



## Energy Master Planning for Resilient Public Communities Virtual Training

October 13-16, 2020

Presenter Biographies



**Mr. Anders N. Andersen** has been responsible for the development of the energy system analysis tool energyPRO that are used worldwide by consultants and developers. Anders N. Andersen is responsible for and teaching in Energy System Analysis at the Sustainable Energy Planning and Management-study at Aalborg University. He has in more than 13 years at this course held lectures about district energy plants. Anders is a reviewer at Elsevier.



**Ms. Kate Anderson** leads the Modeling and Analysis Group at the National Renewable Energy Laboratory (NREL). Kate's team works with partners to evaluate the technical and economic feasibility of integrated energy systems including renewable energy, conventional generation, flexible building loads, storage, and electric vehicles for buildings, campuses, and communities. Kate is the program lead for the development of NREL's REopt model, used to evaluate cost-optimal selection and sizing of behind-the-meter energy assets for grid-connected and off-grid energy systems. Kate leads NREL's research on valuing energy resilience. Kate has a B.S. in aerospace engineering from MIT, an M.S. in Renewable Energy Science and Technology from Loughborough University, and is pursuing a Ph.D. in Advanced Energy Systems at Colorado School of Mines.



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**Lyle Axelarris PE, LEED AP BD+C, O+M** is a professional engineer, specializing in Building Science and Sustainable Design. He is a leader in energy-smart structural design and has developed innovative techniques to reduce thermal bridging across commercial building envelope assemblies. Lyle performs hygrothermal modeling and works with clients to establish performance criteria, material selection, and barrier continuity strategies, resulting in high-performance detailing for cost-effective and constructible building enclosures. His experience as a journeyman carpenter has given him unique insight into the role that proper detailing and construction technique has on building performance in the subarctic. This background informs his work during forensic investigations and building envelope inspections.

Lyle is the instructor of the Building Envelopes course at the Boston Architectural College, where he studied building science and passive systems design. His expertise in cold-climate building design is driven by his passion to preserve material durability, energy efficiency, and indoor air quality for healthy, sustainable buildings.



**Mr. John Benefiel** is the Chief of Security Engineering for the Protective Design Mandatory Center of Expertise, US Army Corps of Engineers.





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John's mission is as a subject matter expert in the areas of critical infrastructure; energy systems; continuity of mission operations; emergency electrical power, technical threat research and mitigations; electromagnetic pulse (EMP, HEMP, CME); electromagnetic effects; radio frequency technologies; Sensitive Compartmented Information Facilities (SCIF); control systems and sensor technology. He is involved in criteria development, technology transfer, and project consultation from inception through end of project life.

Mr. Benefiel's industry experience includes work in research, design, product development, management, and business development.

John holds a Bachelor of Science degree in Electrical Engineering from Kansas State University; a Master of Science degree in Electrical and Computer Engineering from the University of Missouri - Columbia; and a Master of Business Administration from Rockhurst University. He is a registered Professional Engineer; and a Certified Energy Manager by the Association of Energy Engineers. He has served on governance boards for the Institute of Electrical and Electronics Engineers, and the Nebraska Center for Excellence in Electronics.



**Dr. Michael Case** is a Senior Research Mechanical Engineer at the Construction Engineering Research Laboratory (CERL), US Army Engineer Research and Development Center (ERDC). As a Program Manager, he led a program to produce energy and water planning, resilience and simulation tools for military installations. The resulting System Master Planner (SMPL) Tool has been used in over 80 Army, Navy, Marine Corps, Air Force, and NASA energy studies and is in active use today, with enhancements in-progress to add resilience analysis to consider threats such as storm surge, flooding, storm damage, and human-initiated actions. SMPL was a recipient of the 2016 GreenGov Presidential and USACE Awards for



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Green Innovation. Dr. Case earned his Ph.D. in Mechanical Engineering from the University of Illinois in 1994 and Bachelor of Science in Mechanical Engineering from Cornell University in 1980. He currently resides in Mahomet, Illinois.



**Mr. Anders Dyrelund** is known as Ramboll's leading Energy Consultant and Chief Advisor in energy planning. He did the first energy master plan for the Aarhus in 1980, the first heat plan in Denmark, and had an active role forming the Greater Copenhagen District heating system and zoning against natural gas through his position in the Danish Energy Agency and Ramboll.

