mont-soleil PHD SUMMER SCHOOL BERNE / SWITZERLAND | CENTRALE SOLAIRE MONT-SOLEIL | EPFL | FH

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 Hydroelectric Power Plants, BKW
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 - 2020** Dr. Jakob Vollenweider, former general manager of JUVENT SA
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 Biel/Bienne
08:45	**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, Biel/Bienne
09:45	Coffee break
10:00	**Advanced Battery Technologies with Application to High Energy Density Systems** Dr. Andreas Hutter, PV-Center, CSEM, Neuchâtel
11:00	**Energy Storage and Efficiency – The Theory of the Ragone Representation** Prof. hon. Alfred Rufer, Co-chairman / EPFL, Lausanne
11:45	**Visit to the BFH Energy Storage Research Laboratories** and Lunch (2 groups)
13:00	Departure for EPFL/CSEM Neuchâtel
13:30	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** Prof. Michael Höckel, Power Systems Lab, Biel/Bienne **Outdoor Exercises with Power Quality Measurements and PV Drone inspection**
11:15	**SPECIAL PROGRAM** **The value of in field education, round table** PhD students in discussion with: Beat Guggisberg, Head of global engineering, ABB Switzerland Transportation, Mario Paolone (EPFL), Andrea Vezzini (BFH), Martin Pfisterer (BKW)
13:00	Lunch
15:00	Transfer to Grindelwald
17:00	**Glacier Retreat, District Heating, Plant Visit (with aperitif)** Dr. Martin Pfisterer, Co-chairman / founding President Holzwärme Grindelwald AG
18:30	Hotel check-in, followed by alpine dinner **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 Jungfraujoch / Top of Europe
09:30	**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 Jungfraujoch / 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 Mai 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 christian.ochsenbein@bfh.ch
CH 2560 Nidau, Switzerland 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 I info@montsoleil.ch

the School Hotel offers student rates
min. fee for bed & breakfast, shared rooms CHF 45.00 pP/night
upgrade to twin or single bedroom Price on request

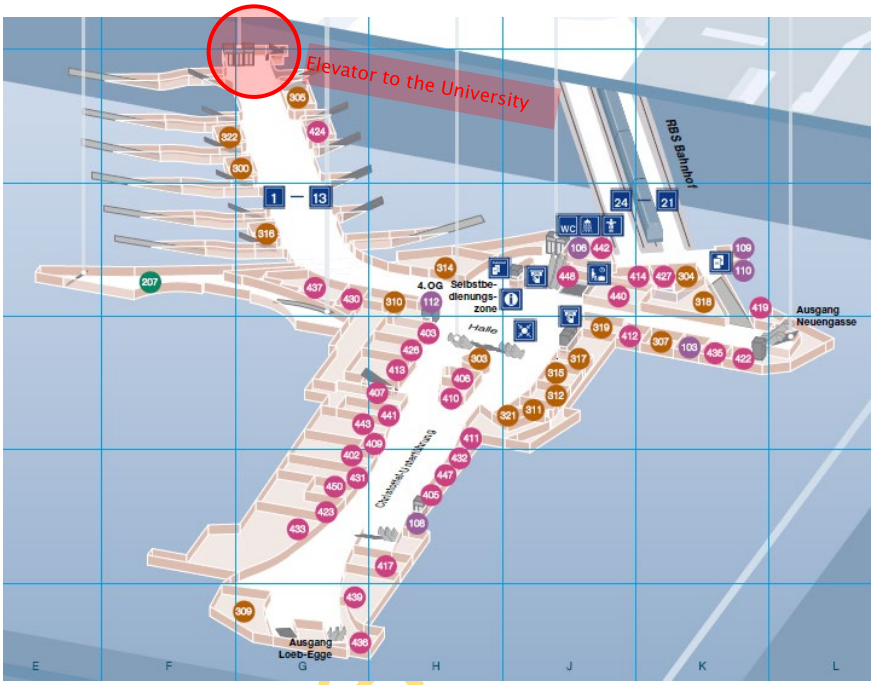
CHECK-IN AT TO SUMMER SCHOOL ON MONDAY 9.08.2021 13:00

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

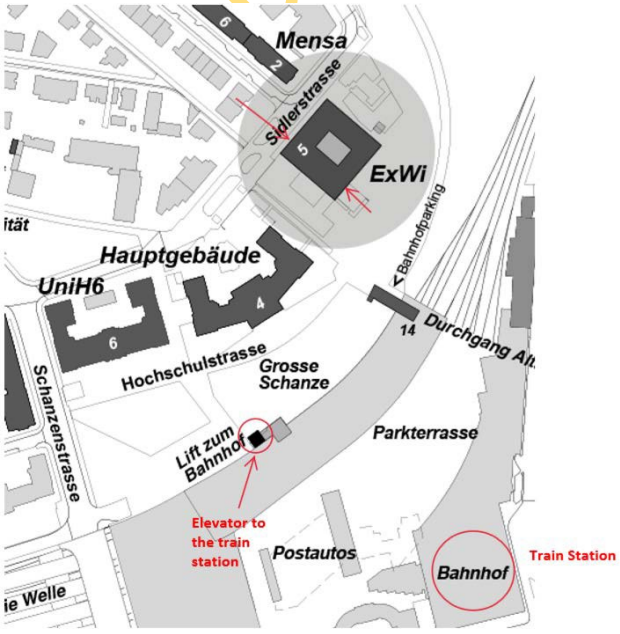
Bern can easily be reached by public transport. Both international airports in Zurich and Geneva have their own train stations.

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)



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