



Welcome to the IEEE Seattle Engineering Conference

September 23, 2022

Bellevue Washington



Speaker Line up:

07:30 am Check in and Breakfast

07:45 am Announcements, Speakers, Sponsors, Supporters, Showcased Consultants

07:55 am Dr. Sheree Wen, Honorable MC

08:00 am Dr. Lynne Robinson, 'State of the Region talk', City of Bellevue Mayor

08:20 am Sreenivas Rangan Sukumar, 'Machine Learning Artificial Intelligence', Hewitt Packard Enterprise

08:45 am Paul Kostek, 'Systems Engineer, Medical Devices Aerospace Engineering', Air Direct Solutions

09:10 am Carl Slater, 'System Engineering Space/Commercial Airplanes, Risk and Opportunity Mgmt', Self

09:35 am John Aiello, 'Automation and Robotics in Aerospace', ai3

10:00 am Shaun Rogers, 'Advance Metering, Regional Director Energy Industry', Trynzic

10:25 am Richard Platt, 'Robotics', Senior Managing Partner & Chief Engineer for the Strategy + Innovation Grp

10:50 am Wendi Walsh, 'Paradox of Skepticism and Innovation', HCL Technologies

11:15 am Allen Huang, 'Fast Charging EV', Lead EV Charging Engineer, Nidec Industrial Solutions

11:40 am Pamela Hamblin, 'Interconnection and Utility', NUClear Energy Solutions, CEO

12:05 pm Lunch Presentation and prize pack give away - Olympian

12:35 pm Kathleen Kramer, 'Avionics Systems – Considering AI Techniques where Safety is Critical'

01:00 pm Abir Chermiti, 'Female Entrepreneurship; Opportunities and Challenges', Software Engineer

01:25 pm Camila Simons, 'Wind Turbines', Wind Turbine Engineer, DNV

01:50 pm Matt Army, 'Developing People and Organizational Culture to Drive Success', The Arnold Group

02:15 pm Cheri Litson, 'Risk Management for Printed Circuit Board Designs', Inst. ECC

02:40 pm Neno Novakovic, 'Hardware Design/Implementation Landing Gear Control Algorithm', Collins Aerospace

03:05 pm Tim Yoder, 'Smart Buildings: Data-Driven Optimization of Facility Operations', Data Scientist at PNNL

03:30 pm Kennett Bivens, 'EMI/EMC Engineer for vehicles for Space Flight', Blue Origin

03:55 pm Sanjay Samuel, 'Hydrogen Fueled Locomotive', Sound Transit

04:20 pm James Banks, 'Emergency Dispatch Utilities', PSE

04:45 pm Special Presentation – Salute to Speakers, sponsors, supporters, Special Guests

04:55 pm Comedian Monica Nevi, 1 free drink ticket for all attendees

05:00 pm End of conference



We thank our sponsors Plexflo, The Green Living Guy, Glannaventa, and Triermain.

08:00 am Dr. Lynne Robinson, 'State of the Region talk', City of Bellevue Mayor



Bellevue City Councilmember since January of 2014. Past chair of the Bellevue Parks and Community Services board and the Bellevue Network on Aging. Please see City bio for more information: <https://bellevuewa.gov/city-government/city-council/councilmembers/deputy-mayor-lynne-robinson/>

Appointed by Gov. Inslee in 2015 to Washington State Board of Physical Therapy. Adjunct member since 2017.

Owner of Lynne Robinson Physical Therapy, providing home care to non-homebound seniors in the Bellevue area. I specialize in fall prevention and balance training, and the promotion and support of successful aging in place.

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Sreenivas Rangan Sukumar

Bio

An artificial intelligence visionary, a machine learning researcher, a data science specialist and a serial-entrepreneur that thrives on (i) impactful (ii) creative and (iii) challenging opportunities to bridge technology, business and people towards "remarkable" products.

Leadership Style: Inspire with purpose, motivate with goals, mentor for growth, hire diverse complementary skills and handsomely reward excellence.

Experience: As a leader and researcher, I have: (i) won new projects worth \$2+ million/year, (ii) executed on projects totaling \$40+ million, (iii) hired and managed teams of size 15+ members and (iv) produced 2-20x return-on-investment. As a data science specialist, I have implemented algorithms to slice and dice data for new insights that explain the "why". As an analytics architect, I have built platforms for business problems requiring scale and performance. As an AI/ML researcher, I have designed and implemented data-driven knowledge discovery algorithms for in-database, in-memory and in-situ hardware architectures. As an entrepreneur, I enjoy the journey of taking innovative technological solutions to solve pain-points of customers (Accelerating start-up evaluation to \$20+ million in less than 2 years).

