

# MARCH 4-6, 2015 ISLANDED GRID WIND POWER CONFERENCE SPEAKERS

## **Peter Asmus, Principal Research Analyst, Navigant Research**



As a Principal Research Analyst, Peter Asmus has emerged as a leading global expert on nanogrids, microgrids and virtual power plants. With 25 years experience, Peter is author of four books on energy and environmental issues, and has served as a consultant to many leading corporations (General Electric, Sunpower, Clipper Wind), government agencies (California Energy Commission, California Air Resources Board) and non-profit agencies (Center for Energy Efficiency & Renewable Technologies, Governor's Wind Energy Coalition, Independent Energy Producers, Center For Resource Solutions.) His prime expertise is integration of renewable energy to the grid, public policy analysis, writing and public speaking.

## **Mike Black, Director of Program Development, Alaska Native Tribal Health Consortium (ANTHC)**



Since joining the Alaska Native Tribal Health Consortium (ANTHC), Mike Black, as Director of Program Development, has provided direction to the DEHE on development of new programs such as their fledgling energy program. Once solely a water and sewer design and construction organization, DEHE is increasingly working in areas such as energy efficiency and renewable energy development to lower costs for water and sewer, construction of energy efficient clinics and buildings and improving infrastructure for remote communities. Mike's service to ANTHC was preceded by 30 years with the Alaska Department of Commerce, Community and Economic Development. While with the State of Alaska he had a variety of roles, including community land planner working with rural land issues, local government specialist working on local government administration and finance, supervisor of local government training programs, creating and managing the Rural Utility Business Advisor program, Director of the Division of Community and Regional Affairs and eventually serving as Deputy Commissioner for the Alaska Department of Commerce.

## **Josh Craft, Project Manager, Alaska Energy Authority**



Josh Craft is a lifelong Alaskan born and raised in Fairbanks. He studied Mechanical Engineering at the University of Alaska Fairbanks and spent four years as Project Manager for Alaska Environmental Power developing the Delta Wind Farm. He has worked the past four years at the Alaska Energy Authority as Assistant Wind Program and Project Manager developing Islanded Grid Renewable Energy Projects.

## **Kord Christianson, President, TDX Power Inc.**



Kord Christianson has extensive experience conceiving, managing, developing and executing renewable and energy-efficient infrastructure projects in a wide variety of challenging global environments. As the President of TDX Power, he oversees the operations of 6 regulated utilities in Alaska including two high penetration wind-diesel systems. Prior to joining TDX, he served for 7 years as Energy Director of Helios Resources/St. George Chadux where he served as a full-time Resource Efficiency Management consultant embedded within US Navy NAVFAC MIDLANT to design, develop, mentor and manage energy conservation programs at Naval facilities within the region. He also previously worked as Country Manager for Telesource Fiji and General Manager of Project Development for Wartsilla.

## **Steve Gilbert, Energy Projects Development Manager, Alaska Village Electric Cooperative**



Steve Gilbert serves as manager of energy projects development for Alaska Village Electric Cooperative. Before starting at AVEC, he served as senior manager of Alliant Energy's four wind farms in three states; Iowa, Wisconsin and Minnesota, (567 megawatts), where he organized the company's new wind O&M group. He has worked in Alaska for more than 25 years. Prior to Alliant, Steve worked in Alaska for a major wind project developer, enXco, and earlier for Chugach Electric where he served as Manager, Energy Projects Development and O&M. During his years at the utility, he managed three of the company's four power plants, served as electrical lead for a 1MW fuel cell and micro turbine projects and renewable energy projects such as wind. Steve is recognized as a leading expert on wind energy and has been active on a national level in operation and

maintenance of wind power plants. He is current chair of a national wind power O&M users group, the membership of which own and operate more than 50 GW of wind assets. After completing training in electrical power engineering technology in Wisconsin, Steve started his career in 1980 in start-up of large coal, nuclear and gas turbine power plants. He provided consulting and technical services to client companies across the U.S. Steve was Alaska's electrical engineer of the year in 2000 and for the 12 western states in 2001. Steve earned his MBA in 2011 and has been a regular lecturer at schools and universities on renewables, especially wind. He also worked with BP wind in London assessing European wind prospects and developing a reference report for use by policy makers.

