

**NAWEA WindTech 2019 Program**  
**All rooms located in the Campus Center**  
**1 Campus Center Way, Amherst, MA 01003**  
**(Unless otherwise noted.)**

**Monday, October 14, 2019**

**7:30AM-9:00AM**

**Registration and Continental Breakfast**  
**Room: Campus Center Auditorium**

**9:00AM-9:30AM**

**Opening Welcome: James Manwell, University of Massachusetts Amherst**  
**Room: Campus Center Auditorium**

**9:30AM-11:30AM**  
**PLENARY 1**

**Grand Challenges in Wind Energy Science**  
**Room: Campus Center Auditorium**  
 Session Chair: Paul Veers, NREL

Paul Veers, NREL - *The Grand Wind Vision*  
 Katherine Dykes, DTU – *Control and the Grid*  
 Melinda Marquis, NOAA – *The Atmosphere*  
 Carlo Bottasso, TUM – *The Growing Turbine*  
 Joachim Peinke, Oldenburg – *Wind Integrated Science*  
 Eric Lantz, NREL – *Intersections with Social Science*

**11:30AM-12:00PM**

**Networking Break**

**12:00PM-1:00PM**

**LUNCH**  
**Room: Campus Center Auditorium**

**1:00PM-3:00PM**  
**SESSION 1 (all rooms in Campus Center)**

**Track A Room: 174**

**Track B Room: 803**

**Track C Room: 165**

**Track D Room: 904**

**Track E Room: 805**

**Wind Turbine Controls**

**Distributed wind power/hybrid power systems**

**Meteorological/oceanographic design condition**

**Wake Physics and Array Effects**

**Regulations & Economics: International Comparisons**

David Schlipf

Ian Baring-Gould

Jim Edson

Jason Jonkman

Erin Baker

**Wind turbine control open-source software for control education, compilation and standardization**  
 Sebastiaan Mulders, Delft University of Technology  
**An Update to the National Renewable Energy Laboratory Baseline Wind Turbine Controller**  
 Nikhar Abbas, National Renewable Energy Laboratory  
**Effective wind speed estimation for wind turbines in down-regulation**  
 Fanzhong Meng (for Wai Hou Lio), Technical University of Denmark  
**Wind turbine power curve upgrades: methods for the assessment and test cases study**  
 Francesco Castellani, University of Perugia

Mechanism analysis of distributed wind turbines performance in turbulent environment  
 B. Jia Yan, Inner Mongolia University of Technology  
 Aerodynamic Performance Prediction of SG6043 airfoil for a Horizontal-axis Small Wind Turbine  
 Pyungho Shin, Korea Institute of Energy Research  
 An Evaluation of Advanced Tools for Distributed Wind Turbine Performance Estimation  
 Ram Poudel, National Renewable Energy Laboratory  
 Distributed Wind Resource Assessment for Small, Kilowatt-Sized Wind Turbines using Computational Flow Modeling Software  
 Tom Acker, Northern Arizona University  
 Design Considerations for a Small Ducted Wind Turbine  
 Daniel Valyou, Clarkson University

Industry Requirements for Metocean Information  
 Michael Drunisc, Renewables WSP USA  
 Industry requirements for Metocean Information  
 Anthony Kirincich, Woods Hole Oceanographic Institution  
 Offshore floating wind turbines as sea state observers  
 Marco Belloli, Politecnico di Milano  
 An Experimental Study to Characterize the Effects of Ice Accretion on Wind Turbine Performance  
 Hui Hu, Aerospace Engineering Dept., Iowa State University  
 Offshore Wind Turbines Will Encounter Very Low Atmospheric Turbulence  
 Julie Lundquist (for Nicola Bodini), University of Colorado Boulder

**Invited Talk: A2e - Addressing Wind-Plant Design Challenges**  
 Paul Veers, National Renewable Energy Laboratory  
 How does inflow veer affect the veer of a wind turbine wake?  
 Julie Lundquist, University of Colorado Boulder  
**Investigation of the Near-Wake Behavior of a Utility-Scale Wind Turbine**  
 Aliza Abraham, University of Minnesota - Twin Cities  
**Wake Meandering in a Large Experimental Model Wind Turbine Array**  
 Martin Wosnik, University of New Hampshire