Evidence: With over 70 publications (patent applications, software copyrights, book chapters, journals, technical reports, peer-reviewed conference and workshop proceedings) and over 40 talks (invited presentations, keynotes, panels) in areas of disparate data collection, organization, processing, integration, fusion, analysis and inference, my contributions have been deployed in a wide variety of domains such as healthcare, social network analysis, electric grid modernization and public policy informatics.

Current Interests: Creative Applications of Artificial Intelligence, Algorithms, Pattern Recognition, Graph Analytics, Big Data, Data Fusion, Deep Learning, Natural Language Processing and Understanding

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Paul Kostek

Getting Started with Systems Engineering, Requirements Management and Tools

As projects grow in complexity with multiple systems being integrated into Systems of Systems the need for systems engineering on projects has increased. Traditionally thought of as an aerospace industry skill the need for SE has grown in many industries including medical device/healthcare industry. A systems approach is needed to ensure that the design requirements are clearly defined, allocated and traced to subsystems developers (whether internal or suppliers). Using MBSE (Model-Based Systems Engineering) and associated tools improves the elicitation process, allocation, traceability and assessment of

requirement changes. These can also support reuse of requirements and improve project turn-around. An organizational approach to developing SE processes and standards is essential for implementation of SE. Providing access to training and adopting tools with a clear expectation of results is an essential to project success. We'll use medical device development as an example of how systems engineering and tools can help an organization to improve projects performance.

Bio

Paul Kostek – Systems Engineer – Air Direct Solutions & IEEE Senior Member

Paul J Kostek is a Systems Engineer with Air Direct Solutions LLC, a consulting firm in Seattle, Washington. He works with companies in the aerospace, defense, medical device/healthcare, commercial space and ground transportation industries. Paul is experienced in requirements development/management, architecture, risk management, interface definition, verification, MBSE and project planning. This includes defining user needs, system/subsystem requirements, system architecture, risk assessments, interface control documents and verification and validation planning.

In 1999 Paul was the President of IEEE-USA, and a member of the IEEE Board of Directors. He served as President of the IEEE Aerospace & Electronics Systems Society in 2000-2001 and was a candidate for IEEE President-Elect in 2001. He Chaired the American Association of Engineering Societies in 2003. And served as VP Conferences for the IEEE Intelligent Transportation Systems Society

He was General Chair of the 2004 IEEE Intelligent Transportation Systems Conference, Chaired the 2006 IEEE/AIAA Digital Avionics Systems Conference and was the Chair of the 2011 and 2012 IEEE Global Humanitarian Technology Conference.

Paul is a Senior Member of the IEEE, an Associate Fellow of the American Institute of Aeronautics and Astronautics, a Senior Member of the International Council on Systems Engineering (INCOSE) and SAE. He is an adjunct professor at Seattle University and received his BS from the University of Massachusetts, Dartmouth.

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Risk Management

Carl Slater

Bio

Lead Engineer Resource Management Team International Space Station (ISS) Provided distribution of on orbit resource, launch mass and logistics for Science, Crew and Station with no crew. Produced Boeing and NASA resource management Documents. Commercial Airplane Lead engineer top level requirements for 777-100, ISS Risk Mtg focal NASA/Boeing computer tool, Lead for Opportunity and Risk Management process and computer tool. The Risk and Opportunity tool was adopted as the Boeing Enterprise Standard.

International Space Station Risk Management Process Adapted for Use in Airline Operations, Chapter 7, Handbook of Airline Operations Aviation Week, McGraw Hill 2000, Carl Slater System Engineer Boeing Space and Communications Company, and Spyros G. Varsos Technical Staff (Retired) Dynacs Engineer Co. Inc Houston, Texas

International Space Station Risk Management Process Adapted to Use in Local Government AIAA Houston Section Annual Symposium, May 28, 1998.

Implementing the Technical Performance Measures (TPM) Plan in the International Space Station Alpha Product Team Environment, IEEE 1995 International Symposium and Workshop on System Engineering in Computer Based Systems, Tucson, AZ, March, 1995.

