Workshop Announcement

International Workshop on Life-Cycle Costing of Offshore Wind Turbines and Farms

When: October 1, 2015 (the day after the AWEA Offshore WINDPOWER Conference in Baltimore)

Where: University of Maryland, College Park, Maryland, USA

Offshore wind farms are capital intensive projects whose economic viability depends on many things including: the wind resources, the technology, the depth of the water, the price of energy, and the successful long-term sustainment (or operation and maintenance, O&M) of the turbines. Accurate life-cycle costing is a key enabler for making offshore wind farm business cases and optimizing their management. This workshop will focus on forecasting life-cycle costs of turbines, wind farms, and their associated infrastructure.

Topics of interest include (but are not limited to):

- Cost of ownership
- Operations and maintenance analysis
- Maintenance infrastructure
- Condition-based health management
- Spare parts forecasting and inventory
- Economics of reliability
- Return on investment and business case analysis
- Financial modeling (e.g., WACC determination)
- Designing power purchase agreements (PPAs) and designing for PPAs
- Warranty analysis
- Life extension
- Inspection
- Energy availability
- No fault found
- Aging supply chain
- Real options analysis

If you are interested in attending or presenting please contact: Peter Sandborn, University of Maryland, sandborn@umd.edu, (301) 405-3167
## International Workshop on Life-Cycle Costing of Offshore Wind Turbines and Farms

### Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Introduction to the Workshop (The Sustainment of Offshore Wind Farms)</td>
<td>Peter Sandborn</td>
<td>University of Maryland</td>
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<tr>
<td>9:00</td>
<td>2014-2015 Offshore Wind Technologies Market Report: Progress towards Cost Reduction in Europe and Implications for the US Market</td>
<td>Aaron Smith</td>
<td>NREL</td>
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<tr>
<td>9:30</td>
<td>CoE Modeling for Offshore Turbines with Different Drive Train Types at Sites Varying Distances from Shore</td>
<td>James Carroll</td>
<td>University of Strathclyde (Glasgow, UK)</td>
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<tr>
<td>10:00</td>
<td>Break</td>
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<tr>
<td>10:30</td>
<td>Offshore Wind Farm O&amp;M Optimization Using Real Options Analysis</td>
<td>Xin Lei</td>
<td>University of Maryland</td>
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<tr>
<td>11:00</td>
<td>Wind Turbine Performance Analysis and Anomaly Detection based on Techniques Developed on SCADA Data</td>
<td>Peyman Mazidi</td>
<td>KTH (Sweden)</td>
</tr>
<tr>
<td>11:30</td>
<td>Reliability Predictions of Current OSW Turbine Designs</td>
<td>Aris Christou</td>
<td>University of Maryland</td>
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<tr>
<td>12:00</td>
<td>LCOE of Offshore Wind Farms - Identification &amp; Reduction</td>
<td>Ashish Dewan</td>
<td>ECN (Netherlands)</td>
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<tr>
<td>12:30</td>
<td>Lunch</td>
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<tr>
<td>1:00</td>
<td>Lunch</td>
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<tr>
<td>1:30</td>
<td>Offshore Wind Balance of System Cost Modeling</td>
<td>Tyler Stehly</td>
<td>NREL</td>
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<tr>
<td>2:00</td>
<td>Power Purchase Agreement (PPA): Performance-Based Levelized Cost of Energy</td>
<td>Maira Bruck</td>
<td>University of Maryland</td>
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<tr>
<td>2:30</td>
<td>Maintenance and Operation Management Strategy to Reduce the Cost of Offshore Wind Power Generation</td>
<td>Joseph Arumala</td>
<td>University of Maryland Eastern Shore</td>
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<tr>
<td>3:00</td>
<td>Reducing Costs in the Offshore Wind Sector: From Modular Design to a Healthy Flow of Knowledge</td>
<td>Matei Rugin</td>
<td>University of Southern Denmark</td>
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<td>3:30</td>
<td>Break</td>
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<tr>
<td>4:00</td>
<td>Return on Investment (ROI) Modeling of Offshore Wind Farm O&amp;M to Support Strategic Technology Insertion</td>
<td>Roozbeh Bakhshi</td>
<td>University of Maryland</td>
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<tr>
<td>4:30</td>
<td>Lessons Learnt from Whole Life Costing Applications</td>
<td>John Erkoyuncu</td>
<td>Cranfield University (UK)</td>
</tr>
<tr>
<td>5:00</td>
<td>Potential Life-Cycle Cost Reductions for Offshore Floating Wind Energy</td>
<td>Michael Borg</td>
<td>Technical University of Denmark</td>
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<tr>
<td>5:30</td>
<td>Wind Turbine Maintenance Optimization: The Impact of an Accurate Vertical Wind Profile Estimation</td>
<td>Navid Goudarzi</td>
<td>University of Maryland</td>
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**General Information**

