

ATRIUM

10:00 OPENING REMARKS

Jacob Østergaard, Professor and head of PowerLabDK, DTU PowerLabDK – Creating value for companies and society in a time of green transformation



Jacob Østergaard has been a Professor and Head of the Center for Electricity and Energy at DTU since 2005. He is the initiator and head of PowerLabDK. He is involved in several research projects in the field of future energy systems, has held a number of positions of trust both nationally and internationally and received several awards. He is a co-author in more than 200 scientific publications.

15:00 OFFICIAL POWERLAB OPENING

Moderator: Jacob Østergaard, Professor and Head of PowerLabDK, DTU

Niels B. Christiansen, President and CEO, Danfoss Danish energy technology - a Danish company need of world class facilities



Niels B. Christiansen is the President and CEO of Danfoss A/S. He has broad management experience from managing large-scale, global, high-tech companies. He holds a number of directorships, including being the Chairman of the Government's Climate Commission. He acquired an MSc in Engineering from DTU in 1991 and completed an MBA from INSEAD in 1993.

Morten Bæk, Director General, Danish Energy Agency, Ministry of Climate and Energy Effective transformation of the energy system - innovation and new solutions



Morten Bæk is the Director of the Danish Energy Agency. He has contributed to a more visible, professional, and stronger board since he took office in 2014. Previously, he held various positions in the Ministry of Climate and Energy. He acquired an MA in Political Science and Government from University of Copenhagen in 1999.

Anders Bjarklev, President, DTU Synergy amongst scientists, students, industry, and authorities



Anders Bjarklev is the President of Technical University of Denmark (DTU). Bjarklev graduated from DTU with an MSc in Engineering in 1985, got his Ph.D. in 1988 and Dr. techn. in 1995. His research in fiber optics and optoelectronics has resulted in several patent applications, establishment of companies and an extensive scientific output.

TEACHING ROOM 120 TRACK 1 // KEYNOTES

10:30 KEYNOTE SESSION 1:

Sila Kilicote, Staff Scientist at SLAC National Accelerator Laboratory, SLAC Stanford, USA Transformation of the energy system and synergies with distributed storage



Award-winning Smart Grid leader and researcher at the Stanford project "National Accelerator Laboratory", which develops the world's longest linear accelerator. Previously Demand Response expert at Adecco (Google) and Head of the Grid Integration Group at Lawrence Berkeley National Laboratory in California.

11:15 KEYNOTE SESSION 2:

Role of world-class experimental facilities in companies technology development and business / Eksperimentelle faciliteters rolle i virksomheders teknologiuudvikling og forretning

Per Munch Jakobsen, Head of technical support, PowerLabDK, DTU



Per is the Head of Technical Support at PowerLabDK leading a group of experts running and developing world-class research facilities for electric power and energy, ranging from flexible laboratories to large-scale experimental facilities.

He also maintains customer contact and is responsible for conducting tests in PowerLab.dk Earlier he had positions with SKAKO, EXHAUSTO, TITECH.

Thorsten Holst, Test Engineer, National Oilwell Varco



MSc in Engineering (Electronics) from DTU in 1988, Ph.D. from DTU 1991 in physics. Has worked with R&D in Danish industry for 25 years. The last three years he has been a Test Engineer at the National Oilwell Varco Denmark, which develops and manufactures flexible pipelines for the offshore industry. His project with DTU is about electrical heating of these tubes and how to prevent the clogging of oil pipes.

Martin Sjøberg, Head of Digital Grid Engineering, Siemens



He is involved in management of engineering teams and is responsible for activities within energy grid automation and protection. Business areas include substation automation, remote control, SCADA, protection, industrial networking and cyber security. He graduated from Technical University of Denmark with a MSc in Sustainable Energy.

13:00 KEYNOTE SESSION 3:

Francisco Jose Carranza Sierra, Director Battery & Energy Services, Nissan Europe

Novel energy technology development and the role of Denmark as a global leader.



Director of Battery & Energy Services at Renault-Nissan Alliance. Moreover, Overseas Program Director and Strategic Partnerships & Projects at Nissan Europe. Francisco is a mechanical engineer with an MBA and has worked on strategy for EM Lyon and Cranfield and as an engineer for Saint Gobain and Peugeot Citroen.

14:00 KEYNOTE SESSION 4:

Living Labs as Dynamo for the Green Transformation - Panel Debate / Levende laboratorier som dynamo for den grønne omstilling - paneldebate

Winni Grosbøll, Mayor, Bornholm



Winni Grosbøll has been the Mayor of the Regional Municipality of Bornholm from January 1, 2010, elected by The Social Democrats. She has played a very central role in the development of Bornholm as a green island within the strategy of "Bright Green Island". Grosbøll has an MA in History and Social Studies from the University of Copenhagen.