The Use of Technical Performance Measures (TPM) Tools for Managing Vehicle Design Issues on Large Program, AIAA / NASA / ISSMO, 6th Symposium on Multidisciplinary Analysis and Optimization, Bellevue, WA Sept. 4-6, 1996.

Implementing the Technical Performance Measures (TPM) Plan in the International Space Station Alpha Product Team Environment, IEEE 1995 International Symposium and Workshop on System Engineering in Computer Based Systems, Tucson, AZ, March, 1995.

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09:35 am John Aiello, 'Automation and Robotics in Aerospace', ai3



John Aiello

John will speak about the top challenges facing manufacturing companies today and how robots and automation can solve many of these issues. John will highlight keys to a successful automation system and current trends in manufacturing automation.

Bio

John is the founder and president at ai3 Advisory and Automation, a firm specializing in helping companies grow the value of their business by implementing revenue and profitability growth strategies, and often including automation strategies to improve operational performance. John previously served as Senior Vice President at Aritex, a global leader in factory automation and robotics. John has several decades of experience in the aerospace, manufacturing, and consulting and has held roles in engineering, program management, global sales and business development, consulting, and Mergers & Acquisitions. John has a degree in Aerospace Engineering from the University of Michigan as well as graduate studies in Engineering, Business and Finance. john.aiello@ai3advisory.com C: 425-478-6916.

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10:00 am Shaun Rogers, 'Advance Metering, Regional Director Energy Industry', Trynzc



Shaun Rogers

Speaking Topic: AMI Value Realization, Unlocking the Promise of AMI plus

The lack of real-time, high-fidelity observability in the low voltage grid has been the consequence of technology limits of the age, leaving hard and soft value on the table for distribution utilities. The introduction of Advanced Metering Infrastructure (AMI) opened the way towards capturing this value for stakeholders. AMI is a large, high-profile investment, and the path to implementation is often through an application process rooted in a rate case, an AMI Proposal, or a portion of a broader Grid Modernization proposal. This initiative has proven to have low success rates of transformation, as low as 30% adoption per leading research firms. There is a purposeful way in unlocking this value through digital transformation efforts that are rooted in higher success rates through Trynzc's Sense, Triage, and Act model via the GridOps platform. This value realization

chain will be shared within a short presentation of Trynzc's next gen solution starting from the As-Is mindset to the future state of Utility Grid Operations.

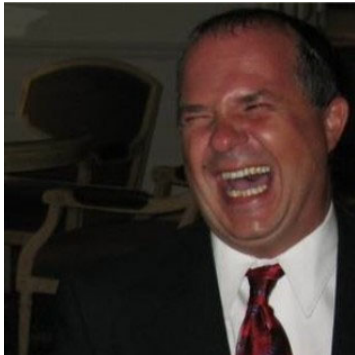
Bio

Shaun Rogers has led an impressive career as a sales and operation professional in his 15 years working within the technology space in numerous verticals such as fintech, construction, utilities, as well as a successful business owner.

Serving as the Regional Director at Trynzc, Shaun plays a major role in the go-to-market strategy of Trynzc's flagship product, GridOps. Through his commitment to this role, he continues to help Trynzc reach a broader audience by introducing the awesome power of AMI data and educating the utilities space in how to leverage the technology to their benefit.

He has a Bachelor of Science, Business Administration & Healthcare Management from Colorado State University.

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



Richard Platt

New technology forecast on where Robotics is going based on current industry trends then adding in the Trends of Engineering System Evolution that some of the companies are using in the Robotics Industry, specifically Hyundai and Boston Scientific (a subsidiary of theirs), that are giving them the edge against their competitors. There's a whole lot more too, with all of the different ways that Robotics is being commercialized on a wider scale, e.g., Amazon's purchase of Roomba, and how that is all about the data of Internet of the Home and how they, Amazon's AWS is one of the driving factors here. Keeping in mind that AWS is market capped at

something like \$3T, which makes it a major player driving this along with how Drones are now being used in completely different ways than they were before, the use cases got worked out. The technology finally got more mature and robust enough for more arduous, hard-to-do manual work of transporting items w/in the warehouse, which is the same for the factory. Then we have network effects taking over, then we can start talking about how to secure all that, and that's simply standardization across all of the major networks of IoT, IoF, IoH, IoX.

