

OSE5 2024 DAY 0 Tuesday July 9, 2024 NEW BEDFORD HARBOR HOTEL			DAY ZERO
TIME	SESSION	ACTIVITY	
18:00-20:00	BB	OSE5JRM INFORMAL ICEBREAKER (AND SO IT BEGINS) New Bedford Harbor Hotel, New Bedford 16:00hrs Cocktails	
OSE5 2024 DAY 1 Wednesday July 10, 2024 SMAST EAST 836 South Rodney French Blvd. New Bedford			DAY ONE
TIME	SESSION	ACTIVITY	
08:00-08:45	BB	DELICIOUS BREAKFAST	
08:45-09:00	INTRO	OPENING REMARKS AND WELCOME OSE5 CHAIRS (Rugg Carrievou, Seamus Corvey, Tomio Sant) and SMAST DIRECTOR	
09:00-09:00	S1	SESSION 1: PLenary TALK Islands in the Sea: Offshore Turbine Marine Life Ecosystems Dr. Kevin Stokelybury Dean and Professor University of Massachusetts Dartmouth, School for Marine Science & Technology (SMAST)	
09:00-10:00	S2	SESSION 2: ENGINEERING FOR ENVIRONMENTAL IMPACTS OF OFFSHORE ENERGY ASSETS SESSION CHAIR: Dr. Rugg Carrievou, Professor and Director, Environmental Energy Institute, University of Windsor	
09:00-09:45	S2.1	Potential Impacts of Offshore Wind Energy Development on Physical Processes and Scallop Larval Dispersal over the US Northeast Shelf C. Chen, L. Zhao, L. Wang, S. Li, P. An, and K. Stokelybury School for Marine Science and Technology, University of Massachusetts Dartmouth	
09:45-10:00	S2.2	Monitoring and Mitigating the Impacts of Offshore Wind Farms on Fisheries Steven K. Cadran *School for Marine Science and Technology, University of Massachusetts-Dartmouth	
10:00-10:00	S3	SESSION 3: PLenary TALK Wind Energy Explained, Expanded, and Evolving Dr. James P. Stewart Professor, Founding Director, Wind Energy Center University of Massachusetts Lowell	
10:00-10:45	BB	ENERGIZING 15MIN BREAK	
10:45-11:45	S4	SESSION 4: OFFSHORE ENERGY GENERATION TECHNOLOGIES 1 SESSION CHAIR: Dr. Jihwan Wang, Associate Professor, Dalian Maritime University, China	
10:45-11:00	S4.1	Wind Farm Grid Classes to Quantify Intermittency and Decarbonization Economics Eric Loch * and Chris Qiu ** *University of Virginia, **Washington State University	
11:00-11:15	S4.2	Ideal Specific Power for Offshore Wind Turbines Based on Grid Value Chris Qiu * and Eric Loch ** *Washington State University, **University of Virginia	
11:15-11:30	S4.3	Numerical Study of Wind-Farm Wake Impingement on Component Health Julian Clark*, Edward Hart*, and Håvard ** *Technical University of Denmark, **University of Strathclyde	
11:30-11:45	S4.4	Energy System Modelling of a Wave Energy Farm and a Tidal Energy Farm Combined with Hydrogen Production J. Guichard, R. Nowellson-Smith, and D. Greaves University of Plymouth	
12:45-13:00	BB	OH SO TASTY 45MIN LUNCH	
13:00-14:00	S5	SESSION 5: PLenary TALK Co-Optimizing Offshore Resource Potential Through Relationship Building Ms. Jennifer Downing Executive Director, New Bedford Ocean Cluster	
14:00-14:15	S6	SESSION 6: ECONOMIC ENABLING TOOLS AND ENERGY SYSTEMS INTEGRATION SESSION CHAIR: Dr. Eric Loch, Ruffo-Royce Professor, Mechanical and Aerospace Engineering, University of Virginia	
14:00-14:15	S6.1	Monte Carlo Comparison of Multi-Party vs. Conventional Two-Party Wind Energy Power Purchase Agreements Alessandro Ieri*, Rugg Carrievou*, MITT Davison * *University of Windsor, *Swedish University	
14:15-14:30	S6.2	Digital Dynamic Agent (DDA) Driven Energy Contract Negotiation Mihai Vasconcelos*, Rugg Carrievou*, Jacqueline Stogner*, MITT Davison * *University of Windsor, *Swedish University	
14:30-14:45	S6.3	The Effect of the Capacity Factor of Wind Turbines on the Overall Electricity Cost J. Cardenas, J. Corvey, J. Benicomeiro, R. Mehdipour University of Nottingham	
