

2017 ALASKA WIND-DIESEL WORKSHOP

SPEAKERS & MODERATORS

E. Ian Baring-Gould, Wind Technology Deployment Mgr., National Renewable Energy Laboratory (NREL)



E. Ian Baring-Gould has been with the National Renewable Energy Laboratory since 1995. His work has focused on applications engineering for renewable energy technologies, assistance in renewable energy deployment, and educational outreach for renewable technologies, primarily wind. His deployment work has taken him to over 50 countries, from the South Pole to the middle of the Amazon rain forest. He 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. Ian also manages the distributed wind research and deployment portfolio for NREL and oversees its platform of deployment related wind work that includes environmental impacts and manufacturing. Ian has received numerous awards, including the 2013 Women of Wind Energy Champion Award, and is the editor at large for Wind Engineering. He has authored or co-authored over 80 publications on wind energy and wind diesel power systems.

Matt Bergan, Project Engineer, Kotzebue Electric Association



Matt Bergan has more than 15 years experience working on wind-diesel power systems. After graduating from Norwich University in Vermont in 1997 with a BS-Mechanical Engineering, he sought new adventures afar, and found it in Kotzebue, Alaska. In 1998, he started work at Kotzebue Electric Association (KEA) during the first expansion of the KEA wind farm from 3 AOCs to 10 AOCs. Matt is KEA's project manager on the Wales High-Penetration Power system project in Wales, Alaska. He helped design and build several diesel and wind projects at KEA, including the EMD Separate Source Aftercooling System, City Water Heat Recovery System, Alaska Technical Center PV System, KEA Wind

Farm Expansion I and II (AOCs, NW100, Vestas V-15), EWT 900kW Turbine Expansion Project, Zinc-Bromide Flow Battery Project, EETF Eocycle 25kW Turbine Demonstration and most recently the GE CleanCycle Organic Rankine Cycle Project.

Jeff Congdon, Local Government Specialist, Div. of Community & Regional Affairs



Jeff Congdon is a Local Government Specialist III with the Rural Utility Business Advisor program in the Division of Community and Regional Affairs for the State of Alaska. Jeff has worked in this position for nearly seven years providing onsite training and assistance to rural Alaskan communities throughout the Interior and Northern regions as well as providing utility management training in a classroom setting to attendees throughout the entire state. Jeff was born in Fairbanks, and raised in many communities throughout Alaska. Jeff spent the 1980's and early 90's growing up in the family goldmine, and the late 90's and early 2000's doing construction throughout Alaska. Jeff has a Bachelor of Arts, Interdisciplinary Studies from University of Alaska Fairbanks.

Josh Craft, Wind Program & Emerging Energy Technology Fund Manager, Alaska Energy Authority (AEA)



Josh Craft was born and raised in Fairbanks, Alaska along with his three siblings and graduated from West Valley High School where he coached football for a number of years. He studied Aerospace Engineering at Virginia Tech for two years while playing football before returning home and finishing a B.S. in Mechanical Engineering at the University of Alaska, Fairbanks. Josh was a contractor in Fairbanks for 10 years and was owner/operator of Crafty Construction. He has been working in the renewable energy sector since 2007 and was Project Manager on the Delta Wind Farm. In 2011, he went to work at the Alaska Energy Authority where he has been involved with a variety of conventional and renewable energy projects though he specializes in wind. Along with his wife Stephanie, Josh currently resides in

Chugiak, Alaska and holds the position of Emerging Energy Technology Fund and Wind Program Manager at AEA.

Connie Fredenberg, Small Utility Administration Consultant/Trainer, Utility Management Assistance



After 39 years of living, working and raising a family in rural Alaska, Connie's resume reflects the variety of employment opportunities available from the high Arctic to the Aleutian Islands if armed with a B.A. in Linguistics and minors in the Inupiaq Language, Secondary Education and Biology from the University of Alaska, Fairbanks. For the past 12 years, Connie has focused on rural energy – learning PCE reporting requirements, training utility managers and clerks at non-regulated utilities, installing pre-pay electric meters and coordinating renewable energy studies and implementation projects.

John Glassmire, Energy Engineering Director, HOMER Energy



John manages the consulting, training, and support for HOMER Energy. John has extensive experience in the modeling and design of both distributed and traditional energy supply systems. For over a decade, he has performed cost modeling and design optimization for energy systems ranging from small isolated systems, to isolated Arctic diesel grids, to inter-connected microgrids, to Pacific and Caribbean islands. He has led training workshops on integrating renewables into electrical grids for hundreds of clients worldwide. BSME (Rice), MSME (Northwestern).