### **E. Ian Baring-Gould, Wind Technology Deployment Manager, National Renewable Energy Laboratory**



E. Ian Baring-Gould graduated with a MSME from the University of Massachusetts in 1995 and started working at the National Renewable Energy Laboratory. Ian's work has focused in three primary areas; applications engineering for Renewable Energy (RE) technologies, assistance in RE deployment, and educational outreach for RE technologies, primarily wind. Ian's deployment work has taken him to over 50 countries, from the South Pole to the middle of the Amazon rain forest. Ian is currently the Wind Technology Deployment Manager at NREL and the National Technical Director of Market Acceleration and Deployment activities, focusing on assisting organizations deploy wind technologies and addressing obstacles to the implementation of wind energy through programs like the WINDEXchange Project, the Collegiate Wind Competition, and Integrated Deployment programs. Ian also manages the distributed wind research and deployment portfolio for NREL and oversees NREL's platform of deployment related wind work that includes environmental impacts and manufacturing. Ian has received numerous awards for his work, including the 2013 Women of Wind Energy Champion Award, and is the editor at large for Wind Engineering. Ian has authored or co-authored over 80 publications on wind energy and wind diesel power systems.

### **Dr. Brian Hirsch, Senior Project Leader for Alaska, National Renewable Energy Laboratory**



Dr. Brian Hirsch has been working on renewables in remote diesel microgrids throughout North and Central America for 20 years. His original orientation was from the hands-on perspective, having installed PV-diesel systems 200 miles north of the Arctic Circle, and subsequently led wind-diesel and in-river hydrokinetic installations throughout Alaska. He has a PhD in Land Resources, with a concentration on Energy Analysis and Policy, from University of Wisconsin-Madison.

### **Gwen Holdmann, Director, Alaska Center for Energy and Power (ACEP)**



Gwen Holdmann is the Director of the Alaska Center for Energy and Power, which is an applied energy research program based at the University of Alaska Fairbanks focusing on both fossil and renewable/alternative energy technologies. ACEP is a highly interdisciplinary program with over 30 affiliated faculty spanning a wide range of energy-related disciplines. Prior to joining the University of Alaska, Gwen served as the Vice President of New Development at Chena Hot Springs Resort near Fairbanks. While at Chena, Gwen oversaw the construction of the first geothermal power plant in the state, in addition to numerous other innovative energy projects ranging from hydrogen production to cooling a 10,000ft<sup>2</sup> ice museum year-round using 150°F hot water. Gwen moved to Alaska in 1994, shortly after graduating from Bradley University with a degree in Physics and Mechanical Engineering. Gwen is the mother of three children – Leif, Marais, and Lael. She is married to Iditarod and Yukon Quest musher Ken Anderson, and the couple maintain a kennel of about 50 dogs outside of Fairbanks, Alaska. They live off grid in a house they built themselves, and generate their own power through a combination of solar PV, wind, and diesel generator. Gwen has been the recipient of several awards throughout her career, including an R&D 100 award, Project of the Year from Power Engineering Magazine, the Alaska Top 40 Under 40 Award.

### **Karen Roberts Johnson, Program Manager, Denali Commission**



Ms. Karen Roberts Johnson is a lifelong Alaskan from the Bristol Bay region. As Program Manager at the Denali Commission, Karen works with rural stakeholders and program partners to build educational pathways for high value certifications in critical rural jobs, like facility maintenance and rural management. These important jobs also protect basic infrastructure like clinics, schools, stores, roads and energy systems, many of which were investments of the Denali Commission. Karen's personal knowledge and professional experience of rural life and workforce development issues is significant in her daily work and professional interactions and is happy to still represent rural Alaska.

