



WORLD FORUM
OFFSHORE WIND

Summer's day intensive course "Offshore Wind Energy"

Riga Technical University (RTU)

8th of June 2023



Supported by:

 **Sumitomo Corporation**

Enriching lives and the world

 **ignitis**
renewables

Background

Lithuania, Estonia and Latvia are starting to ramp up offshore wind farms: On 30 August 2022 the Heads of Governments and Energy Ministers of the eight countries around the Baltic Sea met in Copenhagen. They committed to new volumes for the build-out of offshore wind in the Baltic Sea. Latvia is currently negotiating cross border cooperation with Estonia for the development and construction of joint offshore wind farms. There is a huge demand for local professionals, especially for engineers in the coming years.

The idea for this course was born during our lecture "Offshore Wind Energy", which we have been holding as external lecturers at the TUHH in Hamburg since 2014. "We" that are 4 experts from the offshore wind industry who have in total over 80 years of offshore wind experience in the industry and have been actively involved in the development of offshore wind energy in Germany and many other countries. With this course offer under the umbrella of the World Forum Offshore Wind, a fast growing global industry association promoting offshore wind energy worldwide (<https://wfo-global.org/>), we not only want to share our know-how and pass on our experience, but also convey enthusiasm for a still young industry, whose expansion will proceed tremendously and with high growth rates in the coming decades!

Hamburg
Überseering 4
22297 Hamburg
Germany

Offices
New York
Taipei
Tokyo

Contact
+49 1626396714
www.wfo-global.org
Twitter: @WFO_global

Chairman
Richard Sandford **Man-
aging Director**
Gunnar Herzig

Register
No.: VR 23680
Local Court Hamburg
VAT ID: DE318986676

Bank Account
Deutsche Bank
IBAN: DE91200700240084302900
BIC: DEUTDE33HAN



WORLD FORUM OFFSHORE WIND

Programme

01:00pm - 1:45pm Topics: <ul style="list-style-type: none">• Motivation and Potential• Markets and targets• Regulatory framework	Introduction <ul style="list-style-type: none">• LCOE• Environmental Impact• Current challenges & important trends	Prof. Dr. Martin Skiba
01:45pm - 02:15pm Topics: <ul style="list-style-type: none">• Introduction / Basics• Principles of energy conversion• Offshore WTG giants: Power density chart	Wind turbines (mechanical) <ul style="list-style-type: none">• Special equipment for offshore WTG• Reliability	Prof. Dr. Martin Skiba
02:15pm - 02:45pm Topics: <ul style="list-style-type: none">• Drive train / Generator types• Power control• Grid Integration	Wind turbines (electrical)	Dr. Friedrich Koch
02:45pm - 03:00pm Coffee break		
03:00pm - 03:45pm Topics: <ul style="list-style-type: none">• Concept of the electrical system in a Wind Power Plant (WPP)• Main Components of an Offshore WPP• SCADA• Grid Impact of Wind Power	Grid and SCADA	Dr. Friedrich Koch
03:45pm - 04:30pm Topics: <ul style="list-style-type: none">• Overview / Fundamentals• Foundation types – bottom-fixed and floating• Basis of design	Foundations <ul style="list-style-type: none">• Design procedure	Dr. Fabian Wilke
04:30pm - 05:00pm Coffee break		
05:00pm - 05:45pm Topics: <ul style="list-style-type: none">• Overview installation vessels• Logistic concepts• Installation of the various OWF components	Construction	Dr. Fabian Wilke



WORLD FORUM OFFSHORE WIND

05:45pm - 06:30pm	Operation and maintenance	Jörg Asmussen
Topics:		
<ul style="list-style-type: none">• Introduction• Definitions and maintenance goals• Economics and availability	<ul style="list-style-type: none">• Service-Logistics• Tasks, strategy and O&M organization	
06:30pm - 06:45pm	Closing remarks	Prof. Dr. Martin Skiba
07:30pm	Networking Event	



WORLD FORUM OFFSHORE WIND

About World Forum Offshore Wind

World Forum Offshore Wind (WFO) is the world's only organization 100% focused on promoting offshore wind energy on a global scale. WFO is registered as a non-profit organization (e.V.) in Germany, with offices in Hamburg, Tokyo, Taipei and New York. WFO's international members represent the complete offshore wind value chain including utility companies, manufacturers, service firms as well as other non-profit organizations. WFO's unique global profile facilitates access to governmental and international forums in order to open new offshore wind markets and to advocate for global offshore wind growth.

About the lecturers



Prof. Dr. Martin Skiba, born 1964, holds a doctorate in mechanical engineering; since 2014 he is an independent industry adviser working exclusively in the growing offshore wind industry. He is currently vice chairman of World Forum Offshore Wind e.V. (WFO), board member of German Offshore Wind Energy Foundation, member of the supervisory board of 8.2 Consulting AG, honorary professor at Leibniz University Hannover and lecturer at

Hamburg University of Technology (TUHH). Between 2008 and 2013 he was a director at RWE Innogy GmbH being responsible and accountable for the development, construction and operation of offshore windfarms. Before that he built up the Offshore Wind Energy division at REpower Systems AG between 2001 and 2008.



Dr. Friedrich Koch, born 1969, holds a doctorate in electrical engineering; since 2016 he is an independent industry adviser working in the growing green energy industry. He is a certified expert for Offshore Wind Energy and lecturer at Hamburg University of Technology and at University of Duisburg-Essen. Between 2009 and 2016 he worked in different functions like Head of Engineering & Quality and finally as Head of Projects Continental Europe

within the Wind Offshore business unit of RWE Innogy. Before that he built up the Grid Integration and Simulation department within the R&D division at REpower Systems AG between 2006 and 2009.

Hamburg
Überseering 4
22297 Hamburg
Germany

Offices
New York
Taipei
Tokyo

Contact
+49 1626396714
www.wfo-global.org
Twitter: @WFO_global

Chairman
Richard Sandford **Man-
aging Director**
Gunnar Herzig

Register
No.: VR 23680
Local Court Hamburg
VAT ID: DE318986676

Bank Account
Deutsche Bank
IBAN: DE91200700240084302900
BIC: DEUTDE33HAN



WORLD FORUM OFFSHORE WIND



Dr. Fabian Wilke, born in 1975, holds a doctorate in civil engineering; since 2015 he is co-founder and managing director of the WSC GmbH, working as an independent senior advisor in the offshore wind industry. Further, he is visiting lecturer at Hamburg University of Technology (TUHH). Between 2010 and 2015 he was heading the engineering at RWE Offshore Logistics GmbH, being responsible for the technical aspects of two major wind farm installation campaigns during this time. Before that he worked as a project and design manager for an EPCI contractor in the offshore wind construction industry.



Jörg Asmussen, born in 1962, holds an Master of Science Degree in Mechanical Engineering with a focus on energy and process engineering; since 2009 he is an industry expert for Operation & Maintenance of Offshore Wind Farms under the consideration of the whole life cycle; further he is a guest lecturer at Hamburg University of Technology (TUHH) and at UCB of Trier University of Applied Sciences. Between 2015 and today he supported a couple of Offshore Windfarm development and construction projects as an O&M Implementation Manager or O&M Package Manager within RWE Renewables. Before he developed an O&M offshore wind service portfolio at HOCHTIEF AG combining the expertise of Offshore Wind Farm Construction with Energy and Facility Management.