The Climate Value of Offshore Wind Energy  
 Alexana Cranmer, Bentley University and Erin Baker, UMass  
 Complexity and Relevance of the Planning of Offshore Wind Farms in French Law  
 Nicolas Boillet, Université de Bretagne Occidentale  
 Regulatory Development of Offshore Wind in the United States  
 Dylan Jones, Tufts University  
 Local Sourcing in Floating Offshore Wind: a Case Study  
 Thomas Choynet, Ideol, La Ciotat, France  
 The US could provide 20% of the World's OSW by 2050  
 Ross Tyler, Business Network for Offshore Wind (BNOW)

**3:00PM-3:30PM**

**BREAK**

	Wind Plant Controls Room: 174	Education Room: 803	Meteorological/oceanographic design condition Room: 165	Wind Plant Modeling and Design Room: 904	Insights on Public and Community Perspectives Room: 805
3:30PM-5:30PM SESSION 2 (all rooms in Campus Center)	Eric Simley	Tom Acker	Jim Edson	Jason Jonkman	Seth Tuler
	<p>The effect of minimum thrust coefficient control strategy on power output and fatigue loads of a wind farm</p> <p>Fanzhong Meng, Department of Wind Energy, Technical University of Denmark</p> <p>Wake Deflection Experiments on a Model Wind Turbine using Lidar WindScanner</p> <p>Paul Hulsman, ForWind – University of Oldenburg</p> <p>Wake deflection physics development using HAWKS</p> <p>Ricardo Castillo &amp; Andy Swift, Texas Tech University</p> <p>Field Validation of Wake Steering Control with Wind Direction Variability</p> <p>Eric Simley, National Renewable Energy Laboratory</p> <p>Total Variation of Wind Turbine Operational Data to Detect Conditions of Interest</p> <p>Nicholas Hamilton, National Renewable Energy Laboratory</p>	<p><i>Learning from Energy to Engineering and Education: Undergraduates Through Community Engagement</i></p> <p>Maija Benitz and Li-Ling Yang</p> <p><i>The Collegiate Wind Competition – Undergraduate Education through Student Competition</i></p> <p>Susan Stewart, The Pennsylvania State University</p> <p><i>A Graduate Level Course on Economic Metrics &amp; Innovative Finance Mechanisms for Wind</i></p> <p>Lindsay Miller-Branovacki and Rupp Carriveau</p> <p><i>Bristol CC Offshore Training Programs</i></p> <p>Jennifer Menard, Bristol CC</p> <p><i>Offshore Wind Graduate Certificate Program at UMass Amherst Mt. Ida Campus and On-Line</i></p> <p>Dwayne Breger, University of Massachusetts Amherst</p> <p><i>Univ. of Delaware Offshore Wind Skills Academy Professional Training</i></p> <p>John Madsen, University of Delaware</p> <p><i>WindU: An NSF-sponsored consortium in wind energy graduate education</i></p> <p>Tom Acker, Northern Arizona University</p>	<p>Characterizing Marine Atmospheric Boundary Layer to Support Offshore Wind Energy Research</p> <p>Houshuo Jiang, Woods Hole Oceanographic Institution</p> <p>Modelling Hail and Convective storms with WRF for Wind Energy Applications</p> <p>Frederick Letson, Cornell University</p> <p>Characterizing Hurricane Loading on a Proposed Windfarm Offshore Rhode Island</p> <p>Using a Coupled Ocean-Atmosphere Modeling System</p> <p>M Reza Hashemi, University of Rhode Island</p> <p>Re-parameterized Weibull Distribution for Modeling Metocean Extremes with the Rosenblatt TransfoRoomation</p> <p>Chi Qiao, Northeastern University</p> <p>Can we predict short-term extreme conditions from 10-minute data only?