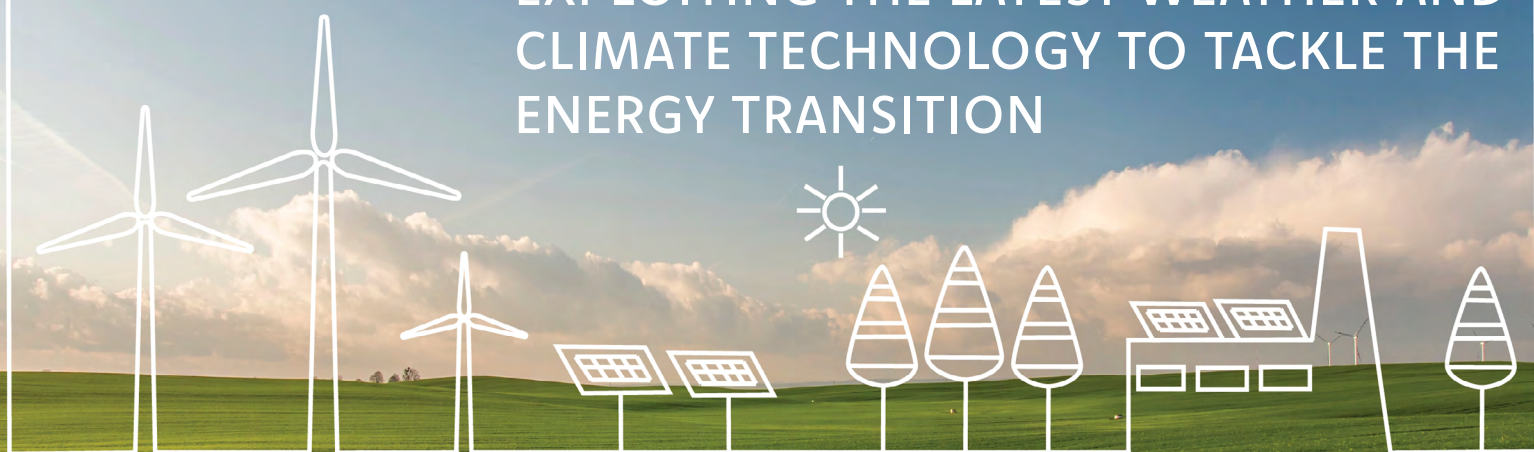
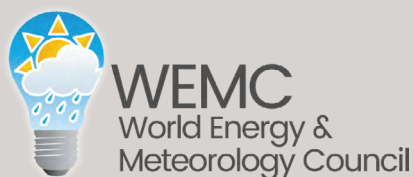


icem 2019

EXPLOITING THE LATEST WEATHER AND
CLIMATE TECHNOLOGY TO TACKLE THE
ENERGY TRANSITION



6th INTERNATIONAL CONFERENCE
ENERGY & METEOROLOGY
COPENHAGEN
24-27 JUNE 2019



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BECOME A WEMC MEMBER

At WEMC, we work with experts worldwide to promote and build interaction between the energy industry and the weather, climate and broader environmental sciences community.

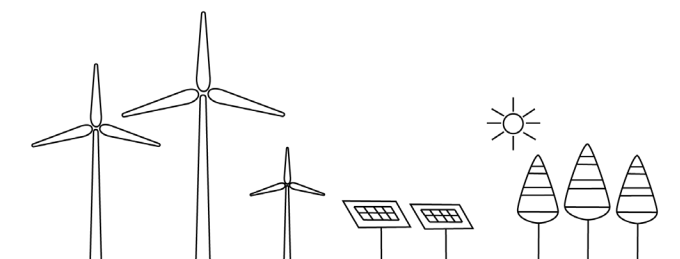
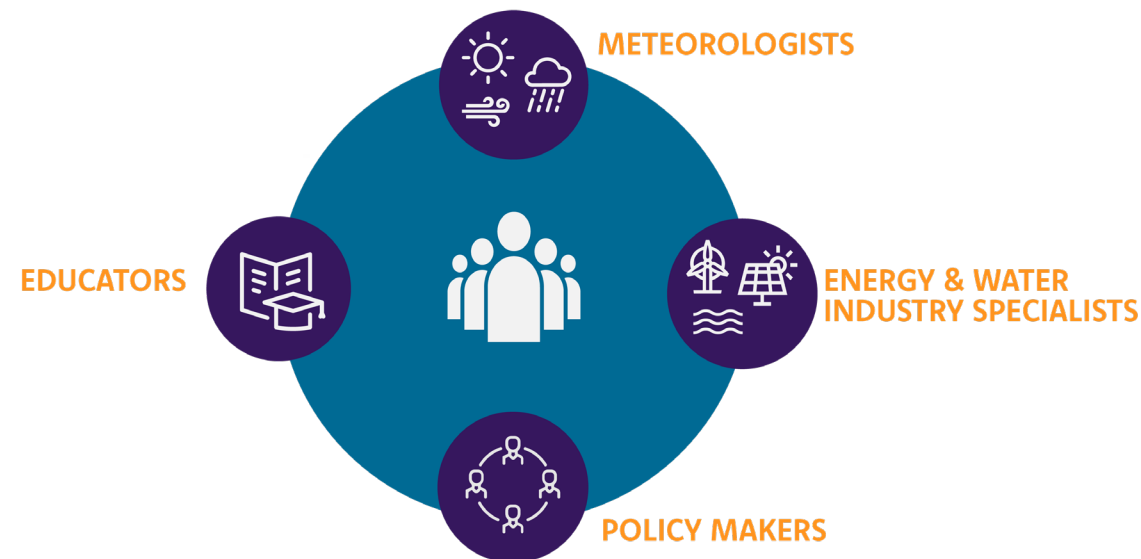
WEMC membership is FREE, so join us today for exclusive access to data, research and educational resources, member-only discounts and the opportunity to collaborate with your peers through our Special Interest Groups.



WHO CAN BENEFIT FROM WEMC MEMBERSHIP?

Our members come from all areas of the energy and water industries and the scientific community. All have a common aim to share knowledge and expertise to help create more efficient, sustainable and resilient energy systems.

If you share our aim and you'd like to contribute to our work, join us at www.wemcouncil.org



6TH INTERNATIONAL CONFERENCE
ENERGY AND METEOROLOGY

WELCOME TO ICEM 2019

On behalf of the ICEM 2019 Organising Committee, I would like to welcome you to the 6th International Conference Energy & Meteorology at the Technical University of Denmark in Lyngby, Copenhagen.

The theme of ICEM 2019 is 'Exploiting the latest weather and climate technology to tackle the energy transition'. I'm thrilled to say we have an exciting programme of plenary speakers, workshops, parallel sessions and poster presentations covering the key issues relating to this increasingly crucial topic.

Since our first ICEM back in 2011, the conference has grown to become an established platform for meteorologists and energy industry specialists to share the substantial knowledge and expertise within both sectors.

Being a front runner in energy transformation, Denmark knows well how it feels to be at the mercy of weather variations for energy production, and we are excited to be holding ICEM 2019 in this energy visionary and inspiring country.

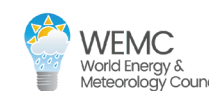
ICEM 2019 promises to be another fantastic event. We hope you enjoy this opportunity to further expand the boundaries of energy and meteorology, and explore how weather and climate technology can help to tackle the energy transition head on!

I look forward to seeing you at ICEM 2019.



PROF. ALBERTO TROCCOLI
ICEM 2019 Convener
Founder & Managing Director, WEMC

ICEM - A HISTORY OF INNOVATION IN WEATHER, CLIMATE AND ENERGY



ICEM 2019



PLENARY SPEAKERS

TUESDAY 25TH



ANDERS O BJARKLEV PRESIDENT, TECHNICAL UNIVERSITY OF DENMARK (DTU)

Anders Bjarklev's scientific production is extensive, including more than 150 scientific articles in international publications. He has served as a referee for several scientific journals, including Science and Nature. He has extensive teaching experience, and his research has resulted in 20 patents /patent applications and led to the establishment of two companies and an extensive network in the ICT industry.



CHAD FRISCHMANN VICE PRESIDENT AND RESEARCH DIRECTOR, PROJECT DRAWDOWN

Chad Frischmann is a co-author and developed the methodology and models underpinning the New York Times best-seller Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming (Penguin, 2017). Drawdown was the #1 best-selling environmental book of 2017 and is currently being translated into over 10 languages.



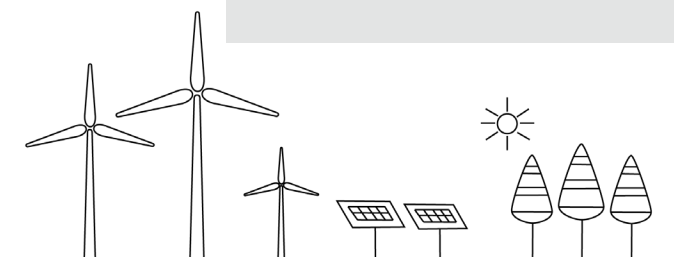
HENRIK STIESDAL WIND POWER PIONEER AND FORMER CHIEF TECHNOLOGY OFFICER, SIEMENS

Henrik Stiesdal is a leading figure within wind power and has been CTO of Siemens Wind Power through 27 years until he retired in 2014. Henrik has received a large number of awards, including the Poul la Cour Prize of the European Wind Energy Association in 2011 and the German Renewables Award for Lifetime Achievements in Wind Energy in 2014.



