



PhD Summer School Mont-Soleil

12th - 16th/17th August 2019

Field-Based Insights into the Implementation of Renewable Energies

Main conference, preliminary program

Monday 12.08 Climate and Environmental Physics

- 13:00 Check-in at University of Bern, Climate and Environmental Physics
- 14:00 Introduction**
Dr. Martin Pfisterer, Co-chairman / President Société Mont-Soleil, Switzerland
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland
- 14:30 Climate Change and the 1.5°C Goal of the Paris Agreement**
Prof. Thomas Stocker, University of Bern, Switzerland
- 16:00 Visit to the Laboratories of Climate and Environmental Physics**
- 17:30 Departure to Mont-Soleil
- 18:30 Hotel check-in, Auberge de l'Assesseur Mont-Soleil
- 19:30 Welcome dinner by the city of Saint-Imier

Tuesday 13.08 Photovoltaics and Hydropower

- 08:00 Opening and Energy Region Mont-Soleil**
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland
Dr. Martin Pfisterer, Co-chairman / President Société Mont-Soleil, Switzerland
- 08:30 Mont-Soleil PV Plant – Layout, Long-term Measurements, Life Cycle Analysis**
Dr. Rudolf Minder and Dr. Jakob Vollenweider, Société Mont-Soleil, Switzerland
Manuel Lanz and Thomas Schott, Bern Univ. Applied Sciences, Burgdorf, Switzerland
- 10:00 Mont-Soleil PV Plant – Visit and Exercises**
Dr. Rudolf Minder and Dr. Jakob Vollenweider, Société Mont-Soleil, Switzerland
Manuel Lanz and Thomas Schott, Bern Univ. Applied Sciences, Burgdorf, Switzerland
- 11h15 PlanetSolar, the First around the World Tour with a Solar Boat**
Christian Ochsenbein, technical engineer and member of the boat crew
- 12:00 Lunch
- 13:00 Design of High Efficiency Solar Cells**
Dr. Mathieu Boccard, CSEM / EPFL, Neuchâtel, Switzerland
- 14:30 Strategies for Hydropower Deployment**
Martin Bölli, Swiss Small Hydro Association, Switzerland
- 15:30 Excursion and visit to a hydropower plant at the Doubs river, countrystyle dinner
- 20:00 Return to the hotel

Wends. 14.08 Wind Energy

- 08:00 Departure to Chasseral
08:30 JUVENT wind power plant, landscape challenges
Dr. Martin Pfisterer, Co-chairman / founding President of JUVENT SA, Switzerland
09:30 Return to Mont-Soleil
10:00 Balancing of Multi-Country Wind Energy Assets
N.N., Wind Energy at BKW, Bern, Switzerland
11:00 Assessing Wind Resources in Complex Terrain
Sara Koller, Meteotest, Bern, Switzerland
12:00 Lunch
13:00 Multiscale Modeling Framework for Wind Power Forecasting
Dr. Jiannong Fang, Wind Engineering and Renewable Energy Lab, EPFL, Switzerland
14:30 Full-Scale Wind Turbine Research
N.N., Laboratory for Energy Conversion, ETH Zurich, Switzerland
16:00 Visit to JUVENT windfarm
18:00 Return to the hotel

Thursd. 15.08 Electrical Grid Integration and Energy Storage

- 09:00 Introduction**
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland
09:15 Planning and Control of Active Power Networks
Prof. Mario Paolone, Distributed Electric Systems Lab, EPFL, Lausanne, Switzerland
11:00 Classical and Advanced Power Electronic Solutions for the Network Integration
Prof. Drazen Dujic, Power Electronics Laboratory, EPFL, Lausanne, Switzerland
12:30 Lunch
13:30 Power Quality in Distribution Grids Related to RES and Power Electronics
Prof. Michael Höckel, Power Systems Lab, Biel/Bienne, Switzerland
15:00 Energy Storage with Batteries, Classical Solutions and Modern Components (prov)
N.N., Energy Storage Research Centre, Biel/Bienne, Switzerland
17:00 Departure to Saint-Imier
17:30 Energy Autonomous Concept for Cheese Making
Cédric Spielhofer, CEO Fromageries Spielhofer, Saint-Imier, Switzerland
18:30 Cheese fondue dinner
20:00 Return to the hotel

Friday 16.08 Energy Storage and Closing Ceremony

- 08:00** Transfer to Biel/Bienne
09:00 Energy Storage and Efficiency – The Theory of the Ragone Representation
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland
10:30 Battery Modeling with Application to High Energy Density Systems
Dr. Andreas Hutter, PV-Center, CSEM, Neuchâtel, Switzerland
11:30 Aging Phenomena of Li-Ion Batteries and Life Cycle Modeling
Prof. Andrea Vezzini, Bern University of Applied Sciences, Biel/Bienne, Switzerland
12:30 lunch / during lunch in small groups:
Visit to the BFH-CSEM Energy Storage Research Laboratories
14:30 Closing ceremony
End of the summer school

Post conference (optional), preliminary program

- Friday 16.08** **Transfer to Grindelwald / glacier retreat and district heating**
- 15:00** Departure to Grindelwald (Grund)
 - 17:00** **Glacier retreat and district heating, visit** with aperitif
Dr. Martin Pfisterer, Co-chairman / founding president Holzwärme Grindelwald AG
 - 18:00** Hotel check-in, Jungfrau tourist info, alpine dinner
- Saturd. 17.08** **High Altitude Research Centre Jungfraujoch 3'500 m a.s.l.**
- 08:00** Departure from Grindelwald (Grund) to Jungfraujoch
 - 09:30** **High Altitude Research Centre**
Prof. Markus Leuenberger, President, University of Berne, Switzerland
 - Visit to the High Altitude Research Lab**
 - 12:00** End of post-conference program
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process of registration

Febr 2019 **publication of preliminary program**
https://www.bfh.ch/en/research/bfh_centres/energy_storage_research.html

also on www: summerschoolsineurope.eu, societe-mont-soleil.ch

feb/march **prenotification**

PhD and master students are requested to declare their interest to participate via mail to the head of administration: christian.ochsenbein@bfh.ch

April 2019 **publication of the final program with application form**
https://www.bfh.ch/en/research/bfh_centres/energy_storage_research.html

also on: www.summerschoolsineurope.eu / www.societe-mont-soleil.ch

apr/mai/june **application**

PhD and Master students are requested to send in their application forms to the head of administration: christian.ochsenbein@bfh.ch

June 2019 **decision of participation and begin of payment period**

the administration communicates the decision of participation

end of july **end of payment / final decision of participation**

participants get the final decision of participation upon payment of the fees

administration, address and fees

- address** **PhD Summer School Mont-Soleil**
c/o Institute for Energy and Mobility Research IEM
Bern University of Applied Sciences
Christian Ochsenbein, head of administration christian.ochsenbein@bfh.ch
CH 2560 Nidau, Switzerland T +41 31 848 31 87 / M +41 76 234 40 54
- fees** will be published in April 2019
academic part (free for PhD/master students EPFL/BFH)