</p> <p>Ásta Hannesdóttir, Danish Technical University, Department of Wind Energy</p>	<p>Comparison of Rotor Wake Identification and Characterization Methods for the Analysis of Wake Dynamics and Evolution</p> <p>Eliot Quon, National Renewable Energy Laboratory</p> <p>Wind Farm Layout Optimization in Complex Terrain</p> <p>Jeffery Allen, National Renewable Energy Laboratory</p> <p>Wind Farm Layout Optimization with Loads Considerations</p> <p>Andrew PJ Stanley, Brigham Young University</p> <p>ExaWind: A multi-fidelity modeling and simulation environment for wind energy</p> <p>Michael Sprague, National Renewable Energy Laboratory</p> <p>The curled wake model: equivalence of shed vorticity models</p> <p>Luis Martinez, National Renewable Energy Laboratory</p>	<p>Overall Analysis of Attitudes</p> <p>Ben Hoen, Lawrence Berkeley National Lab</p> <p>Public Participation and Process Fairness: LBNL national survey</p> <p>Joe Rand, Lawrence Berkeley National Lab</p> <p>LBNL National Survey: Relative Preferences between Wind Power and Other Sources of Electricity</p> <p>Jeremy Firestone, University of Delaware</p> <p>A review of empirical findings on community wind energy.</p> <p>Jamie Baxter, Western University</p> <p>Community consent: An alternative framing for reaching agreements about wind turbines and wind farms projects</p> <p>Tom Webler, Keene State College and SERI, Seth P. Tuler, Worcester Polytechnic Institute and SERI</p>
<b>Monday, October 14, 2019, continued</b>					
5:30PM-7:00PM POSTER RECEPTION Campus Center 11th Floor: Marriott Center	<p><b>Controls</b></p> <p>The effect of pitch control algorithm on the motion of floating offshore wind turbines</p> <p>Atsushi Yamaguchi, The University of Tokyo</p> <p>Numerical design of a wind observer and feedforward control of wind turbines</p> <p>Marco Belloli, Politecnico di Milano</p> <p>Optimizing the Use of LIDAR in Wind Farms: Minimizing Life-Cycle Cost Impact of Yaw Error</p> <p>Peter Sandborn, University of Maryland</p> <p><b>Turbine technology</b></p> <p>Effect of the Duct Shape on the Performance of a Ducted Wind Turbine</p> <p>Nojan Bagheri-Sadeghi, Clarkson University</p> <p>Wind tunnel experimental variability of aerodynamic loads for wind turbine blades</p> <p>Shaoning Li, Northeastern University</p> <p>Aligning the Linearized Hinge-Spring Blade Model with modern conventions: LHSBM2 and FAST</p> <p>Orsted</p> <p>Performance of implicit-hole-cutting-based overset grids for incompressible flow</p>	<p><b>Distributed wind power/hybrid power systems</b></p> <p><i>Review of Hybrid Offshore Wind Energy Platforms</i></p> <p>Kaylie McTiernan, University of Massachusetts Amherst</p> <p><i>Commercialization of a Diffuser Augmented Wind Turbine for Distributed Generation</i></p> <p>Samuel Evans, The University of Newcastle, Australia</p> <p><i>Ammonia Production from a Non-Grid Connected Floating Offshore Windfarm</i></p> <p>Vismay Parmar, WEG</p> <p><i>Developing Tools for Assessing Distributed Wind Project Performance</i></p> <p>Heidi Tinnesand, National Renewable Energy Laboratory</p> <p><b>Education</b></p> <p><i>Offshore Wind Graduate Certificate Program at UMass Amherst Mt. Ida Campus and On-Line</i></p> <p>Dwayne Berger, University of Massachusetts Amherst</p> <p><i>Univ. of Delaware Offshore Wind Skills Academy Professional Training</i></p> <p>John Madsen, University of Delaware</p>	<p><b>Wind resource</b></p> <p><i>Simulating the response of a small horizontal-axis wind