GARY GEERNAERT CLIMATE AND ENVIRONMENTAL SCIENCES DIVISION, US DEPARTMENT OF ENERGY

Gerald (Gary) Geernaert is Director, Climate and Environmental Sciences Division, in the US Department of Energy (DOE), in Washington DC. He oversees and directs basic scientific research at DOE National Laboratories and Universities, involving atmospheric, climate and environmental sciences. In addition, he is the federal official responsible for two DOE scientific user facilities.



6TH INTERNATIONAL CONFERENCE
ENERGY AND METEOROLOGY

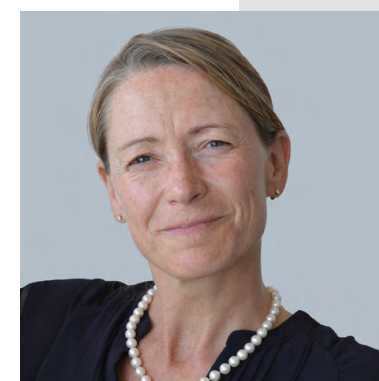
PLENARY SPEAKERS

WEDNESDAY 26TH & THURSDAY 27TH



ALBAN JOYEAU ADEQUACY MANAGER AT ENTSO-E

Alban Joyeau is in charge of anticipating Security of Supply for energy transition in Europe at ENTSO-E. He is responsible for European adequacy assessment from several months to several years ahead. The main products include Seasonal Outlooks and Mid-term adequacy assessments.



LINE STORELMO-HOLMBERG VICE PRESIDENT, PLANT & HYBRID MODELLING & ANALYTICS, VESTAS

Line Storelmo-Holmberg is Vice President, Plant & Hybrid Modelling & Analytics, Plant & Hybrid Solutions, Business Unit Power Solutions at Vestas Wind Systems A/S. Vestas is the energy industry's global partner on sustainable energy solutions. Vestas design, manufacture, install, and service wind turbines across the globe, with 101 GW of wind turbines in 80 countries.



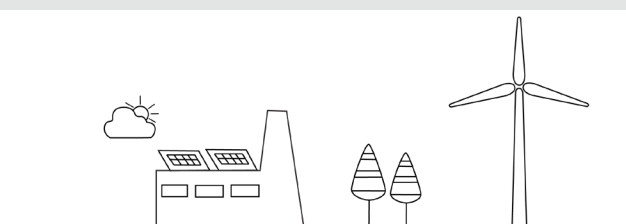
HENRIK MADSEN SECTION HEAD AND PROFESSOR IN STOCHASTIC DYNAMICAL SYSTEMS AT DTU

Henrik Madsen is the Professor and Section Head for Dynamical Systems, Applied Mathematics and Computer Sciences at the Technical University of Denmark. His main research interests are related to analysis and modelling of stochastic dynamics systems. Henrik has received several awards and in June 2016, he was appointed Knight of the Order of Dannebrog by Her Majesty the Queen of Denmark.



YANA POPKOSTOVA FOUNDING DIRECTOR OF THE EUROPEAN CENTRE FOR ENERGY & GEOPOLITICAL ANALYSIS

Yana Popkostova is the founding director of the European Centre for Energy & Geopolitical Analysis, and one of the World Energy Council's under-35 Future Energy Leaders. The European Centre for Energy and Geopolitical Analysis is a disruptive fusion between an energy think-do-tank and a consulting firm aiming to catalyze real leadership.



ICEM 2019

ICEM 2019 PROGRAMME PATHWAYS

Pathways are new for ICEM 2019 and are designed to help guide delegates with a specific interest or focus to navigate the programme. The four pathways for ICEM 2019 are set out below.



IEA TASKS

ICEM 2019 will provide a platform for an update to International Energy Agency (IEA) Tasks, particularly IEA PVPS Task 16 (Solar): Solar resource for high penetration and large scale applications and IEA Task 36 (Wind): Forecasting.

TUES 25TH	11:16	S2	Poster: IEA Wind Task 36: The second phase for the Forecasting Task
TUES 25TH	11:30	S2	Poster: IEA Wind Recommended Practices for Selecting Renewable Power Forecasting Solutions Part 3: Evaluation of Forecasts and Forecast Solutions
TUES 25TH	14:02	M1	Oral: IEA Wind Recommended Practices for Selecting Renewable Power Forecasting Solutions Parts 1 and 2
TUES 25TH	16:15	S9	Workshop: IEA PVPS Task 16: Best practices for quality control procedures and gap filling methods
WED 26TH	11:58	S10	Poster: IEA PVPS Task 16 and SolarPACES Task V: Best practices for automatic and expert based data quality control methods and for gap filling methods
WED 26TH	16:15	M1	Workshop: IEA Task 36: Forecasting for Wind Power

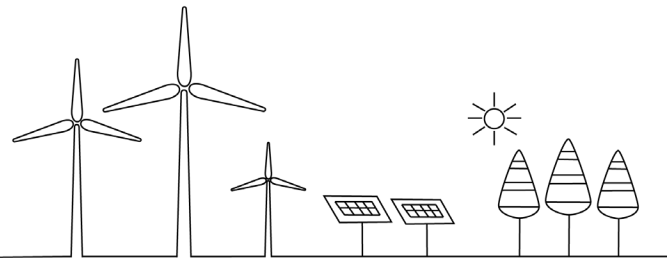


AFRICA

The ICEM 2019 Africa Pathway highlights the presentations that will focus on the climate and energy research that has been taking place on this amazing and diverse continent.

TUES 25TH	11:26	S2	Poster: Downscaling of global weather forecasts for wind energy purposes – A case study in South Africa
TUES 25TH	12:44	S4	Poster: Fast Fourier Transform Spectral Technique for Short Period Climatic Temperatures Time Series Decomposition in Port Harcourt City, Nigeria
TUES 25TH	14:56	S9	Oral: Weather Sensitivity of Electricity Demand in West African Megacities
WED 26TH	14:02	S9	Oral: An assessment of surface shortwave radiation in South Africa
WED 26TH	15:32	S1	Oral: Flexible hydro-solar-wind mixes for reliable power supply in West Africa
THURS 27TH	10:32	S9	Oral: Energy Education: Panacea to Sustainable and Affordable Access to Clean Energy
THURS 27TH	11:44	S1	Poster: Impact of atmospheric aerosols on solar power production – Dust outbreak in West Africa

Subject to change. Check www.wemcouncil.org/icem2019 for the up-to-date ICEM 2019 schedule.



COPERNICUS CLIMATE CHANGE SERVICE (C3S) ENERGY

WEMC and our partners are significant contributors to the Copernicus Climate Change Service (C3S) Energy project. ICEM2019 will play host to a number of presentations and workshops, including stakeholder collaboration and an update on case studies.

TUES 25TH	11:44	S2	Poster: Using climate services to evaluate projected changes in the operation of hydropower reservoirs
TUES 25TH	12:16	S4	Poster: Operational seasonal forecasts of climate and energy indicators for the energy sector
TUES 25TH	12:22	S4	Poster: C3S Energy: new hydropower datasets for European electricity mixes assessments
TUES 25TH	14:20	S9	Oral: C3S Energy: a new electricity demand dataset for Europe based on ERA5
TUES 25TH	15:14	S9	Oral: The sensitivity of future power systems to climate change projections
WED 26TH	11:15	M1	Workshop: CS3 Energy Stakeholder Workshop
WED 26TH	15:32	S9	Oral: Benchmarking seasonal prediction of inflows to hydropower systems against a statistical approach
WED 26TH	16:15	M1	Workshop: CS3 Energy Case Studies Workshop
THURS 27TH	09:38	S1	Oral: Towards a global dynamic wind atlas: assessing the quality of MERRA-2 and ERA5 reanalysis for wind power simulation, without and with bias-correcting, using the Global Wind Atlas

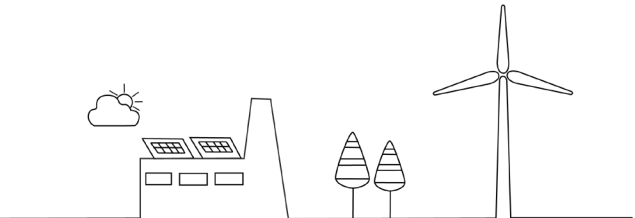


CLIMATE CHANGE : RESILIENCE AND ADAPTATION

ICEM 2019 is timely, informative and on the cutting-edge of current needs and affairs. The ‘resilience and adaptation’ pathway aims to highlight presentations and workshops that help keep climate and energy experts on the front-foot with the pressing issue of climate change.