Bio

Richard Platt is the Senior Managing Partner & Chief Engineer for the Strategy + Innovation Group and is the last Innovation Master of Intel Corporation. In his last role at Intel, he was chartered by the CEO, reported to the CIO and the Senior Executive Vice Presidents for Intel High Volume Manufacturing and R&D. His program clawed back \$212.5M in ROI and embedded a "World Class" set of Problem-Solving methods for the design, R&D, Technology Development and Manufacturing communities across the enterprise. He and his team were awarded the Intel Achievement Award, the 2nd highest award you can get. Currently, he supports the Semiconductor, Aviation, Aerospace, High-Tech, Electronics, Defense & Military Industries. He often bangs on about "He Who Disrupts, Wins Moore & More than the Other Guy", but most people aren't paying attention. He's been doing Bonsai & Japanese Gardening for +30 years.

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Wendi Walsh

As technical professionals, we bring a level of skepticism to our work. We're paid and perhaps are fueled by solving complex challenges. We often rely on what we know as opposed to what could be. We often work in organizations where our voices are not heard, where risks are managed out quickly, where failure is feared, and yet, innovation is critical to solving problems and keeping us interested in our work.

Let's dive into Nancy Duarte's work of the Innovation Lifecycle and see how you can set up your organization, your team, and yourself to innovate and be heard.

Bio

With degrees in Electrical Engineering and Organizational Development, Wendi combines technical and organizational expertise to work with individuals, teams, and companies to understand human reaction and interaction (people) and implement complex situations (technology). This gives her the foundation to engage senior leaders in conversations that directly impact strategy, planning, and budgets. Wendi accomplishes all of this by listening and asking generative questions, meeting stakeholders where they are and making room at the table for more voices, co-creating what is needed, focusing on and accentuating strengths, setting up the team for success, and delivering on the goals.

She is particularly adept at translating between business and technology groups and across country and company culture to align people to work together to achieve a goal. She creates capacity and leaves behind a framework for companies to apply to future challenges.

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Electric Vehicles Fast Charging.

Allen Huang

Bio

Allen Huang is currently working as a lead EV charger design engineer at Nidec Industrial Solutions in Cleveland, OH. He holds a Master's degree of electrical engineering from University of Texas at Austin. He has been working in EV charging industries extensively in last seven years. Job related works also took him to travel to various Chinese, European and US cities. Prior to moving into EV charging industries, he has worked as software engineer in various job functions in companies in Puget Sound area. To enrich his knowledge in power distribution and transmission, he also spent two years of full-time graduate studies in electric power system in Washington State University, Pullman, WA late in his career. His first family home was in Marysville, WA back in middle 90's. He is currently residing in Bellevue, WA with his family.

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11:40 am Pamela Hamblin, 'Interconnection and the Utilities', NUEnergy Solutions, CEO



Pamela Hamblin, CEO

Bio

With over 25 years in her Energy Career, Pamela has developed a vast knowledge of the dynamics involved in delivering safe, reliable, resilient and affordable power. Her expertise spans across energy generation, transmission, distribution and energy markets. Having worked with centralized, as well as distributed renewable generation, she has a big picture understanding the challenges facing the integration towards carbon neutralization. Pamela participates on several ASME and IEEE subject matter expert committees and has been invited as an expert speaker for respected industry conferences. Additionally, Pamela has been published in numerous industry publications.

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12:05 pm Lunch Presentation and prize pack give away – Network Lunch

12:35 pm Kathleen Kramer, 'Avionics Systems – Considering AI Techniques where Safety is Critical'



Kathleen Kramer

The description of Artificial Intelligence (AI) has continually been evolving over past few decades in correlation with the advancement in technology itself. In the aviation context, AI doing things conventionally performed by humans could have applied to even older dynamics-based implementations of an autopilot but now more implies judgement reserved in past to human pilot, and clearly applies to unmanned aircraft systems (UAS). The ingress into numerous spheres of life has been aided by progress in some of the supporting technologies, namely, high-powered parallel processing, big data analysis and cloud computing, deep learning algorithms. There is a real challenge to aviation safety certification that has been established

upon verifying that all possible safety-critical conditions have been identified and verified.

