



## PhD Summer School Mont-Soleil

12<sup>th</sup> - 16<sup>th</sup>/17<sup>th</sup> 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](http://www.bfh.ch/de/aktuell/veranstaltungen/summer-school-mont-soleil) and  
[www.societe-mont-soleil.ch/summer-phd-school-mont-soleil.html](http://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](http://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](mailto: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

<b>Address</b>	<b>PhD Summer School Mont-Soleil</b> c/o Institute for Energy and Mobility Research IEM Bern University of Applied Sciences Christian Ochsenbein, head of administration <a href="mailto:christian.ochsenbein@bfh.ch">christian.ochsenbein@bfh.ch</a> CH 2560 Nidau, Switzerland T +41 31 848 31 87 / M +41 76 234 40 54
<b>Fees</b>	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](http://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