TUES 25TH	11:44	S2	Poster: Using climate services to evaluate projected changes in the operation of hydropower reservoirs
TUES 25TH	12:06	S4	Poster: Assessment of the effects of bias correction on the dynamics of climate projections
TUES 25TH	12:10	S4	Poster: Providing the right climate services: examples from Ouranos’ Energy research and development program
TUES 25TH	14:38	S9	Oral: A new meteorological reanalysis dataset (MERIDA) to analyze the impact of relevant weather events on the Italian electric system
TUES 25TH	16:15	M1	Workshop: Climate risk, adaptation and resilience for electric utilities
WED 26TH	14:56	S9	Oral: Climate-proofing for the hydropower sector: Opportunities and challenges using state-of-the-art seasonal predictions
THURS 27TH	11:53	S9	Oral: Adaptation challenges and opportunities for the European energy system

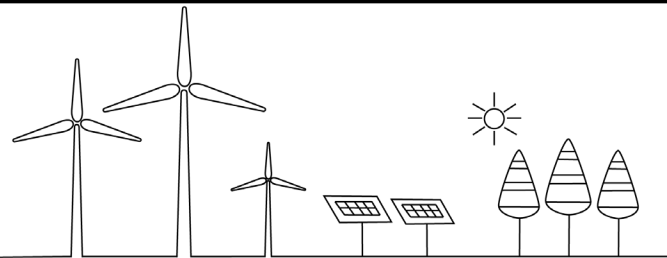
Subject to change. Check www.wemcouncil.org/icem2019 for the up-to-date ICEM 2019 schedule.



PRE-CONFERENCE MONDAY 24TH JUNE

Get up to speed with the latest developments in the meteorology and energy sectors with our interactive and informative pre-conference seminar. The two-track programme covers Energy for Meteorologists and Meteorology for Energy specialists. Open to ICEM delegates and non-delegates.

PRE-CONFERENCE SEMINAR PROGRAMME		
09:00-09:15	WELCOME (ALL PARTICIPANTS) OTICON HALL Seminar overview, scope and expected outcomes. ALBERTO TROCCOLI	
09:15-10:00	PLENARY TALK (ALL PARTICIPANTS) OTICON HALL Setting the scene: What utilities are looking for in meteorology. CHARLIE SMITH	
TRACK 1 ROOM S1 ENERGY FOR METEOROLOGISTS		TRACK 2 ROOM S9 METEOROLOGY FOR ENERGY
10:00-10:55	SESSION 1: What is the current state of play? LAURENT DUBUS	SESSION 1: General Circulation and Energy Transfer across Scales – what you need to know for harvesting energy. SUE ELLEN HAUPT
10:55-11:15	MORNING BREAK	
11:15-12:10	SESSION 2: How precipitation trends during Spring and Summer of 2018 impacted the power market up to one year ahead. KIM BENTZEN	SESSION 2: The nature of predictability: climate forecasting for energy applications with a focus on the subseasonal-to-seasonal. DAVID BRAYSHAW
12:10-13:05	SESSION 3: Simulating and understanding complex meteorological impacts in the energy sector. DAVID BRAYSHAW	SESSION 3: Improvements on meteorological modelling approaches relevant for the wind sector: featuring the Global Wind Atlas and European Wind Atlas. JAKE BADGER
13:05-14:00	LUNCH & CROSS-SECTOR NETWORKING	
14:00-14:30	PLENARY TALKS (ALL PARTICIPANTS) OTICON HALL Climate Projections for the Energy Sector. ROBERT VAUTARD	
14:30-15:00	Global Frameworks for Meteorology and Energy Engagement. ROBERTA BOSCOLO	
TRACK 1 ROOM S1 FACILITATED ACTION PLANNING		TRACK 2 ROOM S9 FACILITATED ACTION PLANNING
16:00-16:30	AFTERNOON BREAK	
16:30-17:00	CONCLUSION TALK (ALL PARTICIPANTS) OTICON HALL Bringing the Energy and Meteorology Community Together to Reach 100% Renewable Energy. DAVE RENNÉ	
17:00-17:30	CLOSING THOUGHTS & DISCUSSIONS (ALL PARTICIPANTS) OTICON HALL	
18:00-20:00	ICEM DELEGATES WELCOME RECEPTION OTICON HALL	
18:30-20:00	OPEN EVENT: WATTMEET OTICON HALL	



ICEM 2019 SOCIAL EVENTS

ICEM 2019 offers plenty of occasions to network with your peers and get to know other delegates.



COPENHAGEN CITY HALL RECEPTION TUESDAY 25TH JUNE 19:15-21:00

Join us for this exclusive evening reception at Copenhagen City Hall, with a welcome speech from a municipality representative. Meet other ICEM delegates and enjoy townhouse pancakes, wine and soft drinks. Complimentary for full ICEM delegates, €20 for single-day ICEM delegates and per extra ticket. Tickets include one-way coach transportation from DTU Lyngby to the venue. Attendees will be responsible for their own return travel after the reception.

CONFERENCE DINNER WEDNESDAY 26TH JUNE 19:00-22:00

SPONSORED BY

The ICEM 2019 conference dinner will be held at the Scandic Hotel Eremitage in the heart of Lyngby, approximately 20 minutes walk from the DTU campus. Enjoy a delicious evening meal and the opportunity to meet and socialise with other ICEM delegates. Complimentary for full ICEM delegates, €75 for single-day ICEM delegates and per extra ticket. Attendees will be responsible for their own transportation to and from the venue.

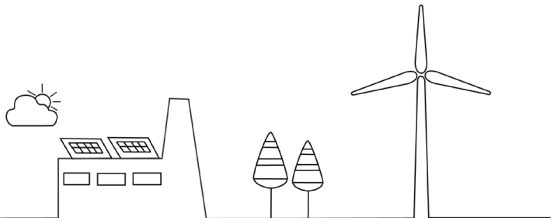


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FREE NETWORKING EVENT MONDAY 24TH JUNE 18:30-20:00 OTICON HALL

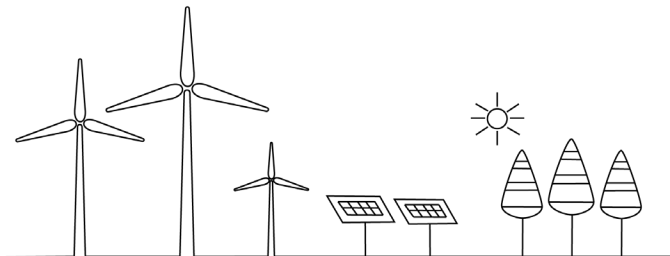
New for ICEM 2019, WattMeet is an innovative micro-presentation and networking event, designed to share the ‘human stories’ and innovations behind the work that goes on in the climate and energy sectors. We have an exciting selection of speakers confirmed, so don’t miss the chance to take part in our first WattMeet! ICEM delegates, faculty and students from DTU and other academic establishments, and interested members of the public, are invited to join us for this free event.



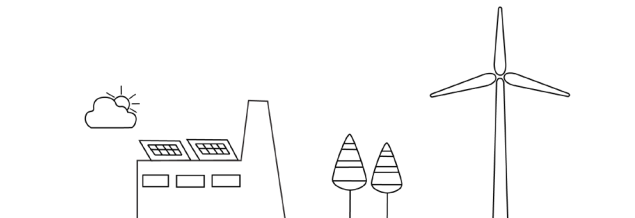
PROGRAMME

TUESDAY 25TH JUNE

08:00–08:45	REGISTRATION FOYER, DTU LYNGBY MEETING CENTRE		
09:00	OPENING PLENARY SESSIONS OTICON HALL	ALBERTO TROCCOLI Chair and ICEM 2019 Convener	
09:05–09:15	Welcome address	ANDERS O BJARKLEV President Technical University of Denmark (DTU)	
09:15–09:25	Introduction to ICEM 2019	ALBERTO TROCCOLI Chair and ICEM 2019 Convener	
09:25–09:55	Weather and climate as components of energy planning, risk analysis and decision-making	GARY GEERNAERT Director, Climate & Environmental Sciences Division, US Department of Energy	
09:55–10:25	Have you talked to your meteorologist today?	HENRIK STIESDAL Former Chief Technology Officer of Siemens	
10:25–10:55	Drawdown: regenerative solutions to reverse global warming	CHAD FRISCHMANN Vice President and Research Director, Project Drawdown	
10:55–11:15	MORNING BREAK		
11:15–13:05	POSTER SESSION ROOMS S2/3 & S4/5 For more details, see pages 22 to 25.		
13:05–14:00	LUNCH		
PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
14:00–15:50	FORECASTING FOR POWER-SYSTEM APPLICATIONS: WIND MODELS Chair: JAKE BADGER	ENERGY RESOURCE ASSESSMENT – SOLAR Chair: GEORGES KARINIOTHAKIS	WEATHER AND CLIMATE SERVICES – GENERAL Chair: GARY GEERNAERT
14:02	IEA wind recommended practices for selecting renewable power forecasting solutions parts 1 and 2: optimizing the solution selection process and conducting trials and benchmarks JOHN ZACK	Satellite-based Irradiance Data for Solar Energy Projects: Validation Results and Use Cases MAURICIO RICHTER	The Added Value of Seasonal Climate Forecasting for Integrated Risk Assessment (SECLI-FIRM) EU H2020 project ALBERTO TROCCOLI
14:20	Advances in Mesoscale to Microscale Coupling for Wind Energy Applications SUE ELLEN HAUPT	Satellite-based realistic 1-minute resolved irradiance time series based on variability classes MARION SCHROEDTER-HOMSCHIEDT	C3S-Energy: a new electricity demand dataset for Europe based on ERA5 LAURENT DUBUS



PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
14:38	Summary of Results from the Second Wind Forecast Improvement Project (WFIP2) JAMES WILCZAK	Spatial variability of incident solar radiation in Ireland and the UK linked to large-scale atmospheric pressure patterns: implications for solar energy generation. JOÃO CORREIA	A new meteorological reanalysis dataset (MERIDA) to analyze the impact of relevant weather events on the Italian electric system. RICCARDO BONANNO
14:56	An investigation of dynamic selection of WRF PBL schemes for renewable energy forecasting in Ireland SEANIE GRIFFIN	Spectral and Broadband datasets from The National Solar Radiation Database (NSRDB) MANAJIT SENGUPTA	Weather Sensitivity of Electricity Demand in West African Megacities ARONA DIEDHIOU
15:14	Forecasting wind speed and direction in a marine environment (WRF and GFS) SVEN-ERIK GRYNING	Direct and diffuse components of the solar radiation, computed by the fast physical radiative transfer code SMART-G MUSTAPHA MOULANA	The sensitivity of future power systems to climate change projections DAVID BRAYSHAW
15:32	The impact of spatial dependence structures on the skill and evaluation of multi-site probabilistic wind speed forecasts MARC HÜSCH	Treating Uncertainties as an Asset: the Use of Probabilistic Forecasts for Dispatch Optimization ANA CAROLINA DO AMARAL BURGHI	Future energy consumption of buildings in European Cities including urban effects JAN REMUND
15:50-16:15	AFTERNOON BREAK		
WORKSHOP SESSIONS For more details, see pages 12 to 13			
16:15-18:00	WORKSHOP 1 ROOM M1 Climate risk, adaptation and resilience for electric utilities Chair: JAN DUTTON	WORKSHOP 2 ROOMS S12/S13 Energy and Meteorology Education Chair: KIT RACKLEY	
	WORKSHOP 3 ROOM S9 IEA PVPS Task 16: Best practices for quality control procedures and gap filling methods Chair: JAN REMUND	WORKSHOP 4 ROOM S1 Research roadmap for wind conditions and climatic effects Chair: JAKE BADGER	
19:15-21:00	RECEPTION - COPENHAGEN CITY HALL Complimentary reception for full delegates, including one-way coach transportation from DTU Lyngby to Copenhagen City Hall. Attendees will be responsible for their own transportation plans after the event.		



WORKSHOP: CLIMATE RISK, ADAPTATION AND RESILIENCE FOR ELECTRIC UTILITIES



TUESDAY 25TH JUNE 16:15–18:00 ROOM M1

Chair: **JAN DUTTON, CEO, PRESCIENT WEATHER**

This workshop focuses on efforts to identify and mitigate risks associated with climate change in the power sector. The speakers will discuss current research strategies, both generally and within their organisations.

16:15–16:20	INTRODUCTION	JAN DUTTON Prescient Weather & ClimBiz
16:20–16:40	Sensitivity of the electric grid in the Western U.S. to climate change	GARY GEERNAERT US Department of Energy
16:40–17:00	Renewable and resilient transition pathways in a changing climate	JOHN A DUTTON Prescient Weather & ClimBiz
17:00–17:20	Climate Change Adaptation strategy: new challenges for EDF Group?	ANTOINE BADINIER EDF
17:20–17:40	Climate risks for a Transmission System Operator (TSO)	JEAN THOREY RTE
17:40–17:55	DISCUSSION, Q&A	
17:55–18:00	CLOSING REMARKS AND ADJOURN	

WORKSHOP: ENERGY AND METEOROLOGY EDUCATION

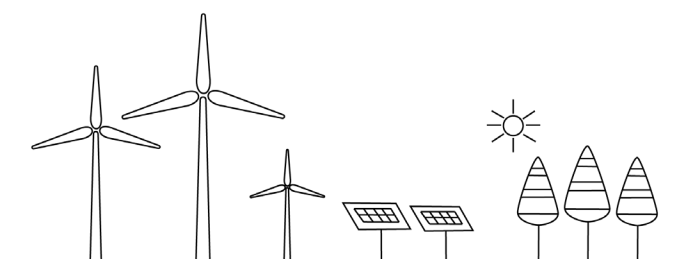
TUESDAY 25TH JUNE 16:15–18:00 ROOMS S12/S13

Chair: **KIT RACKLEY, EDUCATION & PROGRAM OFFICER, WEMC**

The purpose of the workshop is discuss activities of WEMC's Special Interest Group on Energy and Meteorology Education.

16:15–16:20	INTRODUCTION	KIT RACKLEY WEMC
16:30–17:20	Project Drawdown: A core resource for a global syllabus?	KIT RACKLEY WEMC
17:20–17:50	The development of a new educational tool using the C3S Data Service	KIT RACKLEY WEMC
17:50–18:00	CLOSING REMARKS AND ADJOURN	

For full abstracts and details of all workshop sessions, visit www.wemcouncil.org/icem2019



WORKSHOP: IEA PVPS TASK 16: BEST PRACTICES FOR QUALITY CONTROL PROCEDURES AND GAP FILLING METHODS



TUESDAY 25TH JUNE 16:15–18:00 ROOM S9

Chair: **JAN REMUND, HEAD OF UNITS SOLAR ENERGY & CLIMATE, METEOTEST**

Quality control and gap filling methods are essential for resource assessments. Many methods are used today. This workshop aims at identifying best practice methods. This workshop is part of IEA PVPS Task 16 and SolarPACES Task V.

16:15–16:20	INTRODUCTION	JAN REMUND Meteotest
16:20–16:50	Best practices for automatic and expert based data quality control methods and for gap filling methods	PHILIPPE BLANC MINES ParisTech
16:50–17:10	Data Quality Assessment using NREL's SERI QC	MANAJIT SENGUPTA / A. HABTE NREL
17:10–17:30	Gap filling of long-term solar radiation measurements in Denmark	ADAM R JENSEN DTU
17:30–17:50	Use of satellite data for QC of in-situ measurement	ANA GRACIA-AMILLO / PHILIPPE BLANC JRC
17:50–18:00	CLOSING REMARKS AND ADJOURN	

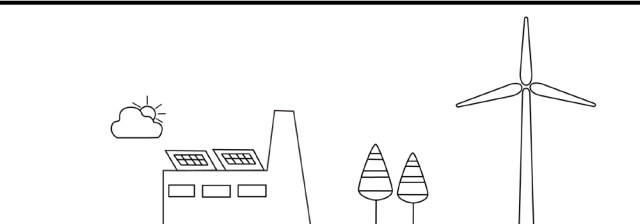
WORKSHOP: RESEARCH ROADMAP FOR WIND CONDITIONS AND CLIMATIC EFFECTS

TUESDAY 25TH JUNE 16:15–18:00 ROOM S1

Chair: **JAKE BADGER, HEAD OF SECTION, DTU WIND ENERGY**

In this workshop, important milestones for medium and long term goals for wind energy meteorology will be presented and discussed. The workshop will be supported by content developed by EERA JP Wind in the first part of 2019, in collaboration with IEA.

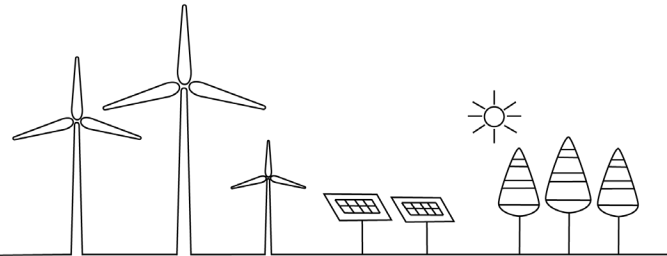
16:15–16:25	INTRODUCTION	JAKE BADGER DTU Wind Energy
16:25–16:40	Presentation of the Research Road Map	JAKE BADGER DTU Wind Energy
16:40–17:30	INVITED CONTRIBUTIONS on the greatest challenges and possible solutions through research within wind conditions and climatic effects	JOHN ZACK , MESO, Inc. CRISTINA ARCHER , University of Delaware DANIEL DREW , University of Reading HELMUT FRANK , German Weather Service ALASDAIR SKEA , UK Met Office ERIC TROMEUR , Meteodyn
17:30–17:55	AUDIENCE FEEDBACK	
17:55–18:00	CLOSING REMARKS AND ADJOURN	