turbine during a wind gust using FAST</i></p> <p>Muhammad Rakib, The University of Newcastle, Australia</p> <p><i>Effect of Oscillating Inflow on Boundary Layer Development</i></p> <p>HeeChang Lim, Pusan National University</p> <p><i>Correction of lidar retrieval in complex terrain based on numerical models</i></p> <p>Mithu Debnath, National Renewable Energy Laboratory</p> <p><i>Improving LIDAR performance on a complex terrain using CFD-based correction and direct-adjoint-loop optimization</i></p> <p>Saleh Nabi, Mitsubishi Electric Research Laboratories</p> <p><i>Vortex Activities in Diffuser Augmented Wind Turbine</i></p> <p>Wing Chan, University of Newcastle</p> <p><i>Advances in Wind Power Forecasting and Power Loss Mitigation for Cold Climate Operation</i></p> <p>Ryan Kilpatrick, Natural Resources Canada</p> <p><i>Investigation on wake by various turbulent models in 2MW rotor turbine using a 2-D and a 3-D CFD modeling</i></p> <p>Sang Shin Park, Korea Institute of Energy Research (KIER)</p> <p><i>Parametric and structural sensitivities of turbine-height wind speeds to boundary-layer parameterizations in the Weather Research and Forecasting model</i></p> <p>Larry Berg, Pacific Northwest National Laboratory</p> <p><i>An Exploration of Multi-Resolution Large-Eddy Simulation of the Atmospheric Boundary Layer</i></p> <p>Matthew Churchfield, National Renewable Energy Laboratory</p>	<p><b>Meteorological/oceanographic design conditions</b></p> <p><i>Wind Turbine Blade Leading Edge Erosion from Hail: A Case Study in Texas</i></p> <p>Frederick Letson, Cornell University</p> <p><i>Surface Roughness for Offshore Wind Energy</i></p> <p>Maryam Golbazi, University of Delaware</p> <p><b>Wind plant design</b></p> <p><i>Coupling of induction and wake models for rapid estimates of wind farm blockage and wind farm velocity fields</i></p> <p>Emmanuel Branlard, National Renewable Energy Laboratory</p> <p><i>Quantifying Array-Array Effects Using WRF Model Simulations: A Sensitivity Analysis</i></p> <p>Tristan Shepherd, Cornell University</p> <p><i>Vortex-Induced Vibration and Fatigue Failure of Vertical-Axis Wind Turbines</i></p> <p>Bridget Benner, University of Massachusetts Amherst</p>	<p><b>Offshore wind energy</b></p> <p><i>Hydraulic air compressor driven by a suction wind turbine</i></p> <p>Bruno Cossu, Lawyer</p> <p><i>Multiline Ring Anchor System for Floating Offshore Wind Turbines</i></p> <p>Junho Lee, Texas A&amp;M University</p> <p><i>Controllability Analysis of a Floating Offshore Wind Turbine</i></p> <p>Nikhar Abbas, University of Colorado Boulder</p> <p><i>Application of the IEC International Design Standard for Offshore Wind Turbines to a Reference Site in the Massachusetts Offshore Energy Area</i></p> <p>Samuel Roach, University of Massachusetts Amherst</p> <p><i>A Frequency Domain Analysis Algorithm for Predicting Variance of Quasi-Static and Dynamic Wave-Driven Loads on a Monopile-Supported Offshore Wind Turbine</i></p> <p>Andrew Summerfield, Northeastern University</p> <p><i>Geospatial sensitivities of offshore wind LCOE in the United States</i></p> <p>Matt Shields, National Renewable Energy Laboratory</p> <p><i>A case study of a wakening event between two planned offshore wind farms</i></p> <p>Jessica Tomaszewski, University of Colorado Boulder</p> <p><i>Varying Roughness Lengths of Waves for Wind Energy Modeling Predictions</i></p>