### **Dr. Peter Lilienthal, President/CEO, HOMER Energy**



Since 1993, Dr. Lilienthal has been the developer of the National Renewable Energy Laboratory's HOMER hybrid power optimization software, which has been used by over 100,000 energy practitioners in 193 countries. NREL has licensed HOMER Energy to be their sole worldwide commercialization licensee for distributing and enhancing the HOMER model. Dr. Lilienthal was the Senior Economist with the International Programs Office at NREL from 1990 - 2007. He has a Ph.D. in Management Science and Engineering from Stanford University. He has been active in the field of renewable energy and energy efficiency since 1978. This has included designing and teaching courses at the university level, project development of independent power projects, and consulting to industry and regulators. His technical expertise is in utility modeling and the economic and financial analysis of renewable and micro-grid projects. He was the lead analyst and one of the creators of NREL's International and Village Power Programs.

### **David Lockard, Rural Energy Program Lead Engineer, Alaska Energy Authority (AEA)**



Early in his career, David worked on projects such as a solar crop dryer and a rolling hand planter in Nigeria and a solar lumber dryer in Mexico. He also worked in and managed a schools and hospitals energy efficiency program for the State of Wisconsin from 1989 to 1993. In 1993/94 he managed the remodel of a school building into a community teen center in Sitka. David has worked for AEA since 1994 managing the design and construction of bulk fuel tank farms, diesel powerhouses, and other energy projects in Alaska's rural villages. He also managed Alaska's Geothermal and Ocean and River Energy Programs from 2005 to 2009. David has organized workshops on Tidal Energy for Southeast Alaska, the Mt. Spurr Geothermal Prospect, and Diesel Efficiency Opportunities using Stack Heat Recovery and Organic Rankine Cycle Devices. David is the Lead Engineer for AEA's Rural Energy Program, and holds a Master's Degree in Mechanical Engineering from the University of Wisconsin Solar Energy Lab.

### **John Lyons, General Manager, TDX Power Inc.**



John Lyons has over 35 years of experience in electric utility, power generation and distribution design, construction, and operation and maintenance. As an O&M Manager with Alaska Village Electric Cooperation (AVEC), he was responsible for 48 rural power systems throughout Alaska, including diesel generating and distribution facilities, as well as associated infrastructure. John was also previously the Manager of Alternative and Renewable Energy at Marsh Creek LLC. He has extensive experience with alternative and renewable energy resource projects, having managed multiple wind turbine projects throughout Alaska. Some of his projects include construction and O&M of a 750-kilowatt (kW) hybrid wind/diesel system and two 225-kW Vestas wind turbines on St. Paul Island; developing and constructing a hybrid wind project in Nikolski; developing a wind-diesel integration project for the U.S. Air Force Long Range Radar Station; and he was the Project Manager on the Kokhanok Hybrid Wind Turbine Integration Project. John was acting Project Manager for Atka Hydro, overseeing all facets of construction to include dam, pen stock, construction of the Hydro building and equipment, and distribution of energy. John recently returned to TDX Power in July 2014 as the General Manager responsible for the planning, organizing, directing, and monitoring management functions for the companies regulated electric utilities and its commercial business. He holds a B.S. in Electrical Engineering from University of Washington.

### **Phil Maker, ACEP Affiliated Research Faculty/Senior Control Systems Engineer, Remote Operations, PowerWater Corp., Darwin, Australia**



Phil Maker is working for the Remote Operations part of Powerwater in the Northern Territory of Australia, which provides essential services to 72 remote communities. His work has largely been in the areas where Computing Science, Electrical Engineering and Systems Engineering coincide. Previous project work has included a diverse range of embedded systems including:

- \* TKLN - 3 x PV/Diesel/Battery hybrid systems with a total PV capacity of 1MW
- \* RIWE - All phases of the Ross Island Wind Energy System, which is a flywheel stabilized Wind/Diesel system
- \* Esperance Wind/Gas Turbine - a mixed Enercon and Vestas windfarm intergration
- \* 4210 Defibrillator - a true embedded (inside people) system which was one of the first software controlled implantable defibrillators developed. This work included the development of a formal specification in Z, implementation of a C compiler, test system and RTOS development.