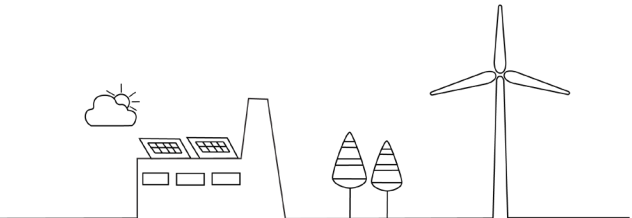
PROGRAMME

WEDNESDAY 26TH JUNE

08:00–08:45	REGISTRATION FOYER, DTU LYNGBY MEETING CENTRE		
09:15–10.50	PLENARY SESSIONS OTICON HALL		SVEN-ERIK GRYNING Chair
	Growing interlink between climate elements and electricity security of supply	ALBAN JOYEAU Adequacy Manager, ENTSO-E	
	Reflections on the transition from cost to value of energy	LINE STORELVMO-HOLMBERG Vice President, Plant & Hybrid Modelling & Analytics, Vestas Wind Systems A/S	
10:50–11:15	MORNING BREAK		
WORKSHOP SESSIONS For more details, see pages 16–17			
11:15–13:05	WORKSHOP 1 ROOM M1 C3S Energy Stakeholder Workshop Chair: ALBERTO TROCCOLI	WORKSHOP 2 ROOM S1 Data Exchanges, Access and Standards Chair: SUE ELLEN HAUPT	
11:05–13:05	POSTER SESSION ROOMS S10 & S11 For more details, see pages 22 to 25.		
13:05–14:00	LUNCH		
PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
14:00	Energy resource assessment – wind models Chair: SVEN-ERIK GRYNING	Grid Integration Chair: DAVID POZO-VAZQUEZ	Weather and climate services – solar – icing (wind) and hydro Chair: JOHN A DUTTON
14:02	Status of seasonal and subseasonal wind and wind power forecasting for the Iberian Peninsula and the Canary Islands: a systematic review SUSANA BAYO BESTEIRO	Comparing capacity expansion outcomes for the Australia’s National Electricity Market using three sources of weather-related input data ROGER DARGAVILLE	An assessment of surface shortwave radiation in South Africa NOSIPHO ZWANE
14:20	The New European Wind Atlas (NEWA) and web platform JAKE BADGER	Sunny Windy Sundays: Understanding the relationships between renewable energy supply and demand in Great Britain DANIEL DREW	Soiling of Solar Panels within PerduS project FRANK WAGNER
14:38	Downscaling Meso- to Micro-scale Simulations: A Multipoint approach RENKO BUHR	The Use of the High-Resolution Rapid Refresh (HRRR) Model in Dynamic Line Rating KENNETH FENTON	Forecasting of atmospheric icing validation and applications within wind energy BRIAN RIGET BROE



PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
14:56	WRF-LES evaluation of turbulence measures using observations from a 250-m tower ALFREDO PEÑA	Ancillary services from a renewable-sourced virtual power plant: the REstable project SIMON CAMAL	Climate-proofing for the hydropowersector: Opportunities and challenges using state-of-the-art seasonal predictions CHRISTOF LC LORENZ
15:14	Modelling study of the impact of the sea breeze on offshore wind farms in the Mediterranean and the North Sea ANNA MARIA SEMPREVIVA	Micro-grid improved PV power integration from diesel control using a thermal-infrared sky imager nowcasting system SYLVAIN CROS	Numerical Weather Prediction of Supercooled Low Stratus Clouds over Heterogeneous Surfaces using the MUSC One-Dimensional Model: First Results ERIK J JANZON
15:32	A wind resource experiment in complex terrain compared with meso- to micro-scale model coupling JAKOB MANN	Flexible hydro-solar-wind mixes for reliable power supply in West Africa SEBASTIAN STERL	Benchmarking seasonal prediction of inflows to hydropower systems against a statistical approach MARTIN DREWS
15:50–16:15	AFTERNOON BREAK		
WORKSHOP SESSIONS For more details, see pages 16–17			
16:15–18:00	WORKSHOP 1 ROOM M1 C3S Energy – Case Studies Chair: CAROLINE ACTON	WORKSHOP 2 ROOM S1 IEA Task 36: Wind Power Forecasting and System Integration Issues Chair: GREGOR GIEBEL	
	WORKSHOP 3 ROOM S9 How to start a business: for budding entrepreneurs seeking to commercialise their projects Chair: IAN HARPER	WORKSHOP 4 ROOM S12 Making the technical accessible: Ideas on how to tailor your talks for public and school audiences Chair: KIT RACKLEY	
19:00–22:00	CONFERENCE DINNER – SCANDIC EREMITAGE HOTEL ICEM 2019 conference dinner at the Scandic Hotel Ermitage in the heart of Lyngby. Enjoy a delicious evening meal and the opportunity to meet and socialise with other ICEM delegates. Attendees will be responsible for their own transportation to and from the venue.		



WORKSHOP: C3S ENERGY STAKEHOLDER WORKSHOP



WEDNESDAY 26TH JUNE 11:15–13:05 ROOM M1

Chair: **ALBERTO TROCCOLI, FOUNDER & MANAGING DIRECTOR, WEMC**

Seasonal predictions and long-term projections of climate, along with uncertainty estimates, are now made possible thanks to remarkable progress in climate science. This workshop will evidence how C3S Energy operational service can benefit research, energy planning decisions and policy.

11:15–11:35	INTRODUCTION C3S Energy Operational Service – overview, progress and highlights	ALBERTO TROCCOLI WEMC
11:35–11:50	Energy Models – discussion of energy demand, wind power, solar power and hydropower	LAURENT DUBUS EDF
11:50–12:05	Seasonal Forecasts – discussion of the models developed and applied bias adjustment methods	SOPHIE MARTINONI-LAPIERRE Météo-France
12:05–12:20	Climate Projections – discussion of the climate projection of energy-relevant variables	ROBERT VAUTARD CEA
12:20–13:05	Q&A; AUDIENCE FEEDBACK ON THE PROJECT	
13:05–14:00	LUNCH & DEMONSTRATOR SHOWCASE ROOM S12/13	

WORKSHOP: DATA EXCHANGES, ACCESS AND STANDARDS

WEDNESDAY 26TH JUNE 11:15–13:05 ROOM S1

Chair: **SUE ELLEN HAUTP, DEPUTY DIRECTOR, NCAR & CO-FOUNDER & DIRECTOR, WEMC**

New data in energy applications, how to build efficient integrations and reduce renewable volatility planning. This session aims to understand the requirement and explore how to achieve this, focusing on data collection, access, sharing, formats etc., which links to WEMC's Data Special Interest Group.

11:15–11:20	INTRODUCTION	LIZ BENTLEY Royal Meteorological Society
11:20–12:00	Challenges to Improve Predictions in the Renewable Sector	SHANTI MAJITHIA Formerly National Grid
	How and Why Data Sharing Should Be Developed	ANNA MARIA SEMPREVIVA DTU Wind Energy
	Data Difficulties, Dealing with Issues, and Potential Paths Forward to Improve the Wider Use of Data	SUE ELLEN HAUTP NCAR & WEMC
12:00–12:35	Future Challenges/Opportunities: 1. Identifying gaps: Opportunities to reduce gaps that exist between the different communities. 2. Observational data – what does the future hold? 3. Data required to improve resilience.	
12:35–12:55	OPEN DISCUSSION	
12:55–13:05	WRAP UP, CONCLUSIONS & FOLLOW-ON ACTIONS	

WORKSHOP: C3S ENERGY: CASE STUDIES



WEDNESDAY 26TH JUNE 16:15–18:00 ROOM M1

Chair: **CAROLINE ACTON, SENIOR BUSINESS DEVELOPMENT MANAGER – ENERGY, MET OFFICE**

How do we bridge the gap between state-of-the-art climate capabilities and industry end-users who need to make decisions? This workshop will demonstrate how the users of the Copernicus Climate Change (C3S) Energy Operational Service data services can effectively extract value for their businesses.

16:15–16:20	Introduction to the industry, demonstration cases and the role of case studies to support the uptake of climate services	CAROLINE ACTON Met Office
16:20–16:35	CASE STUDY 1 – Climate impacts on power and gas demand (long-term projections for longer planning horizons)	
16:35–16:50	CASE STUDY 2 – Seasonal forecasts to identify risks of extremes to support energy balancing	
16:50–17:05	Summary of the two case studies and methodology	
17:05–17:55	OPEN DISCUSSION WITH AUDIENCE	
17:55–18:00	CLOSING REMARKS AND ADJOURN	

WORKSHOP: IEA TASK 36: OPEN SPACE WORKSHOP ON WIND POWER FORECASTING AND SYSTEM INTEGRATION ISSUES



WEDNESDAY 26TH JUNE 16:15–18:00 ROOM S1

Chair: **GREGOR GIEBEL, SENIOR RESEARCHER, DTU WIND ENERGY**

The IEA Wind Task 36 on Wind Power Forecasting connects several hundreds of meteorologists, wind power forecasters and end users towards the aim of improving the forecasts. In this workshop we use the open space technology to discuss the results from phase 1 and open up for ideas on how to achieve the objectives for the new phase 2.

16:15–16:30	Introductory presentation on IEA Wind Task 36 and explanation of workshop format and objectives	GREGOR GIEBEL DTU
16:30–17:35	Open space discussions in 5 groups – participants rotate freely among the groups 1 Standards and Recommended Practices for Data exchange and IT solutions in power industry: where do we need them? 2 Meteorological Measurements and instrumentation: Standardization for integration into grid codes 3 Use of probabilistic forecasts in the power industry: what should a recommended practice contain? 4 IEA Wind Recommended Practices on Forecast Solution Selection: which areas are not covered sufficiently 5 Uncovering uncertainty origins and development through the modelling chain	
17:35–18:00	GROUP LEADERS PROVIDE SUMMARY OF EACH GROUP FOR A FULL GROUP DISCUSSION	

WORKSHOP: HOW TO START A 'WEATHER' BUSINESS

WEDNESDAY 26TH JUNE 16:15–18:00 ROOM S9

Chair: **IAN HARPER, FREELANCE BUSINESS JOURNALIST, INTERNATIONAL CONFERENCE ORGANISER & FOUNDER OF 'THE BUSINESS OF WEATHER' PROJECT**

Part of the 'Business of Weather' project, this workshop is a must attend for all those budding entrepreneurs seeking to start up a new business, or take an early stage SME a step further.