**Workshop Date and Location:**

October 1, 2015, College Park Marriott Hotel & Conference Center adjacent to the University of Maryland in College Park Maryland.

The workshop will take place in: Chasen Family Room  (see attached map for location of room)

**Hotel Information:**

College Park Marriott Hotel & Conference Center  
3501 University BLVD  
East Hyattsville, Maryland 20783 USA  
Phone: +1-301-985-7300  
Fax: +1-301-985-7517  

**Information on transportation options and directions to College Park Marriott Hotel & Conference Center from the nearby airports is available here:**


Directions from Dulles International Airport (IAD):  

Directions from Reagan International Airport (DCA):  
[http://www.marriott.com/hotels/maps/directions-results.mi?startLocation=&endLocation=&directionFromProperty=false&addressType=airport&marshallCode=wasum&country=&originDriveQuery=&originAddress=&originCity=&originState=&originCountry=&originZip=&language=en&originAirport=DCA&originAirportCode=DCA&mapLocation=mapEnd&language=en](http://www.marriott.com/hotels/maps/directions-results.mi?startLocation=&endLocation=&directionFromProperty=false&addressType=airport&marshallCode=wasum&country=&originDriveQuery=&originAddress=&originCity=&originState=&originCountry=&originZip=&language=en&originAirport=DCA&originAirportCode=DCA&mapLocation=mapEnd&language=en)
Directions from Baltimore/Washington International Airport (BWI):

http://www.marriott.com/hotels/maps/directions-results.mi?startLocation=&endLocation=&directionFromProperty=false&addressType=airport&marshaCode=wasum&country=&originDriveQuery=&originAddress=&originCity=&originState=&originCountry=&originZip=&language=en&originAirport=BWI&originAirportCode=BWI&mapLocation=mapEnd&language=en

Directions from AWEA at the Baltimore Convention Center:

http://www.marriott.com/hotels/maps/directions-results.mi?startLocation=&endLocation=&directionFromProperty=false&addressType=street&marshaCode=wasum&country=&originDriveQuery=&originAddress=1+W+Pratt+St&originCity=%2C+Baltimore&originState=MD&originCountry=US&originZip=+21201&mapLocation=mapEnd&language=en&originAirport=&originAirportCode=&language=en

**Parking**

Parking is complementary for all patrons of the hotel whether you are staying or just coming for the day. There is a garage adjacent to the building.

**If you have any questions you can contact:**

Ericka Black
Email: epair@umd.edu
Telephone: 301-405-3906

**Registration**

There is no registration free, however, you need to submit the attached registration form by August 28, 2015 to Ericka Black (epair@umd.edu)

* Invitation letters can be provided on request
CONFERENCE BUILDING MAIN LEVEL

2015 Offshore Workshop Oct. 1st

CHESAPEAKE BALLROOM

SALON A

SALON B

SALON C

WALL OF WINDOWS

THE COMMON

DINING

FIREPIT

OUTDOOR DINING

ELEVATORS

WOMEN'S ROOM

MEN'S ROOM

BUSINESS CENTER

FITNESS CENTER

OUTDOOR AREA

HALL OF DISTINCTION

OUTDOOR PATIO

PATIENT ROOM

LADIES

MEN'S

STORAGE

LEROY MERRETT CENTER FOR THE ART OF JOSEPH SHEPPARD

MEETING ROOM 1101

MEETING ROOM 1102

MEETING ROOM 1103

MEETING ROOM 1109

MEETING ROOM 1105
Registration Form
Return form by August 28, 2015 to Ericka Black (epair@umd.edu)

Name:

Title/Position:

Organization:

Organization Address:

Email:

Will you need parking?

Do you have any dietary restrictions?

Will you be attending dinner the night of October 1st?

Do you need a letter of invitation?