Bio

Kathleen A. Kramer is a Professor of Electrical Engineering at the University of San Diego. A Distinguished Lecturer for IEEE Aerospace & Electronics Systems Society, she maintains an active research agenda in the areas of multisensory data fusion, navigation, and cyber security in aerospace systems, and leads the AESS technical panel on Cyber Security. She worked to develop new engineering programs as a founding member of the faculty, eventually became the chair of electrical engineering, and then served as Director of Engineering (2004-2013), providing academic leadership for all of the university's engineering programs. She has also been a Member of Technical Staff at several companies, including ViaSat, Hewlett Packard, and Bell Communications Research. She is a leader in engineering accreditation activities for IEEE with ABET and has contributed to several recent advances in the criteria, impacting university education in 41 countries. Author or co-author numerous publications, she speaks on a wide variety of technical and professional topics. She received the B.S. degree in electrical engineering with a second major in physics from Loyola Marymount University, and the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology.

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01:00 pm Abir Chermiti, 'Female Entrepreneurship; Opportunities and Challenges', Software Engineer



The Rise of Female Entrepreneurship and Sharing the 11 steps Framework to Launch and Scale a Business in 2022.

Abir Chermiti

Bio

Abir Chermiti is a Certified Harvard Business Strategist, Entrepreneurship & Business Coach and an Award-winning Women in Tech Ally. A Software Engineer who had a large experience working with international workplaces and organizations who decided to turn her passion into a business & started Elle Media Empire; a Media and Business Consulting firm where she helps business from startup to scale. Abir is a huge supporter of women in tech and a true believer that women can do more if they are given the space to build and create. She started her own business in the middle of a global pandemic and launched EllePod, a podcast series that features stories of women in tech and business to support women and young individuals in their career path and empower them to embrace their digital and entrepreneurial Potential.

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Camila Simons

It is not uncommon to plan for a 25- or 30-year project life, but the impacts of an extended life on availability and O&M costs are rarely well understood. If spare parts are no longer available, will failures result in decommissioned turbines, and if so, at what rate? If there are risks of structural failure, how can these risks be mitigated and at what cost? Which structural components might fail within the desired life and will spare parts be available? Increased risk of failures may be mitigated through detailed inspections which, if performed properly at the right intervals, will allow early identification of fatigue damage. While some damage can be addressed through repair or replacement, in certain cases it may be uneconomical to repair or replace, thus leading to turbine decommissioning. Decommissioning a limited number of a project's wind turbines, while rare in 2022, may become

common practice in the future, in order to facilitate economic operation past 20 and even 30 years. In this presentation DNV will walk through a comprehensive approach to life extension starting with a desktop study of the turbine's structural components and operating history, mapping of the risks and risk mitigation plan including inspections, repairs, replacements, and decommissioning strategy. Through these steps, we can form a basis for forecasting turbine availability, risk-based inspections plans, O&M costs, and wind turbine decommissioning rates, to facilitate the development of a comprehensive life extension strategy.

Bio

Camila Simons (she/her) is a Turbine Engineer with DNV's independent engineering turbine technology team, specializing in evaluating technical risks associated with a broad range of new and older wind turbine models, wind farm construction, and operational turbine fleets. She has climbed turbines all over North America and has assessed turbine technology risks on new and operational projects from all major OEMs active in North America. Ms. Simons also has expertise evaluating suitability of turbines to specific sites, including considerations of how inflow conditions impact turbine loadings and opportunities for life extension. This work extends to evaluating structural component fatigue failure rates, evaluating decommissioning strategies, and advising stakeholders on optimal path to holistic life management. Ms. Simons has a bachelor's degree in mechanical engineering from Northeastern University and has previously worked as a systems engineer at a renewable energy developer in Spain.

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01:50 pm Matt Army, 'Developing People and Organizational Culture to Drive Success'



Matt Army

My experience with the production of Top Gun: Maverick – a lesson in leadership. In early 2019, Top Gun: Maverick came to my town – Naval Air Station Whidbey Island. As the commanding officer, my team facilitated the husbanding of the production team – food, hotel, IT services, etc – to support producing the best aviation movie. Despite the many tactical lessons that we learn in every complex and different event, it was the reinforcement of a) the importance of an informed vision, b) leading a team of diverse experts, and c) making informed and timely decisions that stand out from my experience. However, this stands out from my observation of Tom Cruise and his role as Producer while on location at the air station. We refine our leadership through observation of others and should move forward with conviction to always improve.