14:45-14:00	S6.4	A Design and Optimization Tool for Integrated Renewable-Hydrogen Microgrid Systems Jaci Casaretti, Victor Dzala, Christopher Muznicki, Jingfang Xu, and David Willis University of Massachusetts Lowell	
14:00-14:15	S6.5	Investigating Wind Speed Fluctuation Effects on Optimal Sizing of Hybrid Wind-Hydrogen Energy Subsystems V. Dzala, J. Casaretti, C. Nowocinski, D. Willis and K. Xu University of Massachusetts Lowell	
14:15-14:30	BB	INSPIRING 15MIN BREAK	
14:30-15:00	S7	SESSION 7: OFFSHORE RENEWABLES SUPPORT TECHNOLOGIES SESSION CHAIR: Mr. Heather Norton, Wind Energy Institute of Canada	
14:30-14:45	S7.1	Finite Element Modelling of Dynamic Offshore Power Cables For Floating Offshore Renewable Energy Systems D.M. Smith, L.E. Cunningham, L. Chen University of Manchester	
14:45-15:00	S7.2	The Importance of Surface Preparation in Leading Edge Protection Durability R. Sanderson and M. Rodgers Wind Energy Institute of Canada (WEICan)	
15:00-15:15	S7.3	Techno-Economic and Carbon Dioxide Removal Efficiency Optimization of Offshore-Wind Powered Direct Air Capture With Storage in Subsea Reservoir A.R. Norton*, G. Antonello Domini*, R. Powell*, D. Jung***, D. Todd**, and C. Crawford** *NORC, Canada, **Pacific Institute for Climate Solutions, ***University of Victoria, Canada	
15:15-15:45	BB	SESSION 8: OSE5JRM 2 MINUTES TO MIDNIGHT PITCH SESSION SESSION CHAIR: Dr. Seamus Corvey, Professor, Director of the Ruffo-Royce OTC in Gas Turbine Transmission Systems, University of Nottingham Registered OSE52024 Participants Take A Short and Sweet 2 Minute Pitch to OSE5 Assembly – Conversations To Continue upon NBOC New Bedford Harbor Tour Cruise	
15:45-16:00	BB	NEW BEDFORD HARBOR TOUR CRUISE PRE-TOUR COCKTAILS Buses Leave SMAST East at 15:45 HRS for Merrill's on the Waterfront.	
16:00-16:30	BB	NEW BEDFORD HARBOR TOUR CRUISE TOUR CRUISE SPONSORED GENEROUSLY BY NEW BEDFORD OCEAN CLUSTER (NBOC) Assemble at Cottabush Ferry Pier 16:05 HRS Boarding Vessel at 17:00 HRS Sharp *NOTE* Post Cruise Cocktails To Follow Informally At Another Exciting Village Location (TBA Night Of)	
OSE5 2024 DAY 2 Thursday July 11, 2024 SMAST EAST 836 South Rodney French Blvd. New Bedford			DAY TWO
TIME	SESSION	ACTIVITY	
08:00-09:00	BB	FABULOUS BREAKFAST	
09:00-09:00	S9	SESSION 9: PLenary TALK Offshore Wind: Challenges and Opportunities Dr. Chris Wiernecki Distinguished University Professor, Director, Center for Energy Innovation and WindSTAR Industry-University Cooperative Research Center, University of Massachusetts Lowell	
09:00-10:00	S10	SESSION 10: OFFSHORE ENERGY STORAGE TECHNOLOGIES 1 SESSION CHAIR: Mr. Bill Hurley, Hurley Maritime Consulting	
09:00-09:45	S10.1	Simulation of a Decentralized Offshore Wind Hydrogen Production System With Hydro-Pneumatic Energy Storage And Subsea Isobaric Hydrogen Storage Hu Wang*, Wei Xiang*, Rugg Carrievou*, David S-K Bieg*, Tomio Sant*** and Jihwan Wang** *Dalian Maritime University, **University of Windsor, ***University of Malta	
09:45-10:00	S10.2	Low Cost Locally Manufactured Marine Pumped Hydro Energy Storage Systems Gabriel Fabiane, Jacob Blum, Jason Carroll RCAM Technologies	
10:00-10:15	S10.3	Supporting Offshore Renewables through Multi-Technology Energy Storage Optimization A.J. Springer*, M. Parzen**, and D. Klotz*** *University of Edinburgh, **OpenEnergy Transition Germany, ***University of Pisa	
10:15-10:30	S10.4	Experimental Results of Small-Scale Isochoric Compressed Air Energy Storage Prototype D.L. Pottle, M.M. Othman P., J.R. Barbour CREST Loughborough University	
10:30-10:45	BB	CONTEMPLATIVE 15MIN BREAK	
10:45-11:45	S11	SESSION 11: OFFSHORE ENERGY GENERATION TECHNOLOGIES 2 SESSION CHAIR: Dr. Gabriel Fabiane, Chief Operating Officer, RCAM Technologies	
