicon Valley experience including as CEO of over a dozen startup companies, the author offers a comprehensive framework and toolkit to bring creativity, insight, and meaning to the workplace. Using proven principles, practices, structure, and processes, Real Teams Win provides new pathways to inventive ideas, newly designed products, and unique visions. It blends theories drawn from strategy, economics, neuroscience, organizational development, literature, psychology, and mythology to define an environment that is collaborative, creative, agile, supple, non-oppositional, and courageous. Real Teams Win describes how to create the connected team driving creative collaboration for both high performance and enhanced quality of experience.

01:20 PM PDT Tom Coughlin, 'Digital Storage and Memory for AI at the Edge and the Data Center' Coughlin & Associate

Tom Coughlin

President, Coughlin Associates is a digital storage analyst and business and technology consultant. He has over 40 years in the data storage industry with engineering and senior management positions at several companies. Coughlin Associates consults, publishes books and market and technology reports (including *The Media and Entertainment Storage Report and an Emerging Memory Report),* and puts on digital storage-oriented events. He is a regular storage and memory contributor for forbes.com and M&E organization websites. He is an IEEE Fellow, Past-President of IEEE-USA, Past Director of IEEE Region 6 and Past Chair of the Santa Clara Valley IEEE Section and is also active with SNIA and SMPTE. For more information on Tom Coughlin and his publications and activities go to www.tomcoughlin.com.

Digital Storage and Memory for AI at the Edge and the Data Center

Abstract: Applying AI at the edge and endpoints often requires working under non-data center environments and in power constrained conditions. AI inference also requires significant memory to hold weighting values from training. New non-volatile memories can help provide more memory in a given device die and use less power than NOR flash, SRAM or DRAM. This presentation will talk about changes in the memory/storage hierarchy and how it will change memory and storage in data centers and embedded devices to support energy efficient and low latency AI applications.

01:45 PM PDT Tim Calahan Eversource Power Utility Company - DVAR VVO Pilot

Tim Callahan, Eversource

Tim Callahan received a Bachelor of Science Degree in Electrical Engineering and a Master of Business Administration Degree from the University of Hartford. Tim has over thirty years' experience in the electric utility industry and is an active member of the IEEE PES Connecticut Chapter. Tim's current position with Eversource Energy is Senior Engineer in the Distribution Standards Group. Tim's focus is developing and implementing Standards for Distribution Automation (Smart Grid). Tim is also developing and implementing Standards for leased line, unlicensed spread spectrum radio and Fiber Optics for Distributed Generation Transfer Trip schemes. A more recent pilot project, Volt Var Optimization (VVO) deployment, is another initiative Tim is currently working on. The VVO Initiative will help integrate more renewable energy onto the electrical distribution system.

Presentation

DVAR-VVO Pilot Project Synopsis

Eversource Energy has seen a significant increase in renewable distributed generation interconnection requests on their distribution system. The increase has been mostly solar farms with battery storage in the 1MW to 5MW range. Interconnecting these solar farms has introduced some concerns of voltage fluctuations and poor power quality on these distribution feeders. The voltage fluctuations can be traced back to the internment nature of renewables. In order to accommodate the influx of renewable distribution and address these concerns, Eversource has embarked on a D-VAR VVO Project with AMSC. This pilot project highlights the application of the AMSC D-VAR VVO offering on a typical Solar Farm Project interconnecting in Western, Massachusetts. The presentation highlights the steps and challenges faced from the Standards Engineering prospective in order to go online in September of 2021.

02:10 PM PDT James Burke, ‘Life on Mars’ NASA Robotics 'Near Space Satellite Program' Bellevue STEM

James Burke

Helping increase the number of women and girls entering the fields of engineering and technology. STEM/CTE Teacher at Bellevue School District for almost twenty years at Tyee Middle School

Mr. Burke runs the engineering lab at Tyee Middle School. I teach STEM, Flight and Space, Design and Production, Robotics and Applied Engineering.

Presentation

Near space satellite program aka HAB with a strong electronics element in the program.