Thea Larsen, Chairman of the Board, EUDP



Thea Larsen has been the Chairman of the Energy Technology Development and Demonstration Programme since 2015 and a member of the Board of EUDP supporting promising energy technology solutions since 2009. She has been the CEO of the Danish Gas Technology Centre since 2013 and prior to this the CEO of Roving Dynamics for 10 years. Thea Larsen is an electrical engineer, MSc, by training.

Jakob Møller Nielsen, Chief of Services, Technical and Environmental Administration, City of Copenhagen



Jakob Møller Nielsen is the Chief of Services of Technical and Environmental Administration at the City of Copenhagen. Among his responsibilities is the development of Copenhagen's climate plan for the world's first CO₂-neutral city. Jakob Møller Nielsen is Chairman of the EnergyLab Nordhavn project utilizing Copenhagen's harbour area as a living laboratory for future smart energy system. He has an MA in Political Science and Government from University of Copenhagen.

Moderator Preben Jørgensen, Chairman of PowerLabDK Steering Committee, and Head of Energy Projects, HOFOR



Preben Jørgensen, Head of Energy Projects at HOFOR, is actively involved in the implementation of several energy projects. He is an electrical engineer, MSc and Ph.D. from DTU and has a HD/O from CBS. He has been engaged professionally as a leader in energy planning, power distribution, power transmission and generation of electricity and heat and has evaluated many research applications.

TRACK 2 // OPEN LABS

TEACHING ROOM 020

- Interactive market model of the European electricity system: What is the cost of renewables? / Interaktivt markedsmodel for det Europæiske elsystem: Hvad koster vedvarende energi?
- Managing consumption under actual market conditions: How much can you save? / Styling af forbrug under egentlige markedsforhold: Hvad kan du spare?
- Integrated learning by theory, simulations and experiments / Integreret læring via teori, simulering og eksperimenter

- Lightning protection of wind turbines / Lynbeskyttelse af vindmøller
- Insulation testing of high voltage components / Isolationstest af højspændingskomponenter
- Electro-mechanical strength of composites / Elektromekanisk holdbarhed af kompositter

DRIVES LAB

- Experimental Wind Turbine Design and Operation setup / Eksperimentel setup for vindmølledesign og -drift
- Testing of drives for wind turbines and industrial processes / Test af drives for vindmøller og industrielle processer
- Role of electric machines design and operation in electric vehicles / Elektrisk maskindesign til elbiler

ELECTRIC LAB

- Integrated experiments with multiple interacting energy technologies / Integreerede eksperimenter med multiple interagerende energiteknologier
- 2 MW Superconducting Wind Turbine Generator / 2 MW superledende vindmøllegenerator
- Condition Monitoring and Diagnostic of Wind Turbine drives / Tilstandsovervågning af drives til vindmøller mv.
- Aggregator providing system-wide balancing and local congestion management / Aggregatører - kombineret levanse af systembalancering og styring af lokale flaskehalse
- Framework for cyber-physical security and PV monitoring / Cyber-fysisk sikkerhed ved monitorering af solceller
- Batteries and solar PV in practice - Game Changers in the future energy system / Game changers i fremtidens energisystem - batterier og solceller
- Demand as provider of system services / Elforbrug som leverandør af systemydelse
- Electricity, heat, transport and buildings - EnergyLab Nordhavn smart city living lab / Sammentænkning af el, varme, transport og bygninger - EnergyLab Nordhavn smart city living lab
- Energydata.dk - new possibilities with data-driven innovation / Energydata.dk - nye muligheder med datadrevet innovation

ELECTRIC VEHICLE LAB

- Electric vehicles and charging technology / Elbiler og ladeteknologier

HIGH VOLTAGE LAB

- Instrument transformers performance / Performance af instrumenttransformere

TRACK 3 // DEMOS IN LABS

11:00 DEMO SESSION 1

TEACHING ROOM 020

Flexibility service trading through a Flexibility Clearing House (FLECH) / Flexibility Clearing House, FLECH, for handel med fleksibilitet-services

ELECTRIC LAB

Grid compliance and performance test of electric components up to 1.2 MVA / Grid compliance and performance test af elektriske komponenter op til 1,2 MVA

CONTROL CENTER LAB

Bornholm living laboratory for a smart energy community / Bornholm som levende laboratorium for smart energi

ENERGY SYSTEM SIMULATION LAB

Hardware-in-loop test for protection in low inertia power systems / Hardware-in-loop test af beskyttelse i lav-inerti elnet

11:45 DEMO SESSION 2

HIGH VOLTAGE LAB

High-power short-circuit tests of electric equipment / Højeffekt kortslutningstest af elektrisk udstyr