Anders has built his level of experience in energy master planning with focus on cost effective, low carbon and resilient supply of heating and cooling in cities through 35 years at Ramboll and 5 years at the Danish Energy Agency. One of his specialties is techno-economic and socio-economic calculations of energy scenarios, as well as institutional and legal aspects. He has been part of numerous energy master plans and district energy plants in Denmark, which all have been implemented. Besides he has transferred experience to more than 25 countries.



**Dr. Oddgeir Gudmundsson** has worked as a global district heating expert since 2012 for Danfoss A/S. The role includes developing district heating applications and solutions, operational and fault analysis of system components, provide consulting services to utilities,





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global initiatives and international organizations, perform system analysis and working with universities on projects related to district energy systems.

I have the role to introduce state of the art system solutions to existing district heating markets, for example Europe and China. I support developing new district heating markets like United Kingdom, Turkey and Chile.



**Honorable Katherine Hammack** serves as Director of Special Projects at the Green Business Certification Inc (GBCI). She reengages with the USGBC family after having worked as one of the founding members over 30 years ago. She has many years of experience in energy, sustainability, utility and infrastructure operations, and is delighted to come back to help advance tools to improve the built environment. Her focus is on increasing resilience and reliability in power grids and the built environment with the PEER and RELi programs.

A graduate from Oregon State University with a degree in Mechanical Engineering as well as a Master's in Business from University of Hartford, Hon Hammack couples a strong background in energy and engineering with her goal of building a better working world for future generations.

Katherine serves on numerous boards and advisory committees, including ASHRAE Board of Directors and the Board of Directors of Slipstream, a non-profit organization that creates, tests, delivers and scales the next generation of energy efficiency and renewable energy programs that move us farther, faster toward a clean energy economy.



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Hon. Hammack was appointed by President Obama as the Assistant Secretary of the US Army for Installations, Energy and Environment in 2010. She served in that capacity, through 2017, with responsibility for policy development, program oversight, outreach, and coordination of a wide variety of Army activities overseeing all of the Army's installations. Under her leadership, the Army instituted a net zero program for energy, water and waste. This program focused on efficient and effective resource management, on Army bases, to increase resiliency and reduce operating costs. She initiated the Army's renewable energy program to increase resiliency and readiness of Army installations through on-base power production, microgrids and energy storage initiatives. She also implemented programs to double the number of energy savings performance contracts in the Army.

Hon. Hammack's career includes work in sustainability consulting, for several electric utilities, manufacturing and product management.

She has also received recognition as an ASHRAE Fellow and Distinguished Service recipient; the Decoration for Distinguished Civilian Service in 2015 and 2017 for exceptional leadership in the US Army; the Association of Defense Communities President's Award 2016 for leadership in advancing innovation; and the USGBC Leadership Award 2015 for outstanding leadership in the public sector.



**Mr. Matt Haupt, PE CPP**, is currently the Energy Division Director for Naval Facilities Engineering Command, Headquarters at the Navy Yard in Washington, DC. He is responsible for ensuring the execution of DON energy policy and strategy to enable the Naval and Marine Corps warfighter to complete their mission.





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Mr. Haupt retired from the US Navy as a Civil Engineer Corps Officer with over 25 years of service and has a Bachelor's of Science in Ocean Engineering from Florida Atlantic University, Masters of Science in Environmental Engineering from University of South Florida.

He is a Professional Engineer (PE) in Civil Engineering in several states, and also has the Certified Protection Professional (CPP) certification.



**Ms. Donna Heimiller** has more than 20 years of experience conducting geospatial analysis for multiple renewable energy technologies at the National Renewable Energy Laboratory. She specializes in renewable resource assessment, technical potential analysis, and geospatial economic analysis and supply curve development.



**Dr. Joshua Kneifel** is the project lead for the Building Life Cycle Cost project funded by the Department of Energy (DOE) Federal Energy Management Program (FEMP). This project provides resources to support federal life cycle cost analysis (LCCA), including annual updates to the Annual Supplement to NIST Handbook 135, Energy Escalation Rate Calculator (EERC), and Building Life Cycle Cost (BLCC). In FY2020, NIST published the first revision to NIST Handbook 135 (Life Cycle Costing Manual for the Federal Energy Management Program) since 1995 and transitioned EERC from an executable software program to a web application. NIST is collaborating with FEMP to consider a similar transition of BLCC software from an executable program to a web application over the next couple of years.