02:35 PM PDT Marley Smith, Nuclear Test Engineer 'The Current state of Nuclear Energy in the world' Puget Sound Naval Shipyard

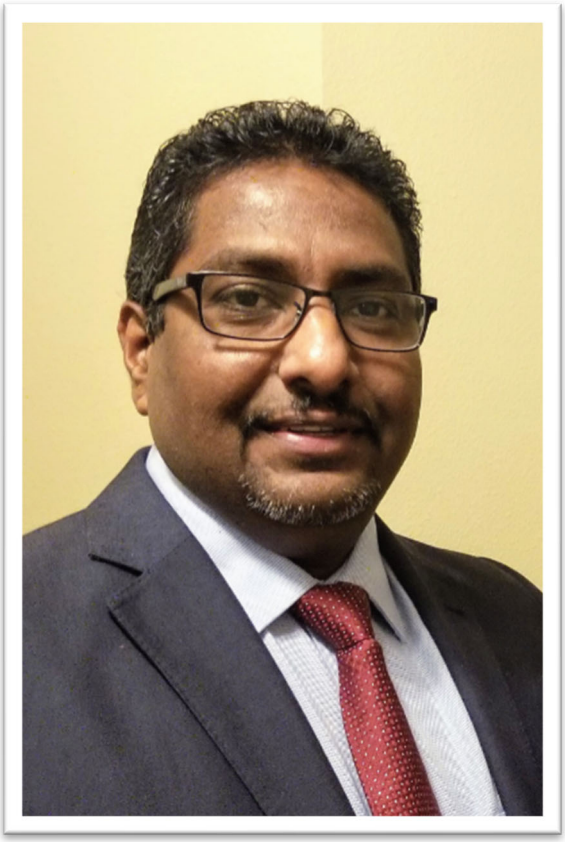
Marley Smith

Hi everyone, I'm Marley Smith. I am a nuclear test engineer at the Puget Sound Naval Shipyard in Bremerton, Washington. In my current role, I oversee and direct tests and repairs on ships' systems during maintenance availabilities. I recently graduated from Western Washington University with a Bachelor of Science in electrical engineering this past June and am now living on Capitol Hill in Seattle. I have been an IEEE member for three 3 years and have mainly been involved with the IEEE Seattle Chapter and Power and Energy Society. I've been busy getting up to speed with work in the previous months, but I have really been enjoying things and am looking forward to seeing where life takes me in the future. In my free time, I enjoy going mountain biking and taking my dog on hikes and long walks around the city. I'm passionate about engineering and environmental issues and I am always down to have a fun conversation about any topic, so don't hesitate to reach out!

Presentation:

I'll be speaking today about the current state of nuclear energy in the world and how it is a key technology that could fit into our electricity system and microgrids in the future. There are some unique challenges present with this technology that will need to be solved in the coming years, especially as much of our existing nuclear capacity is planning to be retired in the coming decade. I'll be focusing specifically on small modular reactors as well as on recent developments and new technologies that hold promise for the future.

03:00 PM PDT Sanjay Samuel, 'Fuels Cells in Locomotives' Sound Transit



Sanjay Samuel

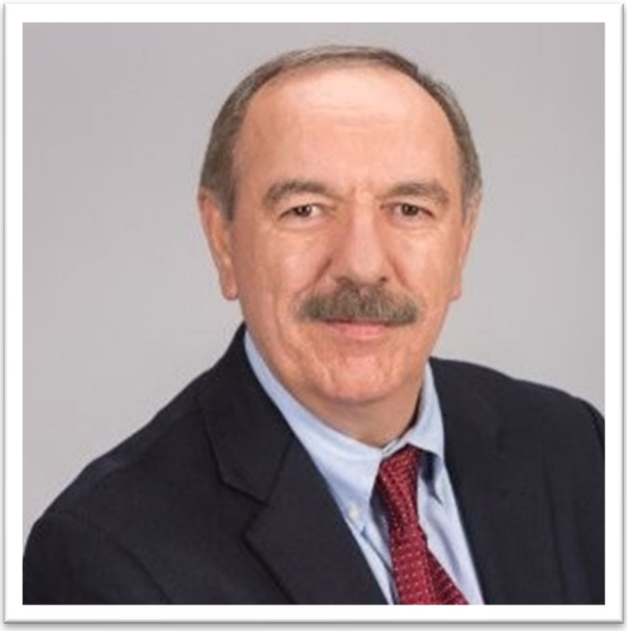
Mr. Sanjay Samuel is a decisive technical leader with more than 27 years of experience in leading and developing high performing Systems engineering teams. He has domain expertise in locomotive designs, railroad systems, positive train control, communications-based train controls, RF communications and technical infrastructure projects. He is experienced in leading engineering teams in design development of Locomotives for GE. Additionally, Mr. Samuel has delivered projects in Asia, Australia, Africa, Europe, and America for passenger trains, freight trains, light rails, bus rapid transits, cellular and radio communications.

Mr. Samuel holds degrees in Electrical Engineering, Electronics and Communications and Systems Engineering. He is the senior member and Chapter chair of IEEE-Power Electronics Society-Seattle sections.

Abstract:

Hydrogen-Rail (hydrail). During this brief presentation Mr. Samuel will discuss the latest Hydrogen fuel cell technology in locomotives, the main systems involved in the design of the locomotive and its safety concerns. Hydrogen fuel cells produce no carbon dioxide or greenhouse gases while in use, making them sustainable and emission-cutting options for the environment.