ELECTRIC VEHICLE LAB

Cross-OEM system balancing with uni- and bi-directional charging of electric vehicles / Elbiler med uni- og bidirektionel ladning - systemydelse på tværs af OEM's

CONTROL CENTER LAB

How can blackouts be prevented in the future? - tools for secure operation of a sustainable energy system / Hvordan undgås blackouts i fremtiden? - Nye værktøjer til sikker drift af energisystemet

ELECTRIC LAB 1 TRACK 4 // POSTER PRESENTATIONS

- Situation-aware control solutions for providing smart network services in multi-energy systems (Alberto Cocco)
- Voltage Control in low voltage grids by Convex Optimal Power Flow algorithms (Alexander Herrmann)
- Topological Reduction of Electric Power Grids for Retaining Connectivity Information (Alexander Maria Prostejovsky)
- Electric vehicles in the Nordic countries: Control strategies for coordinated grid services (Antonio Zecchino)
- Voltage Stability in RES based power systems (Bahtiyar Can Karatas)
- Toolsets development for DER aggregators providing concurrent services (Charalampos Ziras)
- Stochastic integrated market for electric power and natural gas systems (Christos Ordouis)
- Allocation of Synchronous Condensers in Low Inertia Systems (Emanuel Marazzi)
- Modelling of Harmonic Emissions in Wind Farms (Emerson Guest)
- Impact of DC Voltage Droop Control Structures on DC Oscillations in a Multi-Terminal HVDC Grid (Florian Thams)
- Holistic approach in monitoring, diagnosis and prognosis of faults in modern wind turbines (Georgios Alexandros Skrimpas)
- Data driven electrical load profiling in smart grid framework (Guillaume Jean Le Ray)
- Monitoring Operational Security of Renewable Power Systems (Jakob Gjarbo Møller)
- Assessment of Short Circuit Power and Protection Systems for Low Inertia System (Jundi Jia)
- Control Strategies and Modelling of Electric Vehicles in the Distribution Network (Katarina Knezovic)
- Resilient overlay networks for the distributed provision of aggregated power system services (Lasse Dreisig Orda)
- Impact Assessment of Multi-Terminal HVDC Transmission Grids (Lejla Halilbasic)
- Optimal coupling of heat and electricity markets (Lesia Marie-Jeanne Mitridati)

- Electric Vehicle Integration in an Energy - Optimized Neighbourhood (Marjan Gjelaj)
- Wide Area Prosumption Control (Lindholm Wittrock)
- A Time Domain Approach for Transient Stability Control (Michael Pertl)
- Analysis of Virtual Inertia and Fast Primary Response upon Frequency Behavior (Michel Maher Naguib Rezakalla)
- Design, modelling, and fabrication of a ferrite magnet axial flux in-wheel motor (Muhammed Fasil Veettil)
- Early Warning of Cascading Outages (Pauli F. Petersen)
- Dynamic PMU compliance under IEEE C37.118.1a (Radu Ghiga)
- Advanced design methods for active distribution networks (Sergey Klyapovskiy)
- Voltage control in modern low voltage grids with high share of solar photovoltaics (Seyedmostafa Hashemi Toghroljerdi)
- Congestion management on distribution networks through market-based methods (Shaojun Huang)
- Coordination of balancing services in interconnected power systems (Stefanos Delikaraoglou)
- Lightning Impact to Full-Scale Wind Turbine Components (Stephan Vogel)
- Design for direct reuse of rare earth permanent magnets (Stig Högberg)
- Cyber-physical System Security and Protection (Theis Bo Rasmussen)
- Frequency Characterization and Control for Future Low Inertia Systems (Thi Ha Nguyen)
- Distributed Energy Resources Flexibility in a Multi-Carrier Energy System Environment (Thibaut Pierre Richert)
- Wind Power Offering in Energy and Reserve Markets (Tiago Soares)
- Indirect stochastic market clearing (Tue Vissing Jensen)
- High temperature superconducting wind turbine generators (Xiaowei Song)
- Hybrid control scheme for distributed energy resource management in a market context (Xue Han)

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AGENDA

	SOCIAL EVENTS // ATRIUM	TRACK 1 // KEYNOTES	TRACK 2 // OPEN LABS	TRACK 3 // DEMOS IN LABS	TRACK 4 // POSTER
9:00-10:00	Registration & Breakfast				
10:00-10:15	Opening Remarks				
10:15-10:30			Open Labs		
10:30-11:00		Keynote 1			
11:00-11:15				Demo 1	
11:15-11:45		Keynote 2			
11:45-12:00				Demo 2	
12:00-13:00	LUNCH				Poster presentations
13:00-13:30		Keynote 3	Open Labs		
13:30-13:45				Demo 3	
13:45-14:00					
14:00-14:30		Keynote 4			
14:30-14:45				Demo 4	
14:45-15:00					
15:00-15:30	Official PowerLabDK Opening				
15:30-16:30	Reception with Drinks and hors d'oeuvres		Open Labs		