Bio

Consultant at The Arnold Group

CAPT (USN) Ret.

Matt has 25+ years of global experience in strategy, operations, and leadership in the U.S. Navy and in consulting. A proven leader with a background in organizational development, technology implementation, and engineering, Matt has a unique perspective to help clients develop and implement practical solutions. His career included assignments leading large and complex organizations, developing initiatives and partnerships in embassies in Sweden and the UAE, and flying strike fighter aircraft in training, testing, and combat. He holds a BS from the U.S. Naval Academy, an MA from the Naval War College, and an MBA from UVA's Darden School of Business.

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Cherie Litson

Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings. These risks stem from a variety of sources including financial uncertainties, legal liabilities, technology issues, strategic management errors, accidents and natural disasters. For a product to have market appeal, it must either be differentiated from existing products in its category, or it must create an entirely new category. In either case, the successful product offers something new to the market. That "something new" requires a design that's never been done before. And if it's never been done before, it's inherently risky. At the heart of most new products is the Printed Circuit Board (PCB). Its success is dependent upon the entire product team from the top down. The common thread for everyone to be aware of and understand is DFX.

Bio

Ms. Litson is the principal in Litson1 Consulting; a Master Instructor Trainers (MIT) for the IPC Certified Interconnect Design basic (CID) and advanced level (CID+) through EPTAC (since 2003); and a part time Instructor for Basic Electronics at the Everett Community College, Everett, WA.

Since her first PCB Design was in 1978 (on a light table), I have expanded my skills and knowledge in Mechanical, Electrical, manufacturing engineering, network development, and education through multiple venues, companies, and disciplines.

She established Litson1 Consulting in 2008 to support multiple small, medium, and large-scale companies with PCB Design projects. I have developed and presented independent, targeted educational programs for engineering staff, non-technical personnel, local community colleges, and overseas clients.

Her experience in the medical, aviation, and commercial sectors have given her a broad perspective of the PCB industry. She is often asked to write articles on targeted PCB subjects for major industry publication. She delights in finding new ways to develop products while staying grounded in the basic concepts of physics and the capabilities of the "real world" at the current moment.

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Neno Novackovic, PE

Since the early 1970s, when microprocessors became commercially available, they quickly became a common part of all aircraft control and indication systems. With an ever-increasing number of microprocessor-based airborne applications, safety regulations and software standards like RTCA DO-178 evolved, demanding rigorous requirements and processes for software development, testing, life cycle, and certification. Over the years, as the development of aerospace software applications increased, engineering costs development and product certification cost exponentially increased, having a significant impact on the market.

The landing Gear Actuation system is one of many aircraft systems whose control functions are based on microprocessors and software applications.

Considering that the landing gear actuation control algorithm can be defined in the form of the State Machine, this article intends to demonstrate that such a controller can be realized as wired logic hardware without software implementation. Control algorithm and logic structures were defined based on generic aircraft Landing Gear Actuation system, which is common for many midsize commercial aircraft. The full functionality of the control algorithm was defined and simulated together with the initial conditions, power-up recovery states, and reverse commands.

Although Landing Gear Actuation control is an aircraft safety-critical function, the presented design and hardware implementation in accordance with RTCA DO-254 can qualify as "Simple Electronic Hardware." With such a design concept, the cost of development, implementation, and certification can be significantly reduced compared with the same controller realized with microprocessors and software. The proposed hardware solution for the Landing Gear Actuation controller will provide weight saving, robust design, simplified fault detection, and a more efficient system diagnostic process.

The major advantage of the proposed landing gear control algorithm implementation with hard-wired logic compared to the microprocessor-based software application is in time required for development and certification. Having aircraft critical control functions embedded in simple hardware provides more flexibility when a redundant control loop is required. It is important to mention that a control algorithm with simplified hardware implementation opens more opportunities in the system expansion where microprocessor-based, less critical applications can be combined. Such applications may include system health monitoring, diagnostic, and maintenance functions.