16:15–16:20	WELCOME AND INTRODUCTION TO THE WORKSHOP AND ITS OBJECTIVES	IAN HARPER Freelance Business Journalist
16:20–17:00	PANELLIST PRESENTATIONS: Funding for startups and early stage SMEs and what funders require from applicants Orbital Micro-Systems – how it started, aims and objectives, and achievements to date Serial entrepreneurship in the weather business	ANDREAS HELGASON REX Lendino WILLIAM HOSACK Orbital Micro-Systems (OMS) JAN DUTTON Prescient Weather & ClimBiz
17:00–17:40	PANEL/AUDIENCE SESSION: Business aims and aspirations	
17:40–18:00	PANEL SESSION: Growing business opportunities for innovative weather technologies and data products/services	

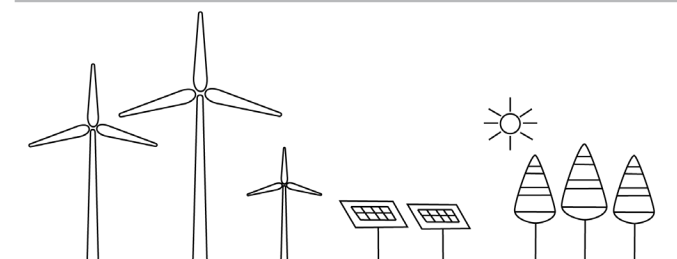
WORKSHOP: MAKING THE TECHNICAL ACCESSIBLE: HOW TO TAILOR YOUR TALKS FOR PUBLIC AND SCHOOL AUDIENCES

WEDNESDAY 26TH JUNE 16:15–18:00 ROOM S12

Chair: **KIT RACKLEY, EDUCATION & PROGRAM OFFICER, WEMC & EDUCATIONAL AUTHOR, BLOGGER & SPEAKER, GEOGRAMBLINGS**

More academic and industry organisations are engaging in outreach and education both to inform and as a response to gain public confidence and transparency. This session led by an ex-high school teacher and teacher trainer will give participants some skills and knowledge to turn the technical into the accessible.

16:15–16:30	INTRODUCTION	KIT RACKLEY WEMC & Geogramblings
16:30–17:00	Engaging outward, technical inward: Examples of the best	KIT RACKLEY WEMC & Geogramblings
17:00–17:15	Example from academia – an experience of public speaking	SEBASTIAN STERL Vrije Universiteit Brussel
17:15–17:30	Alternative ways to communicate science	JARED LEE NCAR
17:30–17:50	DISCUSSION & PLANNING: Top Tips – And we did it our way!	KIT RACKLEY WEMC & Geogramblings
17:50–18:00	CLOSING REMARKS AND ADJOURN	



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The Added Value of Seasonal Climate Forecasting for Integrated Risk Management (SECLI-FIRM). Working closely with our research and industry partners, SECLI-FIRM aims to demonstrate how the use of improved climate forecasts can add practical and economic value to decision-making and outcomes in the energy and water sectors. The SECLI-FIRM project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 776868. www.secli-firm.eu



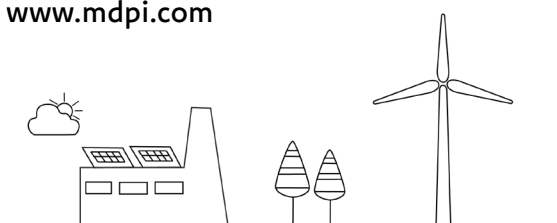
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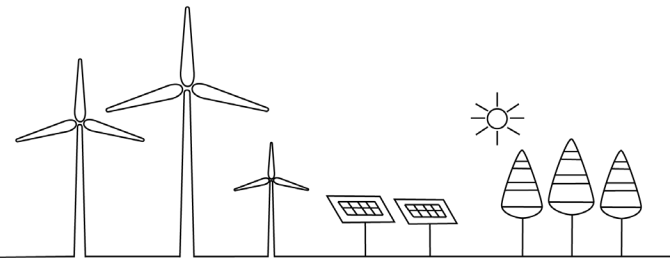
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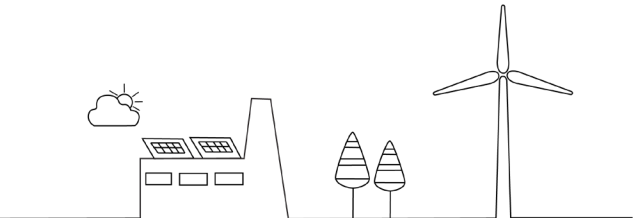
PROGRAMME

THURSDAY 27TH JUNE

08:00-08:45	REGISTRATION FOYER, DTU LYNGBY MEETING CENTRE		
PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
09:00	Forecasting for power-system applications – solar models Chair STEFANO ALESSANDRINI	Forecasting for power-system applications – wind models Chair JAMES WILCZAK	Grid integration, environmental impacts and education Chair SUE ELLEN HAUPT
09:02	Calibration of DNI ensemble forecasts with quantile regression JOSE L CASADO-RUBIO	Validation of NWP models by lidar measurements with particular emphasis on turbine hub-height wind speed and power forecasts YELENA PICHUGINA	Graphical user interface for weather forecast products tailored to the needs of transmission and distribution systems JONAS VON SCHUMANN
09:20	Calibration Methods for Ensemble solar probabilistic forecasts in an insular context JOSSSELIN LE GAL LA SALLE	Improved very short term spatio temporal wind forecasting using atmospheric regimes JETHRO BROWELL	Impact of input weather data on highly renewable power systems ALEXANDER KIES
09:38	Copula-based models for solar power supply to distribution networks, using global radiation forecasts FREIMUT VON LOEPER	Towards a global dynamic wind atlas: assessing the quality of MERRA-2 and ERA5 reanalysis for wind power simulation without and with bias-correcting using the Global Wind Atlas KATHARINA GRUBER	Improvements for Online Feed-in estimations based on PV power output measurements DANIEL LASSAHN
09:56	Modeling Aerosol Optical Depth over the Arabian Desert for Solar Irradiance Forecasting JARED A LEE	Very Short-Term Wind Power Forecasting using Regime Switching for Power Ramps LEO MAY	Estimation of forecast gust return levels in a real time decision support system JULIE CAPO
10:14	Probabilistic photovoltaic forecasting combining heterogenous sources of input data for multiple time-frames THOMAS CARRIERE	Requirements of operational wind power forecasting: Experiences from an utility perspective MALTE RIECK	Examinations on effectiveness of photovoltaic systems in different local and micro climatic environments GERGELY CSÁKBERÉNYI-NAGY
10:32	Beyond-RMSE analysis of WRF parametrization for day-ahead irradiance forecasting HADRIEN VERBOIS	Probabilistic short-range forecasting for icing-related wind power production losses HEINER KÖRNICH	Energy Education: Panacea to Sustainable and Affordable Access to Clean Energy IDOWU ADEGBITE
10:50-11:15	MORNING BREAK		



PARALLEL SESSIONS	SESSION 1 ROOM M1	SESSION 2 ROOM S1	SESSION 3 ROOM S9
11:15	Forecasting for power-system applications – general Chair: GREGOR GIEBEL	Weather and climate risk management Chair: SYLVIE PAREY	Environmental Impact and Energy Policy Chair: ALBERTO TROCCOLI
11:17	Probabilistic Forecasting and Bidding Strategy of Ancillary Services for Aggregated Renewable Power Plants SIMON CAMAL	Impact of atmospheric aerosols on solar power production – Dust outbreak in West Africa INA NEHER	Impacts of wind farm wakes on ocean surface waves and air-sea fluxes JANA FISCHEREIT
11:35	Quantifying the value of improved probabilistic power forecasts for power system applications using stochastic dispatch models BRUNO SCHYSKA	Enabling Resilient UK Energy Infrastructure: Natural Hazard Characterisation MICHAEL G SANDERSON	Climate-aligned capital allocation. Implications for the energy sector investment portfolio strategy EKATERINA RESHETNIKOVA
11:53	Maximization of the Value of Intra-day Wind and Solar Forecasts for an Island Grid System via Customized Forecasts and Evaluation Metrics JOHN ZACK	Impact of Tropical Cyclones on Offshore Wind Farms in the Taiwan Strait of China BIN WU	Adaptation challenges and opportunities for the European energy system HANS-MARTIN FÜSSEL
12:11	Renewable Energy Forecasting for Kuwait: A Progress Report JARED A LEE	The implications of inter-annual weather variability for GB electricity system investment strategies HANNAH C BLOOMFIELD	Assessing the efficiency of national and state climate policies in the transition to a low carbon electricity system in Australia CHANGLONG WANG
12:29	Characterization of the model error in COSMO-D2-EPS using a flow-dependent partial SDE MARTIN SPRENGEL	High-Resolution Dynamic Downscaling of CMIP5 Model Data to Assess the Effects of Climate Change on Renewable Energy Distribution in New York State: Project Overview and Preliminary Results JEFFREY M FREEDMAN	Overview of the Miño-Sil: a heavily dammed basin and potential for new power plants MANUEL FERNÁNDEZ GONZÁLEZ
12:47	Development and implementation of wind and solar generation forecasts for system operations in Colombia SEBASTIÁN ORTEGA	The Financial Impact of Climate Change on siting of wind farms MERLINDE KAY	Projections of the future European water use in electricity generation and related vulnerabilities MORTEN ANDREAS DAHL MADL LARSEN
13:05-14:00	LUNCH		