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**Mr. Adam Ledwell** is the Director of Systems Engineer for the Schneider Electric Secure Power Division specializing in data center infrastructure for critical network systems including Uninterruptible Power Supplies, precision cooling systems, racks and power distribution, and Data Center Infrastructure Management (DCIM) software.

Adam Ledwell served in the US Army National Guard for 9 years as Black Hawk helicopter pilot and company commander where he served tours of duty in Bosnia (2003-2004), and Iraq (2005-2006). Upon returning to Schneider Electric in 2007 he transitioned to a role as a Systems Engineer focusing on Department of Defense critical facility design throughout the Pacific Rim. Adam relocated to Honolulu where he traveled extensively throughout Korea, Japan and to other Pacific military installations where he designed and implemented high availability data centers for the DoD.

In his 20 years with Schneider Electric, Adam has worked designing critical facilities for end users in many market segments including Cloud Services, Financial, Education, Government, Healthcare, and Enterprise Data Centers. In his current role as Program Director, Adam is responsible for all aspects of training, developing and hiring of a systems engineering team comprised of 30 members.





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**Dr. Richard J. Liesen Ph.D.** joined the US Army Corps of Engineers Construction Engineering Research Laboratory (CERL) in June 2009. He is currently a PI and senior developer for the "SMPL" System Master Planning Tool and working on the integration of the Resilience Tools and Databases into the SMPL Tool.

He is also the Energy Modeling Lead for arctic resilience and thermal decay testing program; and works on many other building energy efficiency and building science research projects.

Before CERL Dr. Liesen worked at Owens Corning at the Science & Technology Center in Granville, OH and when he left he was the R&D Leader of the Building Science group.

Before Owens Corning Dr. Liesen was the Associate Director of the Building Systems Laboratory at the University of Illinois. Dr. Liesen was on the original development team for the "EnergyPlus," whole building energy simulation program.

**Mr. Ruediger Lohse** is the head of the Section Energy Services at Climate Protection and Energy Agency of Baden-Württemberg; the head of the Energy Service Competence Centre Baden Württemberg, overseeing and steering the development of the Energy Service market, new financial and business models on the regional level; and the managing director of the German Energy Service Hub, Berlin. The Hub is the association of German ESCOs with all major players on board. The Hub is aiming at improving the political framework for energy services, provides high-level network events and is facilitating the macro- and micro-economic framework conditions of the energy service market. Mr. Lohse is an industrial engineer.



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**Mr. Bjorn Oberg** is a research electrical engineer for ERDC CERL. His primary research interests are resilience and automation. His work on in resilience has focused on electrical and thermal systems resilience, where he has led efforts that include the development and execution of a novel thermal decay study in cold/arctic climates, the development of a mobile hybrid power system for deployed force infrastructure as well as the development of a composite flywheel energy storage system.

Bjorn received his B.S. in electrical engineering from the University of Illinois at Urbana Champaign in 2018 and is currently pursuing his M.S. in Control Systems.

**Ms. Susanne Ochse** (Dipl.-Ing. (FH) worked from 1991 to 1994 and from 1999 to 2005 for the international environmental protection organization Greenpeace e. V. in Hamburg in the energy sector, first as an assistant, then for five years as a research assistant. During this time, she accompanied legislative projects and developed strategies for energy policy campaigns. Her tasks also included representing the organization to representatives from politics, the energy industry, the media and associations. From 1994 to 1999, Ms. Ochse worked as a consultant for Simone Probst, a member of the German Bundestag for the Green Party. She supported Ms. Probst in her parliamentary work in the research committee, especially on topics of energy research. Based on her experience in energy policy, Ms. Ochse studied mechanical engineering with a focus on energy technology at the Rhine-Main University of Applied Sciences from 2005 to 2009. In her diploma thesis she investigated questions regarding the control of solar thermal systems for the collector manufacturer Solvis. Since summer 2009, Ms. Ochse has been employed at GEF as project engineer and project manager. Her main focus is on scientific work in publicly funded research projects (e.g. project Transformation Strategies to Increase the Share of Renewable Energy in District Heating, Integrated Energy and Heating Concept Jena 2050), energy system modeling, the





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development of supply concepts and feasibility studies for district heating expansion as well as transformation concepts, e.g. within the framework of the funding program Generation 4 District Heating.