Bio

Mr. Novakovic is a Senior Principal Engineer and has more than 30 years of experience in various aircraft systems design, integration, testing, and certification. In his early career, working for the Department of Defense in former Yugoslavia, he was a part of the R&D team, developing turbojet engine control and health monitoring system. At the beginning of the nineties, he moved to Canada and made the transition to the area of Landing Gear Systems design and integration. In 2009, he joined Collins Aerospace (formerly Hamilton Sundstrand), Aircraft Electric Systems division, and since he has been developing electric power systems for major commercial programs, including Boeing 787, 777X, KC-46, Airbus A350, A220, Embraer E2, COMAC 919, and Irkut MC21. In recent years, his focus has been on Aircraft Electrical Power Systems and Secondary Power Distribution Optimization, where he contributed with several U.S. patents and technical publications. His technical articles are published in SAE Aerospace journals and presented at international conferences and seminars. Neno has a BSEE and MSEE.

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Tim Yoder

Buildings are responsible for 40% of US total energy usage. If we are going to meet our climate goals in time, reducing that energy and associated emissions needs to be a top priority. Inefficiencies plague building operations leading to wasted energy and represent a big opportunity for optimization. More efficient operation can be achieved by incorporating data-driven solutions, such as machine learning (ML), but the data/ML revolution seen in other application areas has been slow in coming to the building's domain. This talk will discuss the challenges and opportunities facing ML in the real-world context with examples from three recent projects.

Bio:

Tim is a data scientist at the Pacific Northwest National Laboratory (PNNL) in the Optimization and Control Group. His current work focusses on implementing data-driven solutions to challenges in the Electricity Infrastructure and Buildings application area. Prior to joining the Lab in 2019, he was an HVAC design engineer focusing on sustainable high-performance mechanical systems, primarily for healthcare and research / teaching laboratories for higher education clients. He is a registered Professional Engineer and has worked at engineering firms across the country. He received his B.S. in mechanical and environmental engineering from Messiah College and his M.S. in applied mathematics from the University of Washington (go huskies!). He is an ASHRAE and IEEE member and sits on the Loads subcommittee of the Smart Buildings - Loads - Customer Systems technical committee of IEEE's Power and Energy Society (PES).

<https://www.linkedin.com/in/tim-yoder/>



Kennett A. Bivens, Jr.

Launching space vehicles into a potentially high static environment. The challenges of launching into space in a potentially high static environment has its challenges. This new challenge has led to developing new methods based on analysis of launching in high-risk environments, other than blue skies, anyone can do this right? Test levels are exceptionally higher causing survivability limits to be pushed to the point the test equipment abilities have been exceeded. We have also been created test methods cross politization of different test methods. As for example: Combining lightning requirements of MIL-STD-461 G CS117 with DO-160G. The technology we are finding are limited as we are exceeding 6KA as a test level. So, what is next generation of test equipment going to look like in the near future as we reach again for the challenges of commercial space flight? As the industry is selling rides into space, not selling products to industry. The testing is self-imposed (developing new test methodologies) in addition to this new ideology is still in its infant stage driving new test developed by the industry and the FAA

Bio

Mr. Bivens enjoyed a career in aerospace as an EMI/EMC/R&D Test Engineer for over two decades, working for such companies as: Boeing (Working on both 767 commercial and tanker, 757, 787, 747 and post 9/11 developing of the Flight Deck security system. While at Crane Aerospace 787 Smart stem system development. At Avtec – Tyee Aerospace: ACARS, APU current monitoring, instrument Panel lighting, NVIS systems and A350 and A380 flightdeck security. Kennett was at Honeywell Aerospace: 787 and at IDD Zodiac Aerospace – later becoming SAFRAN Lear, Boeing, Airbus, Bombardier and Comac. He was also at the Tri-tec Manufacturing/United States Navy and did the Managing the EMI/EMC LAB. He was also testing components which are currently used on both Aircraft carriers and Submarines. He is currently on contract at Blue Origins working in the electromagnetics lab. Other projects include New Glenn – Heavy-lift orbital launch vehicle New Shepard – Reusable Rocket. He is also, currently enrolled in Rainier Flight Services flight school where he is studying to attain his private pilot certification continuing to IFR (Instrument Rating) and CFR (Certified Flight Instructor) rating. Mr. Bivens currently owns a 1979 Piper PA-38-112 (Tomahawk for short) N2463L. His life has been dedicated to things that fly since that 1st flight with his father some 50 years ago.

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Sanjay Samuel

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, RF Communication, Bus Rapid Transit Systems, Implementation of Asset Management systems for Rail Roads, and fiber network engineering for the railroad.

Mr. Samuel is 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 communication 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.