Dr. Brian Hirsch, President, Deerstone Consulting



Dr. Brian Hirsch is the President of Deerstone Consulting, a renewable energy consulting firm focused on microgrid development in remote locations, especially the Arctic and the Tropics. Among other projects, he is currently working on the largest solar PV project in Alaska in the community of Kotzebue and a broad assessment of the energy landscape and development opportunities for Anchorage. Previously, he served as National Renewable Energy Laboratory's Senior Project Leader for Alaska for six years, and was Chair of the Alaska Emerging Energy Technology Fund Advisory Committee. He has been working on renewables in remote diesel microgrids throughout North and

Central America for more than 20 years, with recent expansion to Indonesia. His original orientation was from the hands-on perspective, having installed PV-diesel systems 150 miles north of the Arctic Circle 15 years ago, and subsequently led wind-diesel and in-river hydrokinetic installations. He has led or participated in solar and/or wind energy installations across Alaska, including in the communities of Fort Yukon, Venetie, Arctic Village, Beaver, Chickaloon Village, Ugashik, Pilot Point, Port Heiden, and Homer. He has a PhD in Land Resources, with a concentration in Energy Analysis and Policy from the University of Wisconsin-Madison, and a Bachelor's of Science from Cornell University.

Dr. Jim Johnsen, President, University of Alaska



Dr. Jim Johnsen was appointed to serve as the 14th president of the University of Alaska on July 28, 2015. His experience includes executive leadership positions in the private sector with Alaska Communications and with Doyon, Limited, and in higher education between 1996-2008 in several executive roles including vice president of administration and chief of staff. President Johnsen is passionate about higher education and economic opportunity, having served as chair of the Alaska Commission on Postsecondary Education, vice chair of the Alaska Student Loan Corporation, vice chair of the University of Alaska Foundation, commissioner on the Western Interstate Commission on Higher Education, member of the Alaska State Committee on Research, and member of the Board of Directors of the Alaska State Chamber of Commerce. As president, Dr. Johnsen is a commissioner on the Denali

Commission and the Western Interstate Commission on Higher Education, a member of the Alaska Aerospace Corporation Board, a trustee on the UA Foundation Board, and a member of the Homeland Security Academic Advisory Council. His education includes a B.A. in politics from the University of California, Santa Cruz, master's in political science from the University of Chicago, and doctorate in higher education management from the University of Pennsylvania. Dr. Johnsen and his wife, Mary, who is retired, have two grown children, both born and raised in Alaska.

Michael Kuca, Engineer, Department of Energy Office of Indian Energy Policy and Programs



Michael Kuca is an engineer with the Dept. of Energy's Office of Indian Energy Policy and Programs in Anchorage, Alaska. The Office of Indian Energy provides technical assistance to American Indian tribes and Alaska Native villages for energy development, capacity building, energy cost reduction, and electrification of Indian lands and homes. Mr. Kuca's experience with DOE includes engineering design, construction, commissioning, and operations on commercial power plants. He earned his M.S. from the University of Alaska Fairbanks and completed a graduate fellowship with Alaska Center for Energy & Power in remote Arctic power generation.

Cady Lister, Chief Economist, Alaska Energy Authority (AEA)



Cady Lister is the Chief Economist at AEA. Cady is responsible for management and development of AEA's Renewable Energy and Efficiency Programs, the Renewable Energy Fund, the Emerging Energy Technology Fund, the Project Development group, Planning and Evaluation and administration of the Power Project Loan Fund (PPF) program. Prior to coming to AEA, Cady worked as an economist and business management consultant in the energy industry in Alaska for more than a decade.

Dr. Peter Lilienthal, CEO, HOMER Energy



Dr. Peter Lilienthal is the CEO of HOMER Energy. Since 1993, he has been the developer of the National Renewable Energy Laboratory's HOMER® hybrid power optimization software, which has been used by over 180,000 energy practitioners in 193 countries. NREL has licensed HOMER Energy to be the sole world-wide commercialization licensee to distribute and enhance the HOMER model. Dr. Lilienthal was the Senior Economist with International Programs at NREL from 1990 – 2007. He was the lead analyst and one of the creators of NREL's Village Power Programs. 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 expertise is in the economic and financial analysis of renewable and micro-grid projects.

Chris McConnell, Director of the Alaska Network of Energy Education and Employment (ANEE), Renewable Energy Alaska Project (REAP)



As Director of the Alaska Network of Energy Education and Employment (ANEE), Chris McConnell works to maximize energy literacy and training opportunities at the K-12, vocational and University levels so Alaskans can more easily identify, embark upon and continue career pathways in the energy sector. Chris seeks to regularly convene various federal, state, private and non-profit organizations in order to create alignments, leverage shared goals and identify potential efficiencies. Chris grew up an Air Force brat and so has twenty some odd places around the country he can call home - with

Anchorage as the family caravan's final stop. He has a B.A. in Philosophy from UC San Diego and spent more than a decade working in the studio film industry. A few years as a high school English teacher instilled a respect for the hard work teachers do every day and night. Marriage brought Chris back to Alaska where he had the good fortune of contributing to the work done by Alzheimer's Resource of Alaska as their Communications Specialist. Chris has swapped warm water and consistent Southern California reef breaks for long hikes and agonizing cross-country ski outings.