10:45-11:00	S11.1	A Living Breakwater (LWB) For Low-Cost Coastal Power, Protection, and Restoration Gabriel Fabiane, Jacob Blum, Jason Carroll RCAM Technologies	
11:00-11:15	S11.2	Auxiliary Augmentation Approach of Dual Rotor-Vertical Axis Wind Turbines with a Common Rotation Axis for Offshore Energy Generation Optimization Abel A. Shorob*, Mohamed Mubasher Adrofi*, Arathi Sekaran**, and Alessandro Antonolo** *Virginia Tech, **UNIV Polytechnic Institute	
11:15-11:30	S11.3	Navigating Self-Starting Challenges in a Cutting-Edge Offshore Hybrid Vertical Axis Wind Turbine Design Arathi Sekaran**, Abel A. Shorob*, and Alessandro Antonolo** **UNIV Polytechnic Institute, *Virginia Tech	
11:30-11:45	S11.4	Experimental Study on the Load Shedding Characteristics of a Variable Geometry Oscillating Wave Energy Converter K.K. Hsu, K. Theodoropoulos, P.J. Callaway, and M.A. Shabara University of Massachusetts Lowell	
12:45-13:00	BB	WINDLESOME 45MIN LUNCH	
13:00-14:00	S12	SESSION 12: PLenary TALK The Impacts of Clean Energy Transitions on Maritime Shipping Mr. Bill Hurley Chief Executive Officer, Hurley Maritime Consulting	
14:00-14:00	S13	SESSION 13: OFFSHORE ENERGY STORAGE TECHNOLOGIES 2 SESSION CHAIR: Dr. Alex White, Director of Studies in Engineering, Cambridge University	
14:00-14:15	S13.1	Proposal and thermodynamic analysis of a Trigeneration Adiabatic Compressed Air Energy Storage Junhui Piao*, Xianwei*, Chenghao Qi*, Zhong Wang*, Wei He**, Jun Springer***, Xulong Ding*** **University of Warwick, ***King's College London, ***University of Birmingham	
14:15-14:30	S13.2	Modelling The Performance of an Array of Centrifugal Pumps Operating Under a Variable Pressure in a Hydro-Pneumatic Energy Storage System A. Cozzar, A. Berg, and T. Sant University of Malta	
14:30-14:45	S13.3	Low Cost Locally Manufactured Marine Pumped Hydro Energy Storage Systems Gabriel Fabiane, Jacob Blum, Jason Carroll RCAM Technologies	
14:45-14:00	S13.4	Revolutionizing Data Centre Backup: Exploring Sustainable Alternatives to Diesel Generators Wolframher (wframher)post, Andy van den Driessche, Joop Scheld Technische Universiteit Delft	
14:00-14:15	BB	INNOVATING 15MIN BREAK	
14:15-14:45	S14	SESSION 14: PLenary TALK Wind Energy Engineering and Science: Better Together Dr. Paul Mann NREL Senior Research Fellow Mechanical Engineering, Chief Engineer at the National Wind Technology Center	
14:45-15:15	S15	SESSION 15: OFFSHORE ENERGY TRANSPORT AND STORAGE SESSION CHAIR: Dr. Jovan Jovanovic, Research Fellow, University of Warwick	
15:15-15:30	S15.1	A Combined Liquid CO2 and Thermochemical Energy Storage System Alexander J. White University of Cambridge	
15:30-15:45	S15.2	Review of Power Transmission Options For Offshore Wind Generation Combined With Energy Storage Johan Benicomeiro, Seamus Corvey, James Rouse, Ramon Mehdipour University of Nottingham	
15:45-16:00	S15.3	Numerical Analysis of Uplift Bearing Capacity of Composite Suction Caisson Foundation Used For Large-Scale Underwater Compressed Gas Energy Storage Hu Wang*, Wei Xiang*, Rugg Carrievou**, David S-K Bieg**, Tomio Sant*** and Jihwan Wang** *Dalian Maritime University, **University of Windsor, ***University of Malta	
16:00-16:45	S16	SESSION 16: INTERACTIVE PANEL: OVERCOMING OBSTACLES TO COASTAL/OFFSHORE PROJECTS: FINANCE, POLICY, ENVIRONMENT SESSION CHAIR: Gabriel Fabiane, CEO RCAM Technologies	
17:00-21:00	BB	OSE5JRM BANQUET BUZZARDS BAY BREWING COMPANY, WESTPORT MA Coaches Leave SMAST East at 17:00 HRS to Banquet Location. Coaches Return to SMAST East at 23:00 HRS.	
