

PHD SUMMER SCHOOL MONT-SOLEIL

9TH - 14TH AUGUST 2021

FIELD-BASED INSIGHTS INTO THE IMPLEMENTATION OF RENEWABLE ENERGIES

MONDAY 9.08 CLIMATE AND ENVIRONMENTAL PHYSICS

- 13:00 Check-in at University of Bern, Climate and Environmental Physics
(see map on page 5)
- 14:00 **Introduction**
Dr. Martin Pfisterer, Co-chairman / President Société Mont-Soleil
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne
- 14:30 **Climate Change and the 1.5°C Goal of the Paris Agreement**
Prof. Thomas Stocker, University of Bern
- 16:00 **Visit to the Laboratories of Climate and Environmental Physics**
- 17:30 Transfer 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 10.08 PHOTOVOLTAICS AND HYDROPOWER

- 08:00 **Opening, Energy Region Mont-Soleil**
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne
Dr. Martin Pfisterer, Co-chairman / President Société Mont-Soleil
- 08:30 **Mont-Soleil PV Plant – Layout, Long-term Measurements, Life Cycle Analysis**
Dr. Rudolf Minder, Société Mont-Soleil
Thomas Schott, Bern Univ. Applied Sciences, Burgdorf
- 10:00 Coffee break
- 10:15 **Mont-Soleil PV Plant – Visit and Exercises**
Dr. Rudolf Minder, Société Mont-Soleil
Thomas Schott, Bern Univ. Applied Sciences, Burgdorf
- 11:30 **PlanetSolar, the First around the World Tour with a Solar Boat**
Christian Ochsenbein, technical engineer and member of the boat crew
- 12:30 Lunch
- 14:00 **Strategies for Hydropower Deployment**
Aline Coulot, Swiss Small Hydro Association
- 15:00 **Hydropower deployment in the field**
Andreas Stettler, Head of Schweizerischer Wasserwirtschaftsverband
- 16:00 **Excursion and visit to a hydropower plant at the Doubs river**
countrystyle dinner with Cédric Zbinden, CEO La Goule SA, Saint-Imier
- 20:00 Return to the hotel



WEDNESDAY 11.08 WIND ENERGY

- 08:00 Transfer to Viewpoint
JUVENT Wind Power Plant, Landscape and public acceptance, excursion
Dr. Martin Pfisterer, Co-chairman / founding President of JUVENT SA
- 09:30 Return to Mont-Soleil
- 10:00 **Wind Turbine Design 1995 - 2021**
Giordano Favaro, Head of Wind and PV Technical and Commercial Management, BKW
- 11:00 **Assessing Wind Resources in Complex Terrain**
Sara Koller, Meteotest, Bern
- 12:00 Lunch
- 13:15 **Multiscale Modeling Framework for Wind Power Forecasting**
Dr. Jiannong Fang, Wind Engineering and Renewable Energy Lab, EPFL
- 14:30 **Advanced techniques to facilitate the development and operation of wind power plants**
Dr. Ndaona Chokani, Laboratory for Energy Conversion, ETH Zurich
- 15:30 **Visit to JUVENT windfarm**
- 18:00 Return to the hotel

THURSDAY 12.08 ENERGY STORAGE AND ADVANCED PV TECHNOLOGIES

- 07:45 Transfer to the BFH Energy Storage Research Centre at Switzerland Innovation Park Biel/Bienne
- 08:30 **Welcome Switzerland Innov. Park Biel/Bienne and BFH Energy Storage Research Centre**
Dr. Raoul Stöckle, Prof. Dr. Andrea Vezzini
- 08:45 **Energy Storage and Efficiency – The Theory of the Ragone Representation**
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne
- 09:30 Coffee break
- 09:45 **Advanced Battery Technologies with Application to High Energy Density Systems**
Dr. Andreas Hutter, PV-Center, CSEM, Neuchâtel
- 10:45 **Performance (SoC) and Life Cycle (SoH) Modeling and BMS of Li-Ion Batteries**
Prof. Dr. Andrea Vezzini / Dr. Priscilla Caliandro, Bern University of Applied Sciences
- 11:45 **Visit to the BFH Energy Storage Research Laboratories** and Lunch (2 groups)
- 13:00 Departure for EPFL/CSEM Neuchâtel
- 13:45 Welcome to the EPFL – PV-Lab and CSEM – PV-Center
- 14:00 **Design of High Efficiency Solar Cells**
Dr. Mathieu Boccard, EPFL, Neuchâtel
- 15:00 **Visit of the Photovoltaic Laboratories**
- 16:00 **Solar energy, between technology and art**
Dr. Laure-Emmanuelle Perret, EPFL /Compáz, Neuchâtel
- 17:00 Departure to Saint-Imier
- 18:00 **Energy Autonomous Concept for Cheese Making**
Cédric Spielhofer, CEO Fromageries Spielhofer, Saint-Imier
- 18:30 Cheese fondue dinner
- 20:00 Return to the hotel

