



PhD Summer School Mont-Soleil

12th - 16th/17th August 2019

Field-Based Insights into the Implementation of Renewable Energies

Main conference, final program

Monday 12.08 Climate and Environmental Physics

- 13:00 Check-in at University of Bern, Climate and Environmental Physics
(see map on page 4)
- 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, 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
- 11:15 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**
Cédric Zbinden, CEO La Goule SA, Saint-Imier
- 20:00 Return to the hotel

Wed. 14.08 Wind Energy

07:45 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 Management of Wind Energy Assets in the European Context

Martina Dabo, Head of 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 Technological Development in the JUVENT Windfarm 1996 - 2019

Dr. Jakob Vollenweider, Société Mont-Soleil, Switzerland

15:30 Visit to JUVENT windfarm

18:00 Return to the hotel

Thurs. 15.08 Electrical Grid Integration and Energy Storage**08:00 Introduction**

Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland

08:15 Planning and Control of Active Power Networks

Prof. Mario Paolone, Distributed Electric Systems Lab, EPFL, Lausanne, Switzerland

10:30 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

Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne, Switzerland

16:00 Machine Learning Solutions to Predict Battery Lifespan and Optimize Energy Consumption

Prof. Stefano Carrino, HE-Arc, Saint-Imier, 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

07:45 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 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, District Heating, Plant Visit** (with aperitif)
 Dr. Martin Pfisterer, Co-chairman / founding President Holzwärme Grindelwald AG
 18:00 Hotel check-in, Jungfrau tourist info, alpine dinner

Saturday 17.08 High Altitude Research Station Jungfrauoch 3500 m a.s.l.

- 08:00 Departure from Grindelwald (Grund) to Jungfrauoch
 09:30 **High Altitude Research Station**
 Prof. Markus Leuenberger, President, University of Berne, Switzerland
Visit to the High Altitude Research Lab
 12:00 End of post-conference program

Process of registration

April 2019 Publication of the final program with application form

www.bfh.ch/de/aktuell/veranstaltungen/summer-school-mont-soleil and
www.societe-mont-soleil.ch/summer-phd-school-mont-soleil.html

also on:

www.summerschoolsineurope.eu/course/10581/field-based-insights-into-the-implementation-of-renewable-energies

Apr. - 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)

How to get to the check-in at University of Bern on Monday 12.08.2019 13:00

Bern can easily be reached by public transport. Both international airports in Zurich and Geneva have their own train stations. The Swiss Federal Railways provide an easy to use journey planner for the public transport in Switzerland (see www.sbb.ch/en/timetable.html).

In Bern main station there is an elevator to University of Bern (circled red in the map below)



Having reached the top floor you can walk to the check-in in the building ExWi (see map below)

Building 'Exakte Wissenschaften', University of Bern, Sidlerstrasse 5, 3012 Bern



ROOM B005 - on the B-floor. Follow the signs