OSE5 2024 DAY 3 Friday July 12, 2024 SMAST EAST 836 South Rodney French Blvd. New Bedford			DAY THREE
TIME	SESSION	ACTIVITY	
08:00-09:00	BB	DELICIOUS BREAKFAST	
09:00-09:00	S17	SESSION 17: PLenary TALK PORT EVOLUTION: GLOBAL INNOVATIONS FOR THE NEW BEDFORD MARINE COMMERCE TERMINAL Tim Driffle Terminal Director, New Bedford Marine Commerce Terminal	
09:00-10:00	S18	SESSION 18: INTERACTIVE PANEL: FUELING SEAPORT TRANSITION: H2, NH3, AND THE NUCLEAR OPTION SESSION CHAIR: Professor Rugg Carrievou, Director, Environmental Energy Institute, University of Windsor PANELISTS: Mr. Tim Driffle, Terminal Director, New Bedford Marine Commerce Terminal, Professor Seamus Corvey, University of Nottingham	
10:00-11:00	S19	SESSION 19: OFFSHORE ENERGY TRANSPORT, GENERATION, AND STORAGE SESSION CHAIR: Dr. Tomio Sant, Mechanical Engineering Head, Professor, University of Malta	
10:00-10:15	S19.1	The Dirty Dozen: Decarbonizing the 12 Thousand Footers of the Great Lakes Jacoba Wattle, Jacqueline Stogner, Rugg Carrievou Environmental Energy Institute, University of Windsor	
10:15-10:30	S19.2	Investigating the Thermal Performance of a Subsea Liquid Piston Air Compressor Operating at Very High Pressure Ratios C. Cutajar, F. Sant, and L. Aquilina University of Malta	
10:30-10:45	S19.3	Wind Tunnel Test and Numerical Study on Wind Turbine Blades with Bio-Inspired Wing-Tip Sails Rupert Jackson, Lin Wang, Seamus Corvey University of Nottingham	
10:45-10:00	S19.4	Comparing the Pressure Containment Requirements of Three Subsea Hydro-Pneumatic Energy Storage Concepts Tomio Sant*, Luis Aquilina**, Charan Cutajar*, David Buehler*** and Daniel Baldacchino** *University of Malta, **PLUG B.V., ***PLUG B.V.	
11:00-11:15	BB	THOUGHT PROVOKING 15MIN BREAK	
11:15-13:00	S20	SESSION 20: OFFSHORE ENERGY SYSTEMS AND STORAGE SESSION CHAIR: Dr. Nathan Johnson, Centre for Environmental Policy, Imperial College London	
11:15-11:30	S20.1	Decarbonise Grand Cayman's Electricity Grid Through Distributed Generation Supported by Energy Storage and Ocean Energy James Brooks, Daniel Friedrich The University of Edinburgh, School of Engineering	
11:30-11:45	S20.2	Dynamic Techno-Economic Modelling of Sodium-Zinc Batteries For Storing Electricity From Offshore Wind Nathan Johnson and Iain Staffell Centre for Environmental Policy, Faculty of Natural Sciences, Imperial College London	
11:45-12:00	S20.3	Thermal Analysis using CFD of a Liquid Piston Accumulator Undergoing a Compression Cycle For Hydro-Pneumatic Energy Storage Applications Luis Aquilina, Tomio Sant, and Charan Cutajar University of Malta	
13:00	BB	LUNCH TO GO! SEE YOU AT OSE52025!	