

# Atmospheric Science Day

10 November 2022

Starling Hotel

**08:45** Check-in & poster installation

**09:00** Introduction and welcome  
09:00-09:10 Nicolas Tétreault & Tom Beucler

**09:15** Session 1 : Atmospheric Dynamics, Predictability and Climate

9:15-9:25 **Daniela Domeisen** From Atmospheric Dynamics to Weather and Climate Solutions  
*Questions & change speaker - 5mn*

9:30-9:35 **Wolfgang Wicker** Dynamical drivers for the European heatwaves in summer 2022  
*Questions & change speaker - 5mn*

9:40-9:45 **Arindam Roy** Crowdsourcing sustainability to achieve climate resilience  
*Questions & change speaker - 5mn*

9:50-9:55 **Andries-Jan De Vries** Rossby wave breaking and extreme precipitation in arid regions: from floods to climate change  
*Questions & change speaker - 5mn*

10:00-10:05 **Pauline Rivoire** Vegetation and Ecosystem Damage by Frost, Heat and Drought: Assessment of Drivers.  
*Questions & change speaker - 5mn*

10:10-10:15 **Romain Pilon** Cloud bands, a link between tropics and extratropics.  
*Questions & change speaker - 5mn*

10:20-10:30 **Jean-Michel Fallot** Regional climate studies in Switzerland (topoclimatology, climate hazards)  
*Questions - 5mn*

10:35-11:00 Coffee break

**11:00** Session 2: Meteorology, Hydrology and Remote Sensing

11:00-11:10 **Alexis Berne** Atmospheric-science related activities at the EPFL Environmental Remote Sensing Lab  
*Questions & change speaker - 5mn*

11:15-11:25 **Nadav Peleg** Climate change impacts on extreme rainfall and urban floods: recent advances and challenges  
*Questions & change speaker - 5mn*

11:30-11:35 **Wenyue Zou** Multiple-point geostatistics-based spatial downscaling of heavy precipitation  
*Questions & change speaker - 5mn*

11:40-11:45 **Rebecca Gugerli** Using a random forest approach to improve quantitative precipitation estimates from the Swiss weather radar network  
*Questions & change speaker - 5mn*

11:50-11:55 **Alireza Moallememi** Application of stereo imaging for 3D reconstruction of sea surface  
*Questions & change speaker - 5mn*

12:00-12:05 **Francesco Zanetta** Physics-constrained postprocessing of temperature and humidity  
*Questions & change speaker - 5mn*

12:10-12:20 **Erwan Koch** Space-time extremes of severe US thunderstorm environments  
*Questions - 5mn*

12:25-14:00 Lunch break

**14:00** Session 3: Clouds, Aerosols and Climate

14:00-14:10 **Julia Schmale** Aerosol-climate effects in polar regions  
*Questions & change speaker - 5mn*

14:15-14:20 **Benjamin Heutte** Chemical composition and origin of central Arctic aerosols  
*Questions & change speaker - 5mn*

14:25-14:35 **Athanasios Nenes** Atmospheric Sciences Research at LAPI/EPFL  
*Questions & change speaker - 5mn*

14:40-14:45 **Georgakaki Paraskevi** Parameterizing Secondary Ice Production in Polar Mixed-Phase Clouds  
*Questions - 5mn*

**14:50** Session 4: Boundary-Layer Processes, from Cities to the Cryosphere

14:50-15:00 **Michael Lehning** Snow - atmosphere interactions: from climate change to renewable energies  
*Questions & change speaker - 5mn*

15:05-15:10 **Hongxiang Yu** Dynamic snow bed formation: a numerical simulation study  
*Questions & change speaker - 5mn*

15:15-15:20 **Anne-Claire Billaut-Roux** Radar remote sensing of snowfall microphysics  
*Questions & change speaker - 5mn*

15:25-15:30 **Armin Sigmund** Modelling snow sublimation to improve estimates of sea level rise  
*Questions & change speaker - 5mn*

15:35-15:45 **Gabriele Manoli** Urban heat/dry islands and their impact on the atmospheric boundary layer  
*Questions - 5mn*

15:50-16:20 Coffee break & poster session

**16:20** Session 5: Climate Informatics and Geostatistics

16:20-16:30 **Grégoire Mariéthoz** Questions of lack of data, uncertainty, and randomness  
*Questions & change speaker - 5mn*

16:35-16:40 **Frederick lat-Hin Tam** Interpretable, Data-Driven Models to Identify Kinematic and Thermodynamic Structures Favoring Tropical Cyclone Intensification  
*Questions & change speaker - 5mn*

16:45-16:50 **Saranya Ganesh Sudheesh** Causal Discovery to Improve Machine Learning-Based Tropical Cyclone Intensity Predictions  
*Questions & change speaker - 5mn*

16:55-17:05 **Tom Beucler** Data-Driven Hierarchies for Climate Process Modeling  
*Questions - 5mn*

17:15-18:30 Apéro & poster session