ABOUT

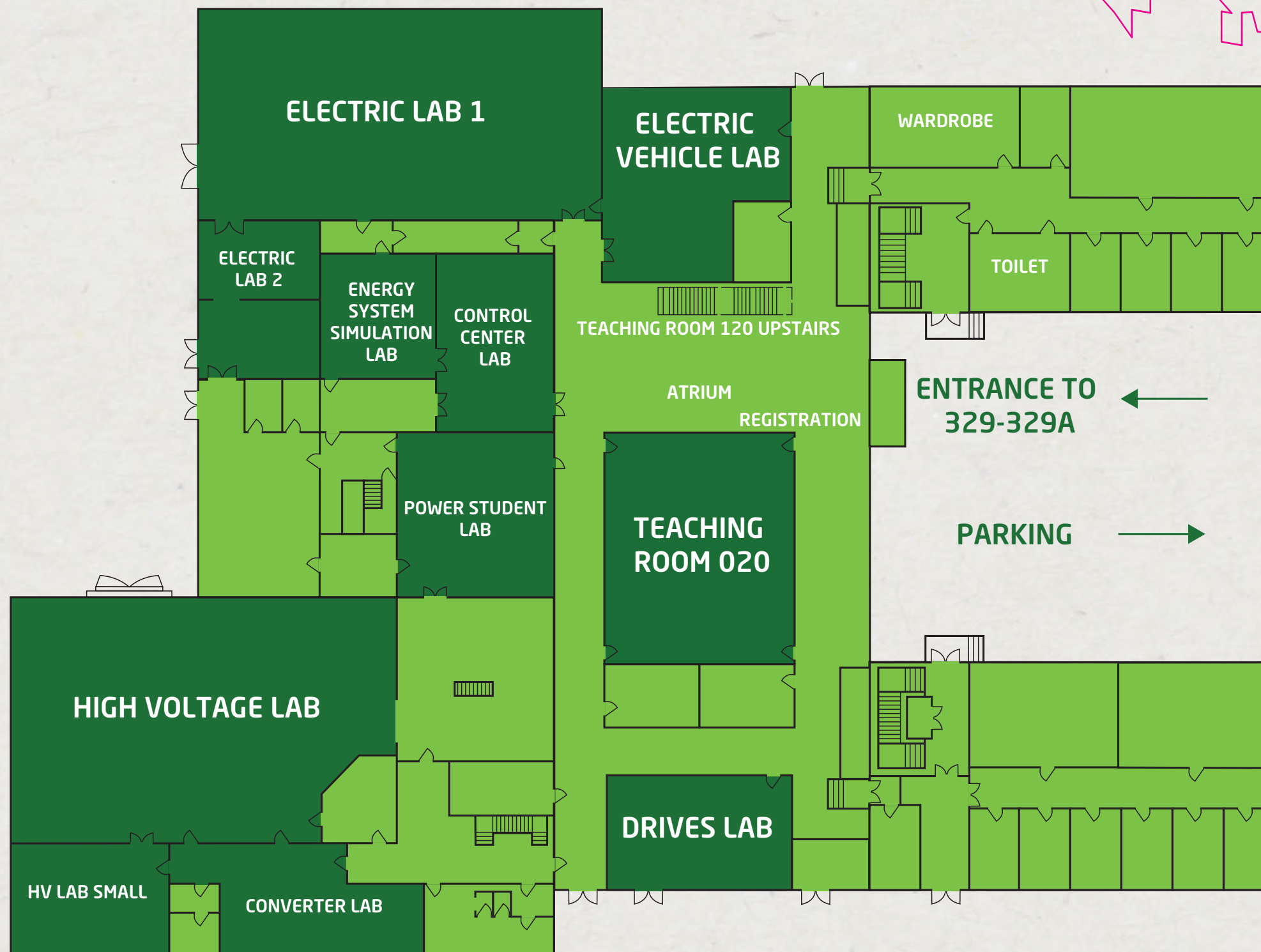
PowerLabDK is an experimental platform for electric power and energy. It supports technology development, test, training, and demonstrations and will contribute to the development of new technologies and solutions for a reliable, cost efficient and sustainable energy system.

The facilities contain flexible test laboratories, large-scale experimental facilities, and a complete full-scale power distribution system on the Island of Bornholm; a platform for living experiments. PowerLab is a national Green Lab under the Danish Energy Agency.

PowerLab is open for all - engineers and researchers from industry, academia, as well as students.

To mark the opening of PowerLabDK we are honored to welcome you to open labs, demos, presentations, and social events.

Find more information about PowerLabDK at www.powerlab.dk



PowerLabDK

GRAND OPENING