### **Paula McGarrigle, Managing Director, Solas Energy Consulting Inc.**



Paula McGarrigle is the Managing Director of Solas Energy Consulting and has focused the majority of her twenty-year career on the deployment of renewable energy technology in North America. She has significant experience in climate change and renewable energy policy within the Canadian alternative and renewable energy community. Her significant experience in project development, business development and organizational strategic planning within the Renewable Energy sector has resulted in developments totaling over 1,100 MW. Ms. McGarrigle was formerly the head of Shell Canada's Wind Energy Department, and Director of Business Development for Suncor Energy's Alternative and Renewable Energy department. Prior to entering the Renewable Energy sector, she worked in the Oil, Gas, and Chemicals industries doing engineering, business and international consulting. Ms. McGarrigle's academic background includes two undergraduate degrees from the University of Alberta, Canada; Bachelor of Science in Biology and Chemistry and a Bachelor of Science in Chemical Engineering. Ms. McGarrigle also holds an MBA in Finance from Queen's University, Canada.

### **Marc Mueller-Stoffels, Power Systems Integration Program Director, Alaska Center for Energy and Power**



As Director for the Power Systems Integration Program at the Alaska Center for Energy and Power, Marc's research focuses on the integration of variable generation sources into isolated microgrids. Most recently he has lead the testing of an inverter-battery system to enable diesel-off mode in high contribution wind scenarios. Prior to joining ACEP, Marc has developed regional scale climate models with focus on Arctic sea ice, and has chaired a small software company specializing in optimization algorithms. Marc holds graduate degrees in physics from the University of Alaska Fairbanks and Otago University, New Zealand.

### **Brad Reeve, General Manager/CEO, Kotzebue Electric Association**



Brad Reeve is General Manager and CEO of Kotzebue Electric Association, a position he has held for 26 years. He is nationally known as an early adopter of wind energy and a pioneer of Arctic energy. In 1997, he implemented the first utility-grade wind turbines in Alaska. He continues to manage many projects that demonstrate renewable energy viability in the Arctic. In addition to his cutting-edge work in wind energy, Reeve is responsible for several emerging technology projects including a NRECA-DOE sponsored smart grid project, an Organic Rankin Cycle Project and continued utility scale battery evaluation and integration. He has received several honors and awards for his innovative work including an R&D Wind Energy Achievement Award from the Cooperative Research Network, a Utility Leadership Award from the American Wind Energy Association. Under Reeve's leadership, Kotzebue Electric received the highest award given to cooperatives -- the "Community Service Award" from the National Rural Electric Cooperative Association (NRECA) for the cooperative's work with wind technology in the Arctic. The electric cooperative's success with renewable energy generation also garnered it the IEEE Alaskan "Company of the Year" Award and the IEEE Region 6 "Outstanding Corporate Service to the Engineering Community" Award.

### **Robin Reich, President Solstice Alaska Consulting Inc.**



Robin Reich, who founded Solstice Alaska Consulting, Inc., has more than 18 years of experience in environmental permitting and planning and public involvement. Robin has completed environmental documents and permitted projects in the Aleutians, Y-K Delta, North Slope, and Southcentral Alaska. Most recently, Robin led permitting activities on wind projects in Mekoryuk, Toksook, Shaktoolik, and Emmonak. Robin has been responsible for reviewing existing wind farm projects to ensure that environmental mitigation measures agreed to during permitting (including bird strike studies and tower diversions) have been completed in Savoonga, Gambell, and Quinhagak. Growing up in rural Alaska (Bethel) and having worked on technical and sometimes controversial projects, Robin is well aware of the issues and challenges surrounding renewable energy projects in Alaska.

### **Jackie Qatalina Schaeffer, Project & Energy Specialist, WH Pacific Inc.**



Jackie Qatalina Schaeffer has been with WHPacific, Inc. for over four years as a Project and Energy Specialist. She has worked with federal, state and local agencies to coordinate funding and energy solutions across the state. She has extensive experience in communications and facilitation. Her work in statewide regional energy planning, in collaboration with the Alaska Energy Authority, has given her a broad prospective of the challenges faced when addressing the high cost of energy in rural communities. As a NANA shareholder, her affiliation with the local tribal organizations is invaluable.