**Mr. Michael O'Keefe** joined Big Ladder in May 2011 as a Senior Engineer and conducts both engineering and software development. His expertise includes engineering software development in various modeling and programming languages. Since joining Big Ladder, Michael has led development of several software projects including being the lead on a software simulation tool to assess the resilience of energy networks.

Prior to joining Big Ladder, Michael worked for over 10-years at the National Renewable Energy Laboratory's (NREL's) Center for Transportation Technologies and Systems. Part of his focus was on the reliability of power electronics for vehicles.

Michael holds a Bachelor of Science degree in Mechanical Engineering from Northern Arizona University in Flagstaff, AZ as well as two Master of Science degrees from the University of Washington in Seattle, WA: Mechanical Engineering and Technical Japanese.



**Mr. Raymond E. Patenaude, PE, MRSA**, Managing Partner of the Holmes Engineering Group LLC, is a registered Professional Engineer specializing HVAC systems,



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moisture intrusion into buildings, and microbial contamination of building environments. He has been a consultant and forensic engineer for over forty years involved with the analysis, design, and construction of building systems.

Mr. Patenaude is a former ASHRAE Vice President and current Distinguished Lecturer. He currently serves the Society as a member of TC 1.12, Moisture Management in Buildings and Past Chair of the Project Monitoring Sub-Committee for the new “ASHRAE Guide for Buildings in Hot and Humid Climates.

Designing buildings in hot and humid areas requires the integration of techniques for building envelopes and control of indoor temperature and moisture content. Mr. Patenaude, P.E. will address requirements for the thermal environment in hot & humid climates for building sustainability required for energy master planning of resilient public communities.



**Ms. Laxmi Rao** is a Senior Director at the International District Energy Association where she serves in a technical role to support District Energy and CHP initiatives, projects, education, development of tools and outreach efforts.

She has served as a key resource and project lead for several innovative energy and water infrastructure education and outreach efforts to campuses, cities, communities and municipalities. She has presented to cities and towns, sustainability focused organizations and supported IEA, UN and World Bank efforts on climate adaptation efforts targeting cities and district energy. She supports the development of IDEA’s grant applications and serves as Project Manager for IDEA’s grant awards.





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Laxmi brings over 30 years of experience at the Massachusetts Institute of Technology, serving in Senior Technical and Project Management roles aimed at technology adoption and deployment, and community initiatives focused in the energy sector and spanning the areas of Combined Heat and Power (CHP), District Energy, utilities distribution controls & metering, energy and water conservation, renewable energy applications and sustainability projects including water conservation and Green IT projects. Laxmi has a B.S. in Electrical Engineering and an M.B.A.



**Mr. William B. Rose** is retired Senior Research Architect at the Applied Research Institut, College of Engineering, at the University of Illinois at Urbana-Champaign. His major field of university research involves water and its effects on buildings. He is the author of *Water in Buildings* published in 2005 by Wiley & Sons. His recent university research projects include sky radiation effects with solar reflective roof surfaces, and health impacts associated with ventilation following weatherization. He was the handbook chair of ASHRAE TC4.4, responsible for four ASHRAE Handbook chapters on building envelope performance, and he is a founding member of ASHRAE Standard Committee 160 “Criteria for Moisture Control Design Analysis”. He is an ASHRAE Fellow. Through William B. Rose & Associates, he provides guidance on building performance in extreme environments.



**Benjamin L. Schenkman** is a graduate (BSEE and MSEE) of the New Mexico State University with an emphasis in Power Engineering and Deregulation Economics. Benjamin has worked at Texas Utilities as a distribution engineer and at the Public Service



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Company of New Mexico as a bulk power engineer before he was brought on board at Sandia National Labs in the Energy Storage and Microgrid department where he has been since 2004 and is currently a Senior Member of the Technical Staff. His current work involves microgrid control theory, microgrid assessments (including: rural villages, military, and commercial), physical security design, battery management systems, energy storage design and implementation, distributed generation, and modeling distributed and renewable energy in the distribution and transmission systems. He is a member of the Institute of Electrical and Electronics Engineers (IEEE) and Western Electricity Coordinating Council (WECC) and has been on numerous advisory and review panels for the Department of Energy and Department of Defense.



**Mr. Terry Sharp** is a project lead and building scientist in the Building Technologies Research and Integration Center at Oak Ridge National Laboratory. He recently developed the building energy use targets in ASHRAE Standard 100, the building performance metrics in the 2019 ASHRAE Handbook - HVAC Applications, and the energy targets for zero-net-energy buildings for the State of California.