PROGRAMME

THURSDAY 27TH JUNE

14:00–15:45	PLENARY SESSIONS OTICON HALL	LAURENT DUBUS / SUE ELLEN HAUPT Chair
	Energy Forecasting for the Future Low-carbon Society	HENRIK MADSEN Section Head and Professor in Stochastic Dynamical Systems, DTU
	The changing geopolitics of energy: the energy–climate–security nexus and the Sustainable Development Agenda. Why meteorologists might help in preserving global stability?	YANA POPKOSTOVA Founding Director of the European Centre for Energy & Geopolitical Analysis
15:50–16:15	AFTERNOON BREAK	
16:15–17:30	CONCLUSIONS, AWARD CEREMONY & CLOSING OTICON HALL	

POSTER SESSIONS

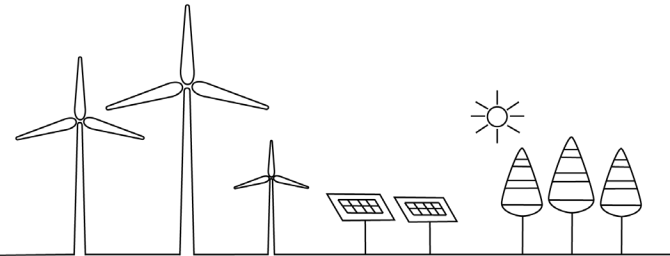
There will be two dedicated and interactive poster sessions which will provide ample opportunity to discuss the many high quality poster abstracts we received. Posters will be displayed for the entire duration of the conference. Each presenter will have one minute to present their poster, standing in front of the poster, followed by one minute for Q&As.

WIND ENERGY, COMBINED ENERGY & OTHERS

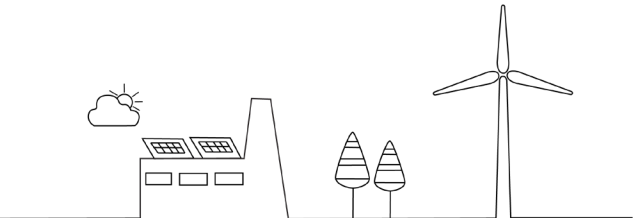
TUESDAY 25TH JUNE 11:15–13:05 ROOM S2/S3 & ROOM S4/S5

Chair: YELENA L PICHUGINA, Colorado University Boulder & National Oceanic and Atmospheric Administration (NOAA) Chemical Science Division

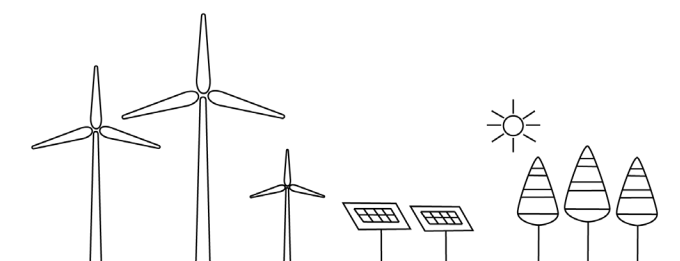
POSTER	POSTER TITLE	AUTHOR
POSTERS 1-17 ROOMS S2/S3		
1	IEA Wind Task 36: The second phase for the Forecasting Task	GREGOR GIEBEL
2	Development of a Wind Extremes Forecast System (WEFS) For Outage Prediction	JEFFREY M FREEDMAN
3	A two-dimensional power curve from artificial neural networks to forecast wind farm power	CRISTINA ARCHER
4	Forecasting for Wind Energy at Deutscher Wetterdienst	HELMUT FRANK



POSTER	POSTER TITLE	AUTHOR
5	Research on Wind Speed Correction Based on Various Methods	PENGCHENG YAN
6	Downscaling of global weather forecasts for wind energy purposes – A case study in South Africa	ÖRN DÚI KRISTJÁNSSON
7	Shortwave and longwave radiation forecast uncertainty of the HRRR and HRRRNEST NWP Models during specific meteorological regimes across four sites in the Columbia River Basin during the Wind Forecasting Improvement Project (WFIP-2)	KATHLEEN LANTZ
8	IEA Wind Recommended Practices for Selecting Renewable Power Forecasting Solutions Part 3: Evaluation of Forecasts and Forecast Solutions	JETHRO BROWELL
9	Examinations on the accuracy of UAV based surface roughness datasets using LiDAR images in urban environment	ISTVÁN LÁZÁR
10	Characterisation and predictability of wind power in Mexico	DANIEL DREW
11	Nested Mesoscale Simulations for Wind Assessment over a Complex Site in India forced by Different Reanalysis	ERIC TROMEUR
12	Climatology of three years of vertical wind profiles measurements, using wind -lidar at a Mediterranean coastal site	CLAUDIA ROBERTA CALIDONNA
13	On the accuracy of CORDEX RCMs to project future winds over the Iberian Peninsula and surrounding ocean	JUAN ANTONIO AÑEL
14	Leading edge erosion of wind turbine blades: Need for raindrop-size measurements	ANNA-MARIA TILG
15	Using climate services to evaluate projected changes in the operation of hydropower reservoirs	ANTHONY LEMOINE
16	The impact of freezing rain and icing for wind production on relative small countries – Belgium	ANDREI STEAU
17	Spatial dispersion of the wind and produced power with respect to wind direction in the Faroe Island	TURIÐ POULSEN
POSTERS 18-43 ROOMS S4/S5		
18	Probabilistic predictions of aggregated wind and solar power at Shagaya farm in Kuwait	STEFANO ALESSANDRINI
19	Short-term Probabilistic Forecasting of Electricity Demand at Different Spatial Scales	SIMONE SPERATI
20	Very Short-term Wind and Solar Power Forecasting Combining Autoregressive Algorithms and Weather Modeling Data	SIMONE SPERATI
21	A multivariate spatial post-processing method for renewable energy forecasts	EADAOIN DODDY

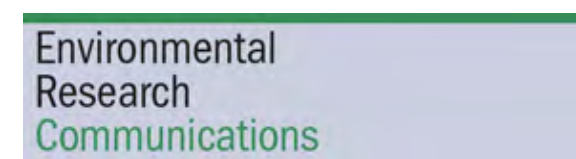


POSTER	POSTER TITLE	AUTHOR
22	Symbolic regression for forecasting	MARKUS ABEL
23	Understanding the impact of meteorological variability on the European power system	HANNAH C BLOOMFIELD
24	Prediction of the electricity and gas consumption and its relation to meteorological parameters	PETR SKALAK
25	Assessment of the effects of bias correction on the dynamics of climate projections	ROBERT VAUTARD
26	Providing the right climate services: examples from Ouranos' Energy research and development program	JACINTHE CLAVET-GAUMONT
27	A Perfect Model Approach to assess the statistical downscaling skills using CDFt and quantile-mapping methods	HIBA OMRANI
28	Experience on climate services and knowledge transfer from the NATURGY Chair at the Universidade de Vigo	JUAN ANTONIO AÑEL
29	Operational seasonal forecasts of climate and energy indicators for the energy sector	LUCAS GRIGIS
30	Constant climate long term simulations for adequacy studies over Europe, for current and future climate	SOPHIE MARTINONI-LAPIERRE
31	WRF suitability for inflow forecasting in an Alpine hydropower regulated catchment	NICOLA DI MARCO
32	C3S-Energy: new hydropower datasets for European electricity mixes assessments	LAURENT DUBUS
33	Weather Forecasts for Microgrid Energy Management: A Time Series Approach	GUILLAUME ARBOD
34	ECG pylons effective use CANCELLED	PATRICK FIATI
35	Issues and challenges of Low-Carbon in Malaysia CANCELLED	RAJA ZURAIDAH RASI
36	Towards Low Carbon Cities 2030: Experience from Penggaram City CANCELLED	KAMALLUDIN JAMAL
37	Green Growth Framework for High Speed Rail in Malaysia	MOHD FAHMY-ABDULLAH
38	Assessing Complementarity of Wind and Solar Resources for Hybrid Projects in Northeastern Brazil	ANDRÉ R GONCALVES



POSTER	POSTER TITLE	AUTHOR
39	Improved Power System Planning Under Climate-based Uncertainty	DAVID BRAYSHAW
40	Finding representative years for a Transmission System Operator (TSO) in a climate simulation of 200 years	JEAN THOREY
41	What about the occurrence of past extreme cold or heat waves in France in the coming decades?	SYLVIE PAREY
42	Degree-Days Estimations to evaluate the National Energy Demand in the coming decades	RICCARDO BONANNO
43	Fast Fourier Transform Spectral Technique for Short Period Climatic Temperatures Time Series Decomposition in Port Harcourt City, Nigeria	KUDIRAT O ADEYEMI
SF	The Added Value of Seasonal Climate Forecasting for Integrated Risk Assessment (SECLI-FIRM) EU H2020 project	ALBERTO TROCCOLI