03:25 PM PDT David (Davood) Bakhtnia Agile Coach - New and Innovative Techniques



David (Davood) Bakhtnia

I am an Agile instructor/trainer and digital change advocate with proven business experience helping cross-functional teams to innovate business values. I have been a customer facing professional with broad domain expertise as “Change Agent” in Lean-Agile business expansion, technical and complex project/program management, and scaled collaborative enablement. Combining technical, business, and adaptive strategies to implement complex technology solutions. Elite communicator to strengthen relationships and to lead comprehensive results. Strategist analyst to detect and isolate business challenges, to plan solutions, and transfer risks to strengths. Agile trainer/coach, change management leader, certified technical consultant, full SDLC management, strategic analyst and planning, technical program management (waterfall, Agile, hybrid), cost analysis and budgeting, risk and conflict management, quality control and assurance, training and development, improvement planning, technical product management, online infrastructure architect, strategic online positioning.

Talk on

Innovation at large-scale international projects that are spanning over various interdependencies requires a nimble approach to succeed. Applying Agile mindset can smoothen many inter-dependencies of team talents involved to bring technical innovation to market. Many risk-looking issues become success factors when we collaborate across the globe with focused goals. We will share these highlights with a few applied examples, especially applied to technical projects.

03:50 PM PDT Erling Hesla, 'Data Centers Finding Solutions' EngePower USA

Erling Hesla

Mr. Hesla graduated from the University of British Columbia, Canada, with the degree of Bachelor of Applied Science in electrical engineering. He gained corporate experience in manufacturing and sales support with an electrical firm in Canada. He moved up to obast in Brazil for large hydroelectric projects, and then joined a pulp and paper company in the USA. Following that, he served as Assistant Manager and Electrical Engineer for a motor rewind and construction firm, after which he moved into a consulting practice where he continues to practice independently.

While consulting, he founded or participated in founding an electrical control manufacturing firm, a robotics control firm, and a manufacturing firm for devices related to hearing aids where he obtained patents. Currently he is active as a founding member of EngePower-USA, LLC, a firm offering high level power system calculations to support others. His consulting career runs the gamut from design level through field construction, management of projects, and as manager of electrical and instrumentation departments.

Looking forward, Erling provides analysis of the highly sophisticated electrical systems required by marine propulsion for global marine shipping and zero-emissions marine technologies. It is well known that the future of marine design lies in the field of electric systems rather than the fossil fuel systems. The change to electrical systems is driven by economics and the worldwide drive for climate control. The benefit of supporting electrical system analysis is clear in its ability to provide improved performance, with improved reliability, at reduced cost.

Throughout his career Mr. Hesla has been active in IEEE, (Institute of Electrical and Electronics Engineers) a global professional electrical engineering society where he has held several offices, presented papers and tutorials, and participated in the development of several global standards. Among the awards he has received in recognition of his accomplishments are the Larry K. Wilson Transnational Award 1998, the IEEE/IAS 2000 Department Achievement Award, and the prestigious Richard Harold Kaufmann Award in 2017.

Much of his work has involved safety, maintenance, and operations in the field and at the corporate level as seen on the IEEE.org website.

Data Centers

When do you need analysis of a power system? If analysis is required, how extensive should it be? What, exactly, should be included in a specific study? What will you do with the information? Who will do the study and what software do you need? How much time will it take and what will it cost? What is the cost/benefit picture? Where does it fit in the timeline for the project? Should there be a plan for updating the study?

04:15 PM PDT Dan Costello, 'Electrical utility rate structures and strategies for efficient use of electric power' Eaton Corporation

Dan Costello, Eaton Corporation

Dan Costello is an Application Engineer with Eaton Corporation specializing in medium voltage and low voltage power distribution for the past 21 years. Prior to Eaton, Dan held positions with several regional engineering consultants. BS Mechanical Engineering – University of Notre Dame 1982 MBA – Marquette University 1999 Registered Professional Engineer – State of Wisconsin LEED Accredited Professional Engineers without Borders Professional Mentor –University of Wisconsin Chapter, Marquette University Chapter

Presentation

The presentation goal is to understand electric utility rate structures and strategies for efficient use of electric power.

04:40 PM Closing - IEEE PRIZE PACK- and Special Guest

Seth Pavlik

Live Beatles cover. Guitarist / Life Coach-Guitar Teacher-Songsmithery

The Scramblesuits Seattle, Washington the Scramblesuits like to take rock 'n' roll via 3-piece into as many different directions they can conjure while maintaining edgy, angular, and melodic integrity. Larry Bichler (drums) and Seth Pavlik (guitar/vocals).