Mr. Sharp pioneered the development of the analytical engines that enabled EPA's nationally recognized Energy Star performance ratings for commercial buildings. He also helped develop building energy performance rating tools for the States of California and New York. In addition, he has extensive experience in improving the strategic energy management of buildings, analyzing energy use in large building portfolios, risk assessment and minimization in energy savings performance contracts, energy performance measurement and verification, and in building energy performance assessments. Terry is a professional engineer holding M.S. and B.S. degrees in Mechanical Engineering.

**Mrs. Robbin Garber-Slaght** began working for the Cold Climate Housing Research Center in Fairbanks, Alaska as a research engineer in 2009. Prior to that she was an educator in rural





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Alaska. Today her focus is on developing energy efficient housing for remote communities in Alaska. Toward that end she helps to develop and test high efficiency building envelopes for cold climates. Robbin also works on improving heating and ventilation systems in cold climates. Her most recent work has been on cold climate heat pumps and energy recovery ventilators in the sub-Arctic.



**Mrs. Amy Solana** is a senior research engineer in the Distributed Systems group at Pacific Northwest National Laboratory (PNNL). She started at PNNL in 2002, and has primarily worked with the Department of Defense. She analyzes the potential for and supports achievement of energy and water security and resilience including net zero energy, water, and waste; helps implement renewable energy and other distributed generation projects; and maximizes efficiency opportunities in buildings and across installations. Based on her ongoing work developing IEWPs with installations (including Fort Bliss, Redstone, JBLM, Fort Hood, and others), she has supported Army HQ to develop the IEWP template and assessment guidance, and continues to support IEWP project execution. She graduated from Carnegie Mellon University with a B.S. in mechanical engineering.



**Mr. Avinash Srivastava** is a Principal and National Director of Urban Analytics at AECOM. Over the past 21 years in the industry, Avinash has been involved in



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innovation with the intersection of technology, strategic planning, and design with a holistic, data-driven approach.

Avinash has worked on projects around the world and has specific experience in large scale master planning and urban design, smart city strategy, energy and infrastructure planning with a focus on resiliency, and other projects incorporating decision support modeling and analytics, visualizations and simulations for public, private sector and military clients. He is the chief architect of the energy resilience assessment tools used for the development of Installation Energy Plans for the Air Force, Air National Guard, and Navy.



**Mr. Andrew D. Stringer** is an Electrical Engineer with the U.S. Army Corps of Engineers. He has a background as an electronics technician with U.S. Navy Nuclear Power Program. He received his B.S. in electrical engineering from the University of Massachusetts - Lowell in 2018.



**Mr. Bill Taylor** is an Engineering Manager for Energy Systems Group's (ESG) Federal Business Unit (FBU). His primary focus is Resiliency and New Technology Solutions. In this role Bill leads the evaluation, solution development and implementation for resiliency and advanced technology solutions for ESG customers under multiple forms of procurement.





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Bill has over 35 years of engineering experience in a range of industries, but always with a focus around energy based solutions. Before joining Energy Systems Group, Bill worked for an ESCO as the Engineering Operations Leader. In this role, Bill provided complete energy solutions to a wide range of clients, including the U.S. federal government, municipalities, school systems, universities, healthcare clients, and industrial clients. The energy solutions provided included renewable power generation, smart grid and micro-grid development, and critical infrastructure updates. Bill is the author/co-author of over 20 technical papers and holds 5 US Patents.

Bill holds a Bachelor's of Science degree in Mechanical Engineering from the University of Utah and a Master's of Science Degree in Mechanical Engineering from the University of Washington. Bill is a licensed Professional Engineer (PE) and a Certified Energy Manager (CEM).



**Mr. Calum Thompson** leads the High Performance Communities team at AECOM, CA. A licensed mechanical engineer, Calum specializes in strategic energy planning where he applies his technical background to the assessment of building energy demand, renewable energy, district energy, and microgrid systems at a community scale.

Calum has led the development of energy plans for cities, agencies, campuses, and installations throughout the world. The plans focus on developing innovative, cost effective, low energy design solutions to meet and exceed clients' sustainability and resilience goals. Calum is AECOM's technical lead in the development of the Air Force's resilience-focused Installation Energy Plans.