Tuesday, October 15, 2019					
7:30AM-8:15AM	Registration and Continental Breakfast Room: Campus Center Auditorium				
8:15AM-10:00AM PLENARY 2	<p><b>Hurry up, and wait! Cross-cultural stakeholder engagement while solving urgent engineering climate change challenges!</b> Room: Campus Center Auditorium Session Chair: Bonnie Ram</p> <p>David Cash, Dean, John W. McCormack Graduate School of Policy and Global Studies Jennie Stephens, Director, School of Public Policy &amp; Urban Affairs, Northeastern University Suzanne Tegen, Assistant Director, Center for the New Energy Economy Paul Veers, Wind Energy Science Group Manager, National Renewable Energy Laboratory Bonnie Ram, Interim Director, Strategic Partnerships and Initiatives and Associate Director of the Center for Research in Wind, University of Delaware</p>				
10:00AM-10:30AM	BREAK				
10:30AM-12:30PM SESSION 3 (all rooms in Campus Center)	Turbine Technology - 1 Room: 174	Structures, safety and reliability/Turbine lifecycle considerations Room: 805	Wind resource Room: 904	Offshore Wind - Session 1 Room: 165	Environmental Risks and Sound Annoyance Room: 803
	Todd Griffith	Rupp Carriveau	Julie Lundquist	Chris Allen	Ben Hoen
	<p><b>Introduction of a Free Vortex Wake Method Into OpenFAST</b> Kelsey Shaler, National Renewable Energy Laboratory</p> <p><b>A Numerical Model for the Analysis of Leading-Edge Protection Tapes for Wind Turbine Blades</b> Desirae Major, The Pennsylvania State University</p> <p><b>Enhancement of Unsteady and 3D Aerodynamics Models using Machine Learning</b> Ganesh Vijayakumar, National Renewable Energy Laboratory</p> <p><b>Simulations for Effect of Surface Roughness on Wind Turbine Aerodynamic Performance</b> Yong Su Jung, University of Maryland</p> <p><b>Effects of hydrometeor droplet characteristics on wind turbine blade leading edge erosion: A numerical study</b> Rebecca Barthelmie, Cornell University</p>	<p><b>Reliability Analysis of Wind Turbine Blades Considering Lightning Strike</b> Wentao Zhao, Zhejiang University</p> <p><b>Geologic Setting of the Maryland Wind Energy Area: Implications for Foundation Selection and Design</b> Katie Diaz, University of Delaware</p> <p><b>Remaining Useful Life Determination for Wind Turbines</b> Michael Pagitsch, RWTH Aachen University, Center for Wind Power Drives</p> <p><b>Acoustic Sensing Based Operational Wind Turbine Blade Monitoring</b> Murat Inalpolat, University of Massachusetts Lowell</p> <p><b>Analysis of Economic Sensitivities Surrounding Wind Farm Life Extension</b> Rupp Carriveau, University of Windsor</p>	<p><b>Multi-scale simulations of wind farm performance with complex terrain and weather events</b> Fotini Chow, University of California, Berkeley</p> <p><b>The New European Wind Atlas Model Chain</b> Javier Sanz Rodrigo, CENER</p> <p><b>Mesoscale to Microscale Coupling for Wind Energy Applications: Addressing the Challenges</b> Sue Ellen Haupt, National Center for Atmospheric Research</p> <p><b>Three-Dimensional Planetary Boundary Layer Parameterization for High-Resolution Mesoscale Simulations</b> Branko Kosovic, NCAR</p> <p><b>Large Eddy Simulations of Idealized Atmospheric Boundary Layers using Nalu-Wind</b> Colleen Kaul, Pacific Northwest National Laboratory</p>	<p><b>Keynote</b> Chris Allen, University of Maine</p> <p><b>Global Energy Conversion from Wind over Water: The Energy Ship Concept</b> Max Platzer, UC Davis</p> <p><b>Wind Trawler: Operation of Offshore Wind Energy System in Far Offshore Environment</b> Aaron Annan, University of Massachusetts Amherst</p> <p><b>The Influence of Synthetic Mooring Line Stiffness Model Type on Global Floating Offshore Wind Turbine Response</b> William West, University of Maine</p> <p><b>Frequency-Dependent Aerodynamic Damping and Inertia in Linearized Dynamic Analysis of Floating Wind Turbines</b> Carlos Eduardo Silva de Souza, Norwegian University of Science and Technology</p>	<p><b>LBNL National Survey- Sound Annoyance</b> Ben Hoen, LBNL</p> <p><b>Understanding Community Audibility and Annoyance to Winder Turbine Sounds</b> Ryan Haac, Resource Systems Group</p> <p><b>Associations between wind turbines and health using residential proximity to wind turbines as an alternative exposure</b> Sandra Sulsky, Ramboll</p> <p><b>Literature Review of Wind Turbines and Health Effects</b> Sonja Sax, Ramboll</p> <p><b>Strategies for Mitigating Bat Impacts Using Smart Wind Turbine Curtailment</b> Jian Teng, University of Iowa</p> <p><b>A comprehensive review analyzing avian mortality studies performed around wind parks</b> Eldina Salkanović, Aarhus University</p> <p><b>Addressing Effects of Offshore Wind Energy Development on Bats</b> Zara Dowling, UMass Clean Energy Extension</p>
12:30PM-1:30PM	LUNCH Room: Campus Center Auditorium				