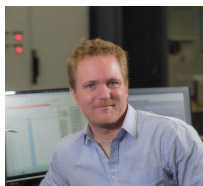
Dave Messier, Rural Energy Coordinator, Tanana Chiefs Conference



Dave Messier is the Rural Energy Coordinator for the Tanana Chiefs Conference in Fairbanks, Alaska. Tanana Chiefs Conference is the non-profit inter-tribal consortia that represents 42 tribes across Interior Alaska. Since 2009, Dave has been working with rural Alaskan communities and small utilities on projects aimed at addressing and reducing the high cost of energy in rural Alaska. Previous projects Dave has been involved with include small wind, solar PV, solar thermal, biomass, hydrokinetics, energy efficiency and diesel power-plant upgrades. Dave has an undergraduate degree in Natural Resource Management from Cornell University, an MBA from UAF and is certified as a Project Management

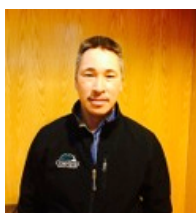
Professional (PMP) and a Certified Energy Manager (CEM). In addition to his full time job, Dave owns Daylight Energy Services, a small LED lighting and solar PV supply company, enjoys hunting and fishing in Alaska and has designed and built a personal home where he and his wife Heidi live in Fairbanks.

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



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

Roderick Phillip, CEO, Puvurnaq Power Company



Roderick Phillip is an active member of the Native Village of Kongiganak. Roderick is the CEO for the Puvurnaq Power Company where he previously served as chair of the Board of Directors. Since 2010, he has also served as vice chairman of the Chaninik Wind Group, and is a member of the Kongiganak Volunteer Search and Rescue. He also previously served as IGAP Coordinator for the Kongiganak Environmental Department. Within all his positions, he works hard to provide opportunities that will benefit the tribal members of the Native Village of Kongiganak.

Chris Rose, Executive Director, Renewable Energy Alaska Project (REAP)



Chris Rose is the Executive Director of Renewable Energy Alaska Project (REAP), a non-profit coalition of over 80 diverse energy stakeholder organizations working to increase the production of renewable energy and promote energy efficiency across Alaska. REAP has been instrumental in helping to establish and fund clean energy programs and projects across Alaska, including the creation of the state's Renewable Energy Grant Fund in 2008 and the Emerging Energy Technology Fund in 2010. Before founding REAP in 2004, Mr. Rose had a private law practice for over a decade that included work in remote Northwest Arctic villages and the mediation of a variety of disputes around the state. He has written a monthly opinion column for Alaska's only statewide newspaper, served on various statewide boards and committees and is currently the chairman of the state's Renewable Energy Fund Advisory Committee. Since 2008, that Fund has granted over \$250 million to renewable energy projects that are now displacing approximately 20 million gallons of diesel fuel each year.

William Thomson, Operations Manager, Alaska Village Electric Cooperative (AVEC)



William Thomson supervises the cooperative's line operations, generation operations and all field construction programs. He started work at AVEC in 2001 as an engineer, then became the Training and Technology Superintendent in 2006. In August 2016, he was appointed Manager of Operations. Mr. Thomson has been engineering electrical power systems and equipment for over 40 years. From 1975 to 1981 he worked for Cominco Limited. Starting in 1981, he has worked for his own companies in the hydro controls field eventually designing equipment used in over a thousand hydro plants of various sizes up to 30 MW. In more recent years, he has provided the expertise necessary to automate and integrate wind into AVEC's small diesel grids. Mr. Thomson is currently responsible for the operation, maintenance and construction of AVEC's generation and distribution systems including fuel logistics, warehousing and wind systems. Mr. Thomson has a Bachelor of Applied Science from the University of British Columbia and is a professional engineer registered in both British Columbia and in Alaska.

Jeremy Vandermeer, Research Engineer, Alaska Center for Energy & Power (ACEP)



Jeremy works as a research engineer with the Power Systems Integration (PSI) Program at the Alaska Center for Energy & Power. He runs computer simulations of Alaskan microgrids to determine the effects of integrating different energy resources and technologies. He helps design and run tests in the full powered PSI lab to emulate different grid events to collect data on diesel and energy storage system performance. He also does electronic development of measurement hardware. He has experience installing small PV and hydroelectric installations in Uganda and the D.R. Congo before coming to ACEP and has a B.S. in electrical engineering from the University of Waterloo, Ontario and a M.S. in renewable engineering from Oldenburg University in Germany.