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**Mr. Todd Traver** is Vice President IT Optimization and Strategy for Uptime Institute, responsible for providing thought leadership and consultation - integrating data center planning and organizational IT governance to enhance application resiliency to maximize IT business value and optimize total cost of operation.

Traver brings over 30 years' experience in data center IT and facilities planning, design, and efficiency, providing innovative global strategic technical direction, organizational and operational oversight. Prior to joining Uptime Institute in 2016, Traver spent over 15 years leading data center strategy initiatives for IBM, including serving as Global Chief Engineer for IBM Global Technology Services where he was responsible for developing data center technology, tools and process optimization strategies for global teams.



**Dr. Timothy D. Unruh** is the Executive Director of the National Association of Energy Service Companies (NAESCO). In this role, he manages the representation of its member Energy Service Companies. NAESCO provides advocacy for the industry at the Federal, State and Local levels, and provides for member company Accreditation.

Prior to this role, Dr. Unruh was the Deputy Assistant Secretary of Renewable Power at the Energy Efficiency and Renewable Energy (EERE) Office of the US Department of Energy





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(DOE). As the Deputy Assistant Secretary, Dr. Unruh managed the nation's renewable power research, while also providing oversight to the Grid Modernization Initiative.

Also while at the DOE EERE, Dr. Unruh Directed the Federal Energy Management Program (FEMP). As FEMP Director, Dr. Unruh oversees the implementation of policy and actions that result in energy efficiency implementation, renewable energy adoption, and reductions in energy and water use in Federal government operations. Dr. Unruh coordinates with DOE national laboratories and other Federal agencies in this capacity.

Dr. Unruh was formerly director of operations for ConEdison Solutions where he led a team of engineers and project managers to implement energy savings projects within government and private installations. While in this role, Dr. Unruh worked to educate energy users about alternative finance methods to achieve energy-reduction goals. He was heavily involved in the measurement and verification of energy savings resulting from these projects.

Earlier in his engineering career, Dr. Unruh built a program to provide energy services to major industrial clients. He trained and coordinated industrial clients on methods to produce energy savings while operating a short financial payback environment. Dr. Unruh is a licensed Professional Engineer in multiple states across the U.S. and is a Certified Energy Manager (CEM) as well as a Leadership in Environmental and Energy Design Accredited Professional (LEED AP).

During his career, Dr. Unruh has performed numerous assessments, project analyses, and energy engineering services for an array of facility types. He is involved in the development of electrical power quality standards with the Institute of Electrical and Electronics Engineers (IEEE) Power Quality Subcommittee.

Dr. Unruh has doctorate, master's, and bachelor's degrees in electrical engineering from Wichita State University in Wichita, Kansas.



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**Dr. Arun Veeramany** specializes in risk, reliability and resilience of engineered systems in environmental, energy and nuclear business areas having supported various U.S. Department of Energy (DOE) Offices, multi-national corporations, and international nuclear and public safety organizations. Dr. Veeramany was the Principal Investigator (PI) for development of a risk framework for modeling high-impact, low-frequency (HILF) events affecting the power grid as well as the PI for development of a framework for risk-informed autonomous adaptive cyber controllers. Dr. Veeramany holds a Ph.D. in reliability of nuclear power plant systems from University of Waterloo, Canada with prior experience involving development of models for risk-informing regulatory initiatives leading to operationalization and optimization of key decision support systems for nuclear and public safety regulators.



**Dr. Andy Walker Ph.D.** is a Senior Research Fellow at the National Renewable Energy Laboratory, where he conducts engineering and economic analysis of energy efficiency and renewable energy projects for Federal agencies such as national parks and military bases and also for commercial and industrial clients. He has lead photovoltaics training and certification efforts in Ghana and Tanzania and has experience with off-grid PV/battery/generator installations for applications such as cell phone sites. His patent on the Renewable Energy Optimization (REO) method of planning renewable energy projects across a portfolio of properties based on economic value was awarded the Thomas A. Edison Patent Award in 2015 based on innovation and impact. He has taught at the University of Colorado at





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Boulder, Colorado School of Mines, and at Metropolitan State University of Denver. He has led the Solar Energy Division of the American Society of Mechanical Engineers and is an ASME Fellow. Dr. Walker is the author of over 28 book chapters, journal articles, and conference papers including “Solar Energy: Technologies and Project Delivery for Buildings,” a reference book published by John Wiley and Sons; and “Sustainable Energy Technologies,” by CRC Press. Dr. Walker’s credentials include a B.S., M.S., and Ph.D. in Mechanical Engineering from Colorado State University, and he is a registered Professional Engineer in the State of Colorado.