Tuesday, October 15, 2019, continued					
	Turbine Technology - 2 Room: 174	Structures, safety and reliability/Turbine lifecycle considerations Room: 805	Wind Resource Room: 904	Offshore Wind - Session 2 Room: 165	Stakeholder Perspectives on Offshore Wind Room: 803
	Carlos Simao Ferreira	Sanjay Arwade	Julie Lundquist	Charles Aubeny	Bonnie Ram
1:30PM-3:30PM SESSION 4 (all rooms in Campus Center)	<p>Invited Talk (speaker TBD)</p> <p><i>Experimental characterization of H-VAWT turbine for aero-elastic model development</i> ☒</p> <p>Bruce LeBlanc, Delft University of Technology</p> <p><i>Aerodynamic Load and Wake Measurements on a Sub-scale Wind Turbine</i></p> <p>Jonathan Naughton, University of Wyoming</p> <p><i>Wind tunnel experimental variability of aerodynamic loads for wind turbine blades</i></p> <p>Luca Caracoglia, Northeastern University</p>	<p><i>A Low-Cost Displacement Indicator for Wind Turbine Foundations</i></p> <p>Raj Kumar Gondle, University of Massachusetts Lowell</p> <p><i>Wind turbine blade leading-edge erosion</i></p> <p>Rebecca Barthelmie, Cornell University</p> <p><i>Fusion Joining of Thermoplastic Composite Wind Turbine Blades</i></p> <p>Robynne Murray, National Renewable Energy Laboratory</p> <p><i>A Computational Model of Wind Turbine Blade Erosion Induced by Raindrop Impact</i></p> <p>Weifei Hu, Zhejiang University</p> <p><i>Quantifying hydrometeor droplet impact probabilities for wind turbine blade leading edge erosion analyses</i></p> <p>Shuolin Li, Cornell University</p>	<p><i>Lidar Scanning of Induction Zone Wind Fields over Sloping Terrain</i></p> <p>Torben Mikkelsen, DTU Wind Energy</p> <p><i>The Effects of Wind Veer During the Morning and Evening Transition</i></p> <p>Miguel Sanchez, University of Colorado Boulder</p> <p><i>Characterization of turbulence under different stability conditions using lidar scanning data near the WFIP 2 Physics site</i></p> <p>Raj Rai, Pacific Northwest National Laboratory</p> <p><i>Ensemble statistics of wind turbine wakes on flat and complex terrains: Wind LiDAR observations</i></p> <p>Giacomo</p> <p>Valerio Iungo, UT Dallas</p> <p><i>Modeling Uncertainties of Wind Field Reconstruction Using Lidar</i></p> <p>David Schlipf, Flensburg</p>	<p><i>Optimizing offshore geotechnical site investigation in a homogenous stiff clay deposit</i></p> <p>Ning Luo, University of Massachusetts Amherst</p> <p><i>Superelement reduction of foundations for sequential load calculations in OpenFAST</i></p> <p>Emmanuel Branlard, National Renewable Energy Laboratory</p> <p><i>Influence of the Mass and Line Stiffness on the Dynamic Line Tension of a Floating Offshore Wind Turbine Stabilized by a Suspended Counterweight</i></p> <p>Jacob Ward, University of Maine</p> <p><i>Comparison of dynamic response and levelized cost of energy on three platform concepts for floating offshore wind turbine systems</i></p> <p>Yuka Kikuchi, The University of Tokyo</p> <p><i>Analysis of platform motions effect on the fatigue loads and aerodynamic unsteadiness in floating offshore wind turbines</i></p> <p>Ahmed AlShuwaykh, University of Massachusetts, Amherst</p>	<p><i>Understanding public priorities, tradeoffs, and development goals for offshore wind following acute storms</i></p> <p>Alison Bates, University of Massachusetts</p> <p><i>Residents Perceptions of North America's First Offshore Wind Project: Wind in the Sails or Choppy Seas?</i></p> <p>Jeremy Firestone, University of Delaware</p> <p><i>Beyond the Beach: Tourism and Recreation Experiences with the First US Offshore Wind Farm</i></p> <p>David Bidwell, URI</p> <p><i>An Analysis of the Impacts of the Block Island Wind Farm on Recreational Saltwater Anglers</i></p> <p>Tiffany Smythe, US Coast Guard Academy</p> <p><i>What are the Effects of an Offshore Wind Farm on the Experience of Recreational Boaters In and Around RI Coastal Waters?</i></p> <p>Tracy Dalton, URI</p>
3:30PM-4:00PM	BREAK				
4:00PM-5:45PM PLENARY 3	<p><b>Offshore Wind Research Challenges</b>  <b>Room: Campus Center Auditorium</b>            Session Chair: Walt Musial</p> <p>Liz Burdock, President, Business Network for Offshore Wind – State of US OSW Industry            Jordan Shoesmith, PMO &amp; Bid Development, Vineyard Wind – Developer Needs for Offshore R&amp;D            Derek Stilwell, Manager of Business Development, GE Offshore Wind – OEM Needs for Offshore R&amp;D            Walt Musial, Manager Offshore Wind, NREL – Reducing OSW cost through innovation            Bonnie Ram, Director of Strategic Partnerships, Center for Research in Wind, University of Delaware – <i>"I don't trust you: Effective Public Engagement"</i></p>				
5:45PM-6:30PM	Free time: Poster Viewing, Campus Center 11th Floor: Marriott Center				
6:30PM-8:30PM	<p>Registration and Continental Breakfast            Room: Campus Center Auditorium</p>				