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James Banks

James will be talking about one of the most important things here in the Pacific Northwest: how does electrical power get restored after a storm, and what precautions are taken during a wildfire. In his role as Supervisor, Power Dispatch, James has an insider's perspective in how power travels from the generation facilities to the devices that customers use in their everyday lives. He will discuss the process in how a utility prepares for a storm and works tirelessly to get all power restored to customers as quickly and safely as possible. He will also discuss actions that are taken during a wildfire.

Bio

James Banks is a Supervisor, Power Dispatch at Puget Sound Energy, where he has worked for 5 years. He is in charge of the real-time operations of PSE's transmission grid, covering half of Washington State. He has an electrical engineering degree from the University of Washington and is currently working on his MBA. Before PSE, James served 6 years in the US Navy as a nuclear electrician onboard the aircraft carrier USS Abraham Lincoln. This started his passion and journey in the energy industry. He has volunteered for over 15 years with the Boy Scouts of America and has achieved multiple awards, most recently the Silver Beaver. He loves to work with youth and see them grow. Energy and leadership are his favorite topics. James is happily married and his favorite thing to do is spend time with his family.

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

04:50 pm Special Presentation – Salute to Speakers, sponsors, supporters, Special Guests



Comedian Monica Nevi

I am a professional, internationally touring standup comedian. I have been on Laughs on FOX, ESPN's SportsCenter and the host and creator of the docu-series 80 For 80 on Amazon Prime. I am the co-host of the six-year running podcast the HugLife Podcast and debuted my standup album Mostly Finger Guns Oct. 2020, #1 on the comedy charts. One month later I released a comedic guided meditation album called Chill that also reached #1 on the comedy charts, the first ever meditation album to do so.

04:55 pm Comedian, 1 free drink ticket for all attendees

05:00 pm End of conference

Sheree Wen – Honorable MC



After getting her Ph.D. from UC Berkeley, Sheree worked at IBM, making vital contributions to the first MIPS (Million instruction per second) High-speed mainframe computer. Dr. Wen then built companies with factories in the United States and Asian countries which developed, manufactured, and distributed OEM brands of IBM, AT&T, Unisys, and Wen products worldwide. Her companies also serviced and supplied products to Federal, State, and local governments. Sheree is also deeply committed to the public good. She served as a United States National Commissioner to UNESCO and is the Founder and President of UNESCO Washington State. Sheree has chaired and served on various commissions, committees, and councils in state, regional and local governments. She has worked closely with IEEE, serving as the chair of the

Humanitarian Partnership Committee, the Communication and Cybersecurity Policy Committee, and Region 6 Government Relations and Women in Engineering. Currently, Sheree serves on various national and local boards. Sheree was honored as the young scientist of the year and gold medal by AIME, Award of Excellence by United States Small Business Administrators, top women entrepreneurs by The New York Times, and featured in 20th Century Asian Professional Women by Japan Asahi News.

Travis Moore- 'Metal Fabrication', JEMCO



Travis Moore

Driving sustainable growth for an AS9100 precision machining and sheet metal fabrication company serving the space / launch, medical, aerospace, defense, automotive, and renewable energy industries. Leading strategic planning and execution of new processes that are delivering increased profitability and more reliable returns month after month. Developing, monitoring, and managing budgets and KPIs to achieve quality (APQP/PPAP/SPC) & profitability goals. Specialties include: rapid prototyping (R&D), production, avionics, AOG support, actuators, controls, propulsion systems, rotocraft, engineering, kitting, assemblies, design/build, and aircraft / cabin interiors. Increasing employee engagement through innovative policy and personnel strategies. Leverage LEAN, six sigma, and 5S principles for ongoing continuous improvement projects. Passionately, efficiently and effectively managing: supply chain strategy & vendor performance, facility maintenance (five buildings totaling 120,000+ sq. ft.), marketing (digital / print / editorial / event-based), outside processing, real estate development, safety, legal, IT (hardware / software / server (SQL/SBS), HR (HRIS/compensation/recruiting/training/organizational development), business development, and finance.

Mike Brisbois, Conference Chair



Mike Brisbois, PE

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, Oregon, 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/>

Salute to our showcased Consultants:

Michael Brisbois

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

Souvik Chandra

David Brighton

Alex Gamble



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Thank You!

For joining us today for IEEE
Seattle Engineering Conference

We will see you on December 9, 2022
for the IEEE Miami Tech Conference