Meet our Consultants:
https://www.seattleelectricalconference.com/showcase
Our Showcase:

Mike Brisbois

Brian Galonek

Sayonsom Chanda

Kirill Gritsenko

Wendi Walsh

Bruce Yee

Tom Coughlin

Bob Williams

Tam Tran, PE

Souvik Chandra

Bob Ke

Shirly Shemesh

Mark Mcgee-Pasceri

Phillip Serna

Marley Smith

Laith Qasir

Dan Velando

Sean Zhou

David Brighton

Alex Gamble

Samuel Vega-Cotto

Krishnamurthy Raghunandan

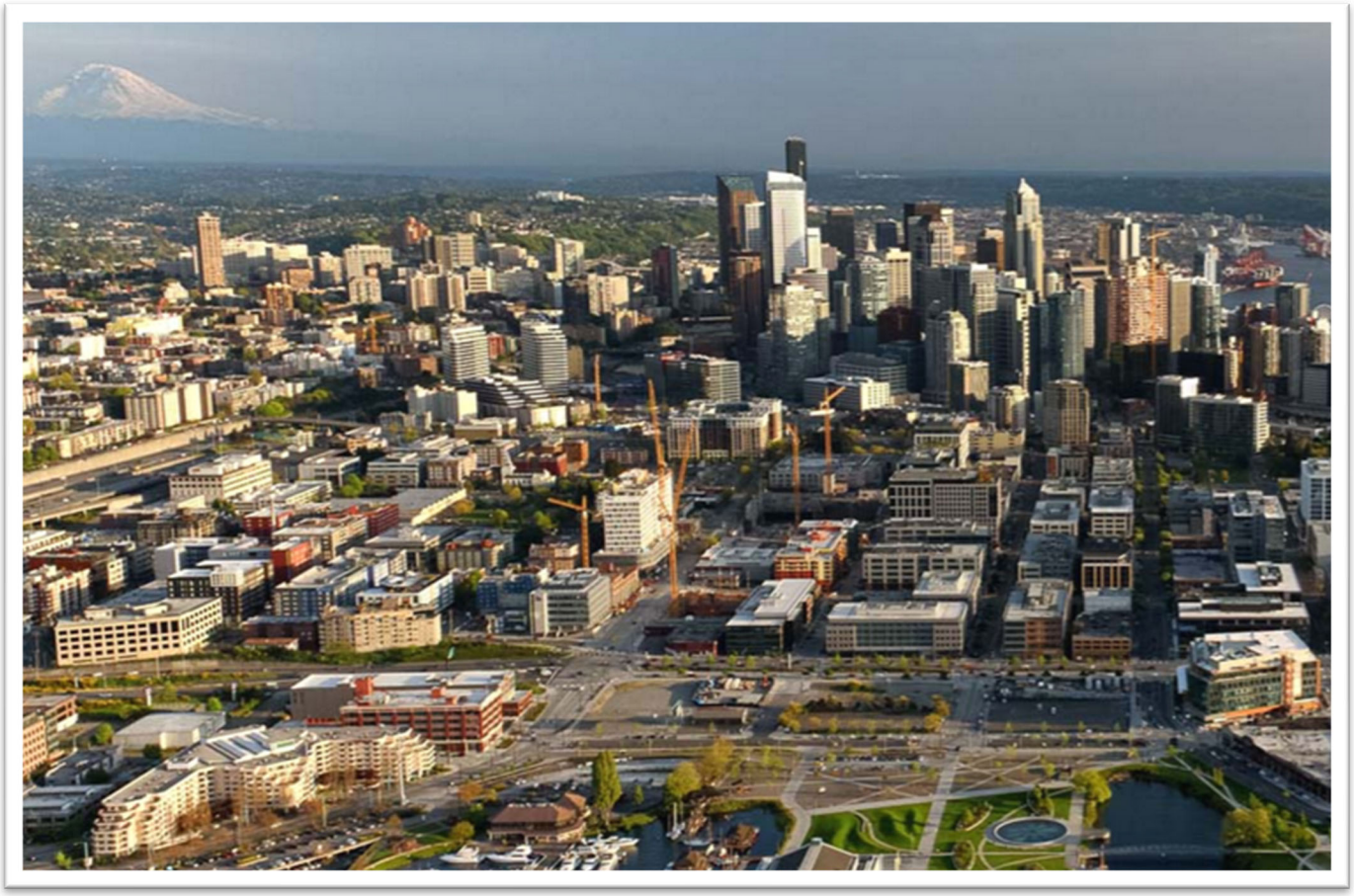
Blaine W. Millet

Wally Adamchik

Thank You!

For joining us today at the

Seattle Electrical Conference



SeattleElectricalConference.com

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