Wednesday, October 16, 2019					
8:00AM-8:15AM	Continental breakfast Room: Campus Center Auditorium				
8:15AM-10:00AM PLENARY 4	<p><b>Large Turbines on Land</b> Room: Campus Center Auditorium</p> <p>Moderator: Josh Paquette, Sandia National Laboratories</p> <p>Mark Bolinger, Lawrence Berkeley National Laboratory Steve Nolet, TPI Composites Todd Griffith, University of Texas-Dallas</p>				
10:00AM-10:30AM	BREAK				
10:30AM-12:30PM SESSION 5 (all rooms in Campus Center)	Turbine Technology - 3 Room: 174		Wind resource Room: 904	Offshore Wind Farm Studies Room: 165	Offshore Wind Grid Integration: Stakeholders, Market Disruption, and Long-term Views Room: 805
	Todd Griffith		Julie Lundquist	Matt Shields	Fara Courtney
	<p><b>In-Blade Measurements of Cyclic Loading on Yawed Scaled Turbines with Trailing Edge Flap</b> Farid Samara, University of Waterloo</p> <p><b>Lidar-assisted yaw control for wind turbine using 9-beam nacelle lidar demonstrator</b> Hirokazu Kawabata, National Institute of Advanced Industrial Science and Technology (AIST)</p> <p><b>Noise Propagation Calculations of a Wind Turbine in Complex Terrain</b> Matias Sessarego, Technical University of Denmark</p> <p><b>Correlation of Planetary Bearing Outer Ring Creep and Gear Load Distribution in a Full-Size Wind Turbine</b> Felix Schlüter, Center for Wind Power Drives, RWTH Aachen University</p> <p><b>Development of Thermal Residual Stresses during Manufacture of Wind Turbine Blades</b> Malo Rosemeier, Fraunhofer Institute for Wind Energy Systems</p>		<p><b>Initial Results from the Field Testing of the "Rotor as a Sensor" Concept</b> Carlo L. Bottasso, Technische Universität München</p> <p><b>Best Practices for Simulating Wind Plant Wakes with WRF Wind Farm Parameterization</b> Jessica Tomaszewski, University of Colorado Boulder</p> <p><b>Assessment of Wind Turbine Impact on Future Climate in GCM-Driven WRF Simulations</b> Tristan Shepherd, Cornell University</p> <p><b>Assessing the stability of wind resource and operating conditions</b> S.C. Pryor, Cornell University</p> <p><b>Machine Learning Approach towards short term forecasting of wind turbine power production</b> Kiran Bhaganagar, University of Texas, San Antonio</p> <p><b>Short-Term Wind Forecasting using Statistical Models with a Fully Observable Wind Flow</b> Jordan Perr-Sauer, National Renewable Energy Laboratory</p>	<p><b>Process based balance of system cost models for offshore wind plants in the United States</b> Matt Shields, National Renewable Energy Laboratory</p> <p><b>Large