

SusTech 2014

Preliminary Program Schedule

22-July

Tracks Key:

AE=>Alternate Energy; **EE**=>Energy Efficiency; **SG**=>Smart Grid;

SE=>Sustainable Electronics; **SI**=>Societal Implications; **TE**=>Transportation Electrification

THURSDAY				
7.00am-5:30pm	Registration Pacific NW Foyer – Main Level (off Lobby)			
	Workshops			
	Alaska	Idaho		
8:00am-noon	Unintended Consequences of Renewable Energy presented by Dr. Otto Andersen	Repairing The World (IEEE 1874) presented by Will Lumpkins, Kyle Wiens		10am break
12:00-1:00pm	Lunch (for workshop attendees) Oregon - Main Level			60 min
	SusTech 2014 Invited Presentations			
1:30pm	Opening Plenary Keynote: Digby Macdonald “Nuclear Options for Our Energy Future” Morrison / Ross Island - Main Level			60 min
	Morrison	Sellwood	Ross Island	
	AE I	SE I	TE I	
2:30pm	Evaluation of Production Cost Savings from Consolidation of Balancing Authorities Tony Nguyen	Valuing Natural Capital: How to Enhance Business Value in the Technology Sector Annabelle Bennett	Last Mile Asset Monitoring Zdenek Zumr	30 min
3:00pm	Grid Integration Costs of Fluctuating Renewable Energy Sources Marcus Hildmann	Life Cycle Assessment of Electronics Otto Andersen	B-Line, Sustainable Urban Delivery Franklin Jones	30 min

3:30pm	Modular and Dispatchable Battery Energy storage System Field Demonstration and Use cases John Steigers	Environmental Markets Enhance Business Value Wayne Rifer	HEV/BEV Noise, Vibration, Harshness Issues Caused by Electric Machine Drive Components and Mitigation Using Advanced Electric Machine Design and Motor Control Algorithms Julia Zhang	30 min
4.00pm	Break			30 min
	SG I	SI I	EE I	
4:30pm	Charging Into a Greener Future with Smart Grid Rhonda Walton	DIY Repair: How a Global Movement of Tinkerers, Hackers and Self-Taught Engineers is Building a Repairable Electronics Industry Kyle Wiens	Energy Efficiency Projects - A Case Study at Weber State University Fred Chiou	30 min
5.00pm	Demonstration of Energy Storage Applications at the Salem Smart Power Center Kevin Whitener	Will New York City Ever Be Safe From Future Flooding? Malcolm Bowman	Institutional Transformation for Energy Conservation/Sustainability Jerry McNeish	30 min
5.30pm	Edison was Right! By the Numbers, DC Microgrids for Sustainable Buildings Sooner Guy AILee	Educating Sustainability Engineers - Redesigning Curricula Roger Hadgraft	** Gold Patron Presentation ** Sustainability Certification Mark Rossolo	30 min
6:00pm	Opening Reception Oregon - Main Level			90 min

FRIDAY				
7.00am-6:00pm	Registration Cascade Foyer 2 nd Level			
7:00am	Breakfast (load talks); opening remarks Sisters/Bachelor 2 nd Level			90 min
	SusTech 2014 Contributed Papers Presentations			
	Morrison	Sellwood	Ross Island	
	AE C-1	SG C-1	SI C-1	
8.30am	Grid Emulator for Compliance Testing of Wave Energy Converters	Optimally Designed Retail Rates to Incentivize Demand Response	Environmental Requirements and the CE Mark New Areas for a Harmonized Approach to Compliance	25 min
8.55am	Electrochemical Antifouling Technology for Replacement of Heavy Metal and Organic Biocides in Marine Hydrokinetic Energy Generation	Smart Grid Dispatch Optimization Control Techniques for Transactive Energy Systems	Importance of Global Harmonization in Product Environmental Regulations and Standards	25 min
9.20am	Wave Energy Power Transmission Lines: Electric and Magnetic Field Propagation	Self-Organising Algorithms for Residential Demand Response	Social Acceptance: Threats to Effective Smart Grid Deployment and Power System Resilience	25 min
9.45am	<open>	A Bottom-Up Approach to Sustained Curtailment and Comfort for Controlled Demand Response	Canary in a Coal Mine: Issues in Efficient Cooling of Data Centers	25 min
10.10am	Break			30 min
	AE C-2	SG C-2	SI C-2	
10.40am	A Methodology to Analyze the Impact of 30-Minute Wind Scheduling on Load-Following Requirements	Enhancing Test Power Systems for Dynamic Cascading Outage Simulations	Low-Cost Non-Intrusive Residential Energy Monitoring System	25 min
11.05am	Stochastic Day-ahead Optimal Scheduling of Active Distribution Networks with Dispersed Energy Storage and Renewable Resources	Relay Protection Condition Assessment Based on Variable Weight Fuzzy Synthetic Evaluation	VEGILAB and Aquaponics Indoor Growing System	25 min