**Dr. W. Jon Williams** is currently a Senior Research Physiologist in the Research Branch of the National Personal Protective Technology Laboratory (NPPTL)/NIOSH/CDC. Dr. Williams has 30 years of experience in human experimental physiology beginning with a National Academies/National Research Council Resident Research Associateship (post-doc) at the NASA Johnson Space Center in the Medical Sciences Division and was then hired by a NASA contractor (Wyle Life Sciences) as a Senior Research Scientist/Section Supervisor of the Exercise Physiology Laboratory. Dr. Williams conducting studies on the effects of simulated and actual microgravity on human physiology. In 2003, he was recruited to the NPPTL to establish a human research capability which included the Human Physiology, Biochemistry, and Thermo-Physiology Laboratories.

Dr. Williams has served on national/international standards organization, co-authored a revision of a NIOSH [2016] document on occupational heat stress and has authored/co-authored ~120 peer-reviewed scientific articles, conference papers/abstracts, book chapters, and government documents.



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**Ms. Emily Winfield** is the Chief Mechanical Engineer for Design Alaska, located in Fairbanks, Alaska. Emily leads and designs projects including HVAC systems, plumbing systems, fire protection systems, and building automation systems. She has designed on a wide variety of projects including healthcare facilities, recreational facilities, projects in remote locations, and utility distribution among others. As a Certified Commissioning Authority and LEED-AP Emily is passionate about sustainability and tailoring building design to function efficiently in the Alaskan climate. She believes that sustainable solutions need to be robust and strives to find solutions to meet the needs of each project.

**Mr. Keith Yamanaka CEM, REP**, Energy Branch Chief, US Army Garrison Hawaii. Keith leads a team that buys, sells, conserves, produces and strengthens energy for 22 Army installations in Hawaii. He currently also serves on the Hawaiian Electric Company Integrated Grid Planning Council and Resiliency Working Group. Throughout his 35 year DOD career, his focus has been on increasing efficiencies and resilience of mechanical and electrical systems for nuclear submarines, hospitals and military installations.



**Dr. Rumanda Young** is a Registered Landscape Architect (RLA) in the state of Texas, a Certified Planner with the American Institute of Certified Planners (AICP), and a LEED AP.





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Dr. Young serves in the capacity as an Assistant Technical Director (ATD) within the Engineering Research and Development Center (ERDC) Environmental Laboratory (EL), a Department of Defense research facility, where the central areas of research and teaching are in resilient planning and design and sustainable technology development. These technologies have won numerous awards, including the United States White House GreenGov Award for Green Innovation in 2016.

Dr. Young earned the personal accolade of winning the national Wheeler Medal in 2013 from the Society of American Military Engineers and the Lt. Gen. John W. Morris Civilian of the Year Award in 2014.

Dr. Young has also spent fifteen years in academia as a Professor at Southern Methodist University in Dallas, Texas.



**Dr. Alexander Zhivov** is a senior research engineer at the US Army Corps of Engineers Construction Engineering Research Laboratory (CERL) who is responsible for Army-wide facilities energy strategic planning leading to implementation of new HVAC systems, distributed generation technologies, renewable energy, heating plant modernizations, building commissioning processes, and modeling and analysis tools for installation operations. Develop the framework and concepts of a secure, reliable, and efficient Army installation energy strategy and supporting implementation programs.

Dr. Zhivov is an Operating Agent for the International Energy Agency ECB Program Annex 73 “Towards Net Zero Energy Public Resilient Communities.” Prior to that he served as an Operating Agent for the Annex 46 “Holistic Assessment Tool-kit on Energy Efficient Retrofit



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Measures for Government Buildings “EnERGo” and Annex 61 “Business and Technical concepts for Deep Energy Retrofit of Public Buildings.”

Dr. Zhivov is a Fellow and Life member of the American Society of Heating, Refrigeration and Air-Conditioning Engineers and holds a Ph.D. degree in mechanical engineering from Central Research and Experimental Design Institute for Industrial Buildings, Moscow and the Research Institute for Labor Protection, Leningrad and an MBA degree from the University of Illinois at Urbana-Champaign.