Eddy Simulations of Offshore Wind Turbine Wakes for Two Floating Platforms</b> Hannah Johlas, University of Massachusetts, Amherst</p> <p><b>Comparison of multiline anchors for offshore wind turbines with spar and with semisubmersible</b> Krishnaveni Balakrishnan, University of Massachusetts, Amherst</p> <p><b>Damping the floating motion of vertical-axis wind turbines using thrust deflection</b> Delphine De Tavernier, Delft University of Technology</p>	<p><b>A Systems-Level View of US Atlantic Coast Offshore Wind Integration Issues</b> Eric Hines, Tufts University</p> <p><b>Interconnecting US Offshore Wind Energy targets: Market, Policy, and Governance Challenges</b> Kent Herzog, Competitive Transmission Manager, Burns McDonnell/ Chair, Business Network for Offshore Wind (BNOW)</p> <p><b>Opportunities for Research and Innovation in Optimizing Offshore Wind Grid Integration</b> Alex Stankovic, Alvin H. Howell Endowed Professor, Electrical Engineering, Tufts University</p> <p><b>Fear and Loathing Where the Cable Hits the Shore: The Importance of Being a Good Neighbor</b> Joel Whitman, Executive VP, Global Marine Group</p> <p><b>Commercial innovations to unlock investment in renewable energy</b> Peter Clive, Black &amp; Veatch, Principal Wind Energy Consultant</p>
12:30PM-1:30PM	Lunch/Closing Awards Room: Campus Center Auditorium				
POST CONFERENCE ACTIVITIES Wednesday 10/16 (Times and locations vary)					
1:30PM-6:00PM	Working session on Social/Technology intersection white paper (Ram) Room: Campus Center 805 1:30PM-3:30PM		NAWEA Education Committee 1:30PM-2:00PM NAWEA NSF IGE International 2:00PM-2:30PM NAWEA NSF IGE WindU 2:30PM-3:00PM Room: Campus Center 803	Grad Student mini-symposium Room: Campus Center 165 1:30PM-3:30PM	IEA Task 31 Meeting Room: Campus Center 165 2:30PM-6:00PM
	NAWEA Organizational Meeting (open to the public) Room: Campus Center 904 4:00PM-5:30PM				

<b>POST CONFERENCE Workshops/Meetings</b>			
<b>Thursday 10/17</b>			
<b>8:00AM-10:00AM</b>	<b>OpenFast Workshop</b> Location: Campus Center 165	<b>US-UK Collaboration Meeting</b> 8:00 AM- 2:30 PM Location: Amherst Room, Campus Center 10th floor	<b>IEA Task 32 and 37 Meeting</b> 9:00 AM - 5:00 PM Location: Hadley Room, Campus Center 10th floor
<b>10:00AM-10:30AM</b>	<b>Break</b>		
<b>10:30PM-12:30PM</b>	<b>SOWFA/Nalu Wind Workshop</b> Location: Campus Center 904		
		<b>Friday 10/18: IEA Meeting info</b>	
<b>IEA Task 32 and 37 Meeting</b> 9:00 AM - 5:00 PM Location: Hadley Room, Campus Center 10th floor			