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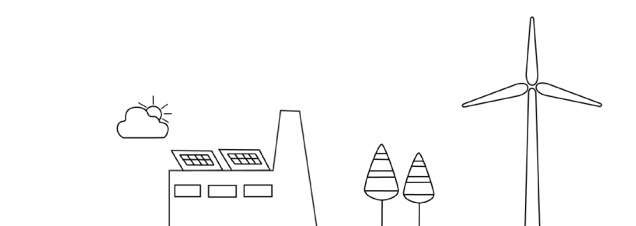
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SOLAR ENERGY

The Solar Energy Journal is pleased to offer a special issue of selected papers presented at ICEM 2019. Papers covering the subject area 'Solar Resources and Energy Meteorology', will be considered for publication. For more information please email Guest Editor, Dr. David Renné:

drenne@mac.com



POSTER SESSION

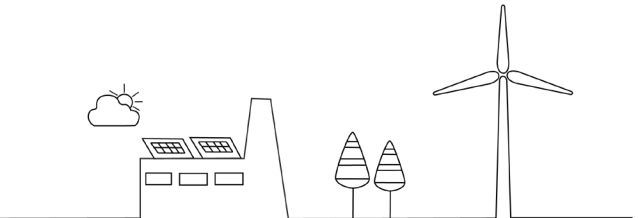
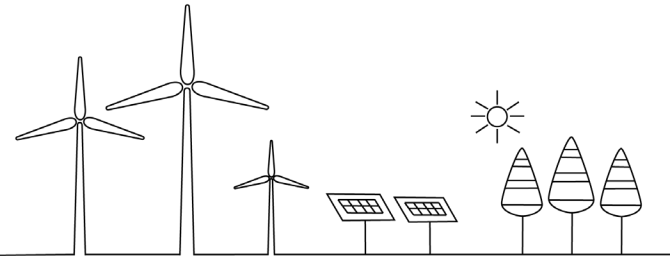
SOLAR

WEDNESDAY 26TH JUNE 11:15–13:05 ROOMS S10/S11

Chair: SYLVAIN CROS, REUNIWATT

POSTER	POSTER TITLE	AUTHOR
44	The project PerduS: Daily mineral dust forecasts using ICON-ART	VANESSA BACHMANN
45	Impact of sub-grid clouds on solar irradiance predictions on days of high intermittency	ABHNIL PRASAD
46	Probabilistic forecasting of regional solar power, based on a multi-model approach: application to the Italian Bidding Zones	ELENA E COLLINO
47	Improve Intraday NWP Solar Forecasts with Time-Series Modelling of Satellite-Based Irradiance	KAREL DE BRABANDERE
48	A short-term solar radiation ensemble forecasting system for the Iberian Peninsula	DAVID POZO-VASQUEZ
49	Using Historical Data to Obtaining Clear Sky PV Electricity Production	STEFANI PERATIKOU
50	Hybrid model for intra-day solar irradiance forecasting in tropical regions	HADRIEN VERBOIS
51	Impact of aerosols in PV power projections over Europe using RCMs	CLAUDIA GUTIÉRREZ
52	Calibration of solar irradiance forecasts of ECMWF IFS-ensemble for photovoltaic applications	TOBIAS ZECK
53	Irradiance models in sky imager forecasting	ANNA DITTMANN
54	Comparing sky-camera vs satellite solar radiation nowcasts	DAVID POZO-VASQUEZ
55	Solar irradiance and PV forecasting for large PV power plants using numerical weather models, satellite data, and ground measurements	WIEBKE HERZBERG

POSTER	POSTER TITLE	AUTHOR
56	Dust impact on shortwave solar radiation: case study of dust events in Doha, Qatar	DUNIA BACHOUR
57	Real-time solar irradiance using satellite data: quality assessment of an operational tool using five satellites	SYLVAIN CROS
58	Impact of atmospheric parameters on the performance of photovoltaic systems – student of spectral effects	STEFANIE K MEILINGER
59	Mapping and measuring geographical accuracy and uncertainty of UK PV forecasts using central and ensemble members of Numerical Weather Prediction models	DAN TRAVERS
60	Data Quality Assessment using SERI QC	MANAJIT SENGUPTA
61	Gain Contribution and Losses in Solar Radiation Collected by Realistic Solar Tower Plants	MUSTAPHA MOULANA
62	Gap filling of long-term solar radiation measurements in Denmark	ADAM R JENSEN
63	Validation of GFS day-ahead solar irradiance forecasts in China	YUE ZHANG
64	Improvements in the estimation of the solar energy resource in tropical regions from satellite data – a statistical approach	MADELEINE SANCHEZ GACITA CASAGRANDE
65	IEA PVPS Task 16 and SolarPACES Task V: workshop on best practices for automatic and expert based data quality control methods and for gap filling methods	PHILIPPE BLANC
66	Deriving Beam from Global Irradiance in Desert conditions	DANIEL PEREZ ASTUDILLO
67	Assessing the long-term variability of renewable energy in China and its mitigation strategies	SHAOXIU MA



ICEM 2019

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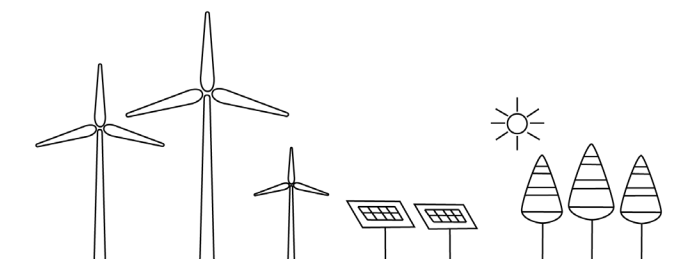
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ICEM 2019 INFORMATION

REGISTRATION DESK

The registration desk for ICEM 2019 will be open at following times during the conference and the pre-conference seminar:

Monday, 24th June from 12:00 to 19:30
Tuesday, 25th June from 08:00 to 18:30
Wednesday, 26th June from 08:00 to 18.30
Thursday, 27th June from 08:00 to 17:00

VENUE

Technical University of Denmark
Anker Engelundsvej 1
Building 101B
2800 Kgs. Lyngby
DENMARK www.dtu.dk

CONFERENCE UPDATES

All information in this brochure is correct at the time of going to print. Please check our website for updates in the lead up to, or during, the conference: www.wemcouncil.org/icem2019

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The ICEM 2019 Conference Organisers will not accept liability for damages of any nature sustained by participants or loss of, or damage to, their personal property as a result of the Conference and the social functions.

INSURANCE

Registration fees do not include insurance of any kind. It is strongly recommended that at the time you register for the Conference and book your travel, you take out an insurance policy of your choice. The ICEM 2019 Secretariat cannot take any responsibility for any participant failing to arrange their own insurance. This insurance is to be purchased in your country of origin.

PHOTOGRAPHY/VIDEO

Photographs and videos may be taken throughout the duration of the conference and pre-conference events, for the purpose of reporting on and promoting the conference. Delegates who do not wish for their image to be used in this manner must notify us by email prior to the event: icem2019@wemcouncil.org

NAME BADGES

Delegates will be issued a name badge at registration. This badge will be the official pass to sessions, tea, lunches and social functions. All delegates should wear their name badges at all times while onsite.

MESSAGES

A message board will be located next to the registration desk throughout the Conference.

INTERNET ACCESS

Eduroam is available. Dtuguest is an open network - please ask at the registration desk for access details.

CATERING

Complimentary tea and coffee will be provided during breaks. Lunch is not included. Delegates can purchase lunch in the canteen or cafe adjacent to the meeting centre, or venues are available elsewhere on campus.

CREDIT CARDS

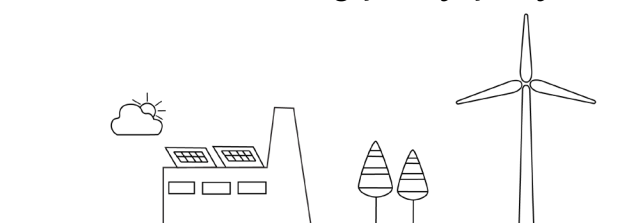
All major credit cards are accepted at the registration desk, including American Express. Most hotels, restaurants and shops will accept all major credit cards.

PRIVACY POLICY

In registering for this conference, you allow us to contact you as required for the organisation and administration of the event. The information you have given is recorded in our databases and will be used for marketing, administration and promotional purposes.

Relevant details will be incorporated into a delegate list (name and organization only) and may be made available to parties directly related to the conference, including the Organising Committee and key sponsors. A delegate list will be made available to all delegates prior to the Conference. This information will also be added to our database for future Conferences. If you do not want your details to be added to this database, please let us know by emailing: icem2019@wemcouncil.org

For more information about our privacy policy and how we manage your data in line with GDPR rules, visit: www.wemcouncil.org/privacy-policy



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DTU Lyngby Meeting Centre

Not to scale

Entrance A

Entrance B

To canteen

To Oticon Hall via entrance E and canteen

DTU Bibliotek

OTicon Salen

107

101

D

Kantine

E

S-huset

Glassal

Hal 1

Sportshal

Hal 2

A

B

DTU Mødecenter

Anker Engelunds Vej

Villum

Stairs to M1

Foyer

Atrium

Café

Kitchen

S1

S2/S3

S4/S5

S9

S10/S11

S12/S13

S14

Registration & Breaks

Parallel Sessions & Workshops

Plenaries & WattMeet

Parallel Sessions & Workshops

Posters (Wind)

Posters (Mixed)

Parallel Sessions & Workshops

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Workshops

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