Energie-Innovationszentrum Cottbus

Brandenburgische Technische Universität Cottbus - Senftenberg

Workshop

Chair of Numerical Fluid and Gas Dynamics (NSG), BTU Cottbus-Senftenberg
Scientific Computing Lab (SCL), Energy Innovation Center (EIZ) Cottbus

Solar and Wind Energy: A Fluid Dynamics Perspective on Loads and Volatility

11 February 2025

Solar and wind power drive the defossilization of the energy system, but destabilize the power grid due to volatile availability and sensitivity to unfavorable weather. How to cope with the physically unavoidable fluctuations is a grand challenge that requires transdisciplinary efforts. In this workshop, some open issues in renewable energy are addressed from the perspective of fluid mechanics. The requirements for the design and operation of solar power plants and wind turbines are considered, and it is discussed how computational fluid dynamics and stochastic approaches offer new pathways.

Programme

09:00 – 09:30	Welcome Coffee
09:30 – 09:40	Opening Prof. Dr. Heiko Schmidt (BTU & SCL)
09:40 – 10:10	The Solution of Energy Transition: GICON® - Hybrid Power Station Dr. Frank Adam (GICON® GmbH)
10:10 – 10:40	Interaction of Fluid Dynamical Variability with Ground-Mounted Photovoltaic Systems and Their Power Production Dr. Christoph Glawe (wpd onshore GmbH & Co. KG)
10:40 – 11:00	Refreshment Break
11:00 – 11:30	Aerodynamic Effects on Solar Systems Dr. Richard Meyer (LEPOSOL GmbH)
11:30 – 12:00	Modeling Atmospheric Turbulence: From Load Assessment to Short-Term Forecasts Dr. Marten Klein (BTU & SCL)
12:00 – 12:30	Closing Remarks & Farewell Prof. Dr. Heiko Schmidt (BTU & SCL)

Registration

Participation is free of charge, but seats are limited to approx. 50 people. Registration on first-come-first-served basis is possible until 10 February 2025 or until all seats are filled at:

https://terminplaner6.dfn.de/b/4fabdd7eed6460f56815d0545eae2eed-1052914

Location

BTU Main Campus Cottbus, Building FZ 3H, Room 1.04
BTU Cottbus-Senftenberg, Konrad-Wachsmann-Allee 13, 03046 Cottbus
Campus Map: https://www.b-tu.de/campusplan/zentralcampus-cottbus#toggle_building_72

Contact: Dr. Marten Klein T: (0355) 69-5127 E: marten.klein@b-tu.de