11.30am	An Advanced Study of Wind Power Variability on the Federal Columbia River Power System	A Technique for Detecting Wide-Area Single-Line-To-Ground Faults	Water, Energy and Food Security: Integrated Technology Solutions for Sustainability	25 min
11.55am	Generation Capability Curves for Wind Farms	Integrating Synchrophasor Technology with the Oregon State University Campus Smart Grid Project	** Invited ** Integrated Technology Solutions for Agricultural Irrigation Dan Berne	25 min
12.30pm	Lunch Keynote: Joe Fjelstad "Sustainability Writ Large - A Perspective on Sustainability, Its Impact and Implications" Sisters/Bachelor 2 nd Level			90min
	Morrison	Sellwood	Ross Island	
	AE C-3	SG C-3	SI-EE C-1	
2.00pm	Optimal Aerodynamic Energy Capture Strategies for Hydrostatic Transmission Wind Turbine	Supercapacitor Performance Characterization for Renewables Applications	The Scalability of the Building Retrofit Market: A Review Study	25 min
2.25pm	Development of Analytical and Computational Models for Predicting the Performance of A-PEGASUS Airborne Electric Generator	Short-term Load Forecasting Algorithm and Optimization in Smart Grid Operations and Planning	Co-Simulation of Detailed Whole Building with the Power System to Study Smart Grid Applications	25 min
2.50pm	Thermal Capacity of Collector System Feeds in Wind Farms	Analysis of Dynamic Retail Electricity Rates and Domestic Demand Response Programs	Simulating Human Occupancy in Experimental Laboratory Settings	25 min
3.15pm	Mitigation of Intermittency Effects of Photovoltaic Penetration Onto the Grid	Dispatchable Loads for Grid Health: Water Preheaters as Energy Storage	<open>	25 min
3.40pm	Break			30min
	AE C-4	SE-TE C-1	EE C-2	
4.10pm	Solving Economics, Energy, Carbon and Climate in a Single Project	Understanding the Aging Process, Recovering Phase and Fault Diagnosis of Electrochemical Double Layer Capacitors	Managing PMU Data Sets with Bitmap Indexes	25 min

4.35pm	Accelerated Aging Methods for Evaluating Carbon Electrode Materials	Time-Varying Modeling of Electric Vehicle Chargers	Power System Data Management and Analysis Using Synchrophasor Data	25 min
5.00pm	Electrification Through Renewable Energy Kiosks with Hybrid Generation in Rural Indian Setting	Forecasting Demand of Public Electric Vehicle Charging Infrastructure	Extracting Discriminative Features for Event-based Electricity Disaggregation	25 min
5.25pm	<open>	A Comparison of Electric Vehicle Level 1 and Level 2 Charging Efficiency	** Invited talk ** Smart Grid in the Northwest Bryce Yonker	25 min
6.00pm	Posters Reception & Networking Hood/Helens 2 nd Level			
7.00pm	Conference Dinner Keynote: Jerry Engel "Ethic Responsibility" Sisters/Bachelor 2 nd Level			90 min

Saturday				
7.00am-noon	Registration (close at noon) Cascade Foyer 2 nd Level			
7:30am	Breakfast (load talks) Sisters/Bachelor 2 nd Level			60 min
	SusTech 2014 Invited Presentations			
	Morrison	Sellwood	Ross Island	
	AE II	EE II	TE II	
8.30am	The Mechanism of Stress Corrosion Cracking in Sensitized Austenitic Stainless Steels in Nuclear Power Reactor Heat Transport Circuits Digby Macdonald	Invited #4	Electric Vehicles as Grid Resources in ISO-NE and Vermont Karen Glitman	30 min
9.00am	RFID Energy Harvesting "Extending Battery Life from Eighteen Hours to Thirty Days"	Invited #5	Applications and Advanced Controls for Heavy Duty Hybrids	30 min

	Will Lumpkins		Jennifer Vining	
9.30am	Marine Tidal Energy: a Case Study in Legislative Challenges and Environmental Impacts Phil Hall	Invited #6	IEEE Transportation Electrification Initiative Lee Stogner	30 min
10.00am	Break			30 min
	SG II	SI II	SE II	
10.30am	Advances in Power Grid Research in the Pacific Northwest Emilie Hogan	Residential Energy Independence: Moving Beyond Net-Zero Karen Faerber-Hall	Safe Advanced Mobile Power Initiative Tom Coughlin	30 min
11.00am	The Role of Flexible Load in Achieving Sustainability Conrad Eustis	Renewable Energy for International Development Slobodan Petrovic	Research to Innovation for Sustainable Electronics Douglas Keszler	30 min
11.30am	<open>	Recent Advancements and Opportunities in Humanitarian Technologies T.L.Prasanna Venkatesan	<open>	30 min
Noon	Lunch Keynote speaker: Tom Tierney “Sustainability Policy in the U.S. : Creating and Preserving a Future for Our Next Generation” Sisters/Bachelor 2 nd Level			90 min
1.40pm	Panel Discussion Whither Sustainability? Moderator: Donahoe; Hadgraft, Walton, Cotilla-Sanchez, ... Hood/Helens 2 nd Level			60 min
2:40pm	Closing Keynote Eric Wanless “Reinventing Fire: Bold Business Solutions for the New Energy Era” Hood/Helens 2 nd Level			60 min
3:40pm	Onward to SusTech 2015; Adjourn			10 min
	Happy Hour and Organizer Post-Mortems!			

General Sessions / Special Events	Time	Speaker
Thursday Opening Plenary	60min	MacDonald
Thursday Reception	90min	Posters
Friday Opening Remarks	30min	Perkins, Morris
Friday Lunch Keynote	30min	Fjelstad
Friday Conference Dinner Keynote	30min	Engel
Saturday Lunch Keynote	30min	Tierney
Saturday Panel	60min	Donahoe
Closing Keynote	60min	Wanless