### **Darron Scott, President/CEO, Kodiak Electric Association (KEA)**



Darron Scott is the President/CEO of Kodiak Electric Association which is the electric cooperative for Kodiak, Alaska. Under his 15 year tenure, KEA has moved from a diesel/hydro electric system to the forefront of renewable integration supplying the citizens of Kodiak with 99.7% renewable energy. This comes from a combination of hydroelectric and wind power utilizing battery energy storage and flywheel energy storage. Prior to his work at KEA, Darron worked as an Engineer and Manager for TXU, an IOU in Texas. Darron has a BSME in Mechanical Engineering from Texas A&M University.

### **Rich Stromberg, Wind Program Manager, Alaska Energy Authority (AEA)**



Rich Stromberg holds a BS in Mathematical Sciences from the University of Texas at Dallas and a BA in Journalism from the University of Alaska Anchorage. He has spent a large part of his career chasing electrons around silicon circuits while he worked for Intel Corporation in the capacities of an electrical engineer, chemical engineer, mechanical engineer and material scientist. He has worked with small-scale wind and solar power systems in remote Alaska and in Colorado where he designed and built a passive solar home that meets 95 percent of its energy needs with wind, solar and biomass energy. During the week, Rich works for Alaska Energy Authority – primarily on wind energy projects. On the weekends, he can be found at his remote cabin, which is powered by a solar PV system and biomass heating.

### **Jim St. George, President, STG incorporated**



Jim St. George is the president and founder of STG Incorporated, an Anchorage-based construction management and services company that specializes in constructing Alaska's rural infrastructure. STG's core services are building and installing pile foundations, bulk fuel tank farms, communication towers, and wind turbines. STG Incorporated and its two subsidiaries, Alaska Crane and Terra Foundations, joined Calista Corporation, an Alaska Native Corporation (ANC) in 2013. Mr. St. George was elected to the Associated General Contractors (AGC) of Alaska board of directors in 2010 and currently serves as its treasurer.

### **Wiliam Thomson, Alaska Village Electric Cooperative**



Mr. Thomson has engineered alternative energy control systems and equipment for 40 years. He has been a pioneering designer of embedded digital control systems since 1984. He co-founded the alternate energy company Thomson and Howe Energy Systems in 1980 and Thomson Turbine Governors in 2001. He came to Alaska in 1994 to design advanced diesel engine controllers for Alaska Power Systems. Since 2001, he has worked for AVEC and has supplied his design expertise for 18 new diesel power plants and ten separate installations of wind farms on small diesel systems. Mr. Thomson has a Bachelor of Applied Science from the University of British Columbia and is a professional engineer registered in both Canada and in Alaska.

### **Richard Wies, University of Alaska Fairbanks**



Richard Wies is currently an associate professor in the Electrical and Computer Engineering Department at the University of Alaska Fairbanks. He currently leads research focused on the engineering challenges of renewable energy integration in standalone diesel electric microgrids in collaboration with the Alaska Center for Energy and Power. His main areas of research related to renewable energy system integration include advanced controls for grid stability and smart power dispatch strategies. His other research interests encompass projects related to the efficient, economic, safe, reliable, and sustainable operation of electric energy systems. Dr. Wies received his B.S.E.E., M.S.E.E., and Ph.D. degrees from University of Wyoming in 1992, 1995, and 1999, respectively.

### **Daniel Zimmerle, Senior Research Associate and Director Electric Power System Laboratory, Energy Institute at Colorado State University/Scientific Director, Center for Research and Education in Wind**



Daniel Zimmerle's research concentrates on microgrids and integration of distributed and renewable generation systems. Prior to CSU, Mr. Zimmerle served as the Chief Operating Officer at Spirae, Inc. (a smart grid controls company) and has 20 years of experience at Hewlett Packard and Agilent Technologies including experience as both a division general manager and R&D manager in several businesses organizations with personnel in the US, Ireland, Singapore and other countries. He holds a BSME and MSME from North Dakota State University.