FRIDAY. 13.08 ELECTRICAL GRID INTEGRATION

- 08:00 **Introduction**
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne
- 08:15 **Planning and Control of Active Power Networks**
Prof. Mario Paolone, Distributed Electric Systems Lab, EPFL, Lausanne
- 09:00 **Classical and Advanced Power Electronic Solutions for the Network Integration**
Prof. Drazen Dujic, Power Electronics Laboratory, EPFL, Lausanne
- 09:45 Coffee break
- 10:00 **Power Quality in Distribution Grids Related to RES and Power Electronics**
Stefan Schori, Power Systems Lab, Biel/Bienne
- 11:00 **Storage with 2nd life batteries: a sustainable option for the integration of renewable energy**
Laurent Raeber, Director Swiss Energy Park,
Prof. Dr. Andrea Vezzini, Bern University of Applied Sciences
- 12:00 Lunch, in parallel invited session for media
- 14:00 Transfer to Grindelwald
- 16:00 Hotel check-in Grindelwald
- 17:00 **Glacier Retreat, District Heating, Plant Visit (with aperitif)**
Dr. Martin Pfisterer, Co-chairman / founding President Holzwärme Grindelwald AG
- 18:30 Alpine dinner with **Diploma ceremony**,
Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne

SATURDAY 14.08 HIGH ALTITUDE RESEARCH STATION JUNGFRAUJOCH 3500 M A.S.L.

- 08:00 Departure from Grindelwald (Grund) to Jungfrauoch / Top of Europe
- 09:00 **High Altitude Research Station Climate change, long-term high-altitude CO2 measurements**
Prof. Markus Leuenberger, Director HFSJG, University of Berne
- Visit to and guided tour through the High-Altitude Research Labs**
- 12:00 **End of Summer School at Jungfrauoch / Top of Europe**

PROCESS OF APPLICATION AND DECISION

Publication of the final program with application form

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

until June 30, 2021

Application

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

Payment / final decision of participation

After registration you will receive a confirmation within a week and an invoice, which must be paid within 20 days.

Students are accepted on a first come, first served basis. Places are limited.

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
CH 2560 Nidau, Switzerland

christian.ochsenbein@bfh.ch

T +41 31 848 31 87 / M +41 76 234 40 54

Fees

Academic part PhD and Master students CHF 500.-

PhD students EPFL and Master students BFH CHF 0.-

Others CHF 900.-

Convenience for all participants CHF 700.-

incl. events, transports, meals & water/coffee, visit Grindelwald/Jungfraujoch

Lodging

Auberge Mont-Soleil Chez l'Assesseur

CH-2610 Mont-Soleil

www.montsoleil.ch | info@montsoleil.ch

the School Hotel offers student rates

min. fee for bed & breakfast, shared rooms

upgrade to twin or single bedroom Price on request

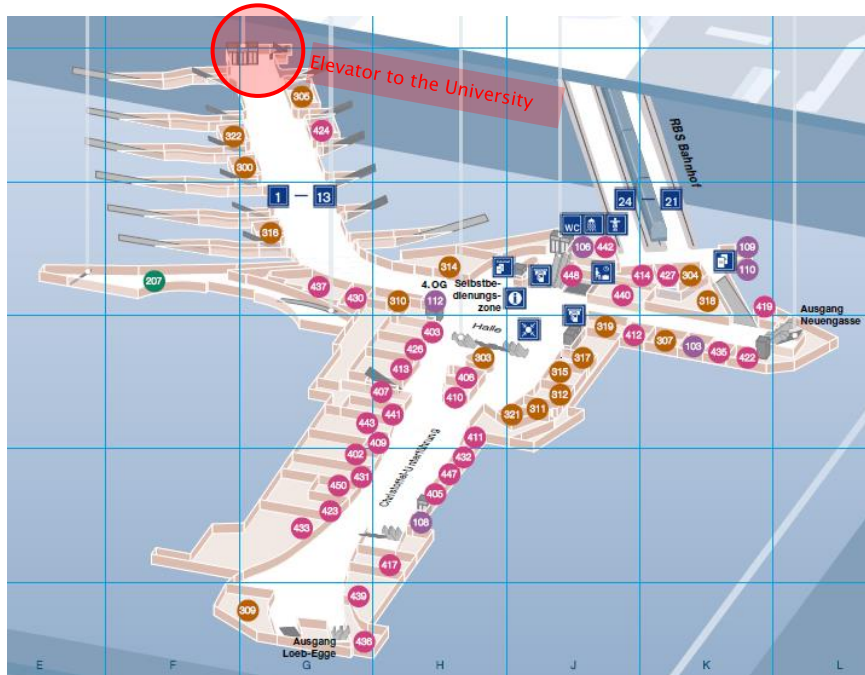
CHF 45.00 pP/night

Address: Building “Exakte Wissenschaften”, University of Bern, Sidlerstrasse 5, 3012 Bern
Room B005 – follow the signs

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 the 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)

