



## Programme:

### Tuesday 4 February 2020

**10:00** Arrival, welcome coffee & registration

**11:00** Welcome Notes

**Session Chair:** Prof Dr Markus Leuenberger

**Prof Dr Christian Leumann**, Rector University of Bern

**Dr Christian Barth**, Director General of the Bavarian Ministry of the Environment and Consumer Protection, Germany

**Christoph Neuhaus**, State Councillor of the Canton of Berne

**Dr Paul Steffen**, Vice Director of the Federal Office for the Environment (FOEN)

**Prof Michael Bittner**, VAO Coordinator and Chair of the VAO Board

**Video Welcome Note** by **André Jol**, Head of the Adaptation and LULUCF Division, European Environment Agency

**12:00** Session I: Atmospheric and climatic variability (gases)

**Session Chair:** Dr Martin Steinbacher

**12:00** Key Note: Prof Michael Rast, ESA/ESRIN, Italy

**12:30** THE JOSEFINA PROJECT: MONITORING AND SIMULATION OF URBAN POLLUTION PLUMES

*Frank Baier, Ehsan Khorsandi, Thilo Erbertseder*

**12:45** NINE YEARS OF CONTINUOUS CO<sub>2</sub> AND δ<sup>13</sup>C STABLE ISOTOPE RATIO MEASUREMENTS AT JUNGFRAUJOCH INTERPRETED WITH ATMOSPHERIC TRANSPORT SIMULATIONS

*Simone M. Pieber, Béla Tuzson, Stephan Henne, Ute Karstens, Dominik Brunner, Armin Jordan, Heiko Moossen, Michael Rothe, Martin Steinbacher, Lukas Emmenegger*

**13:00** Lunch and group photo / Closed Side-meeting (Room S357)

**14:00** Session I: Atmospheric and climatic variability (cont'd, gases)

**Session Chair:** Dr Martin Steinbacher

**14:00** SIMULATING ATMOSPHERIC TRACER TRANSPORT TOWARDS AND CONCENTRATIONS AT THE HIGH ALTITUDE OBSERVATORY JUNGFRAUJOCH

*Stephan Henne, Dominik Brunner, Martin K. Vollmer, Martin Steinbacher, Stefan Reimann, Lukas Emmenegger*

**14:15** Session I: Atmospheric and climatic variability (circulation)

**Session Chair:** Dr Martin Steinbacher

**14:15** CHANGE OF THE ACTIVITY OF PLANETARY WAVES: POSSIBLE CONSEQUENCES FOR THE OZONE DISTRIBUTION

*Lisa Küchelbacher, Michael Bittner*

14:30 **INFLUENCE OF ATMOSPHERIC WINDS ON THE PROPAGATION DIRECTION OF GRAVITY WAVES**  
*Patrick Hannawald, Sabine Wüst, Michael Bittner, Friederike Lilienthal, Christoph Jacobi*

14:45 **TEMPERATURE AND PRECIPITATION ANOMALIES AT MOUNT ZUGSPITZE IN RELATION TO NORTH-ATLANTIC-EUROPEAN ATMOSPHERIC CIRCULATION AND TELECONNECTION PATTERNS**  
*Jucundus Jacobeit, Markus Homann*

15:00 **FIRST HINTS FOR THE INFLUENCE OF PLANETARY WAVES ON THE OCCURRENCE OF MIDLATITUDE EXTREME TEMPERATURE EVENTS**  
*Dominik Laux, Lisa Küchelbacher, Michael Bittner*

15:15 **VARIABILITY OF THE BRUNT-VÄISÄLÄ FREQUENCY AT THE OH\*-LAYER HEIGHT AT LOW AND MID LATITUDES**  
*Sabine Wüst, Michael Bittner, Jeng-Hwa Yee, Martin G. Mlynczak, James M. Russell*

**15:30 Coffee break**

**16:00 Session I: Atmospheric and climatic variability (aerosol)**  
**Session Chair:** Prof Dr Ernest Weingartner

**16:00 Key Note:** Prof Dr Tuukka Petäjä, University of Helsinki

16:30 **MULTIDECADAL TREND ANALYSIS OF AEROSOL PROPERTIES AT A GLOBAL SCALE: CHARACTERISTIC OF HIGH ALTITUDE STATIONS**  
*M. Collaud Coen, E. Andrews, B. Brem, H. Flentje, K. Sellegri, A. Marinoni, C. Couret, T. Arsov*

16:45 **IN-SITU MEASUREMENTS OF BLACK CARBON PARTICLE SCAVENGING IN CLOUDS AT THE HIGH-ALPINE SITE JUNGFRAUJOCH**  
*Martin Gysel-Beer, Ghislain Motos, Joel C. Corbin, Marco Zanatta, Urs Baltensperger, Robin L. Modini, Julia Schmale*

17:00 **AVHRR AOD UNCERTAINTY PROPAGATION**  
*Thomas Popp*

17:15 **VOLCANIC SIGNATURES IN THE 20 YEARS TIME SERIES OF ATMOSPHERIC MEASUREMENTS AT THE SCHNEEFERNERHAUS**  
*Werner Thomas, B. Briel, T. Elste, H. Flentje, R. Holla, F. Klein, U. Köhler, D. Kubistin, I. Mattis, C. Plass-Dülmer*

17:30 **OBSERVATORY MILEŠOVKA: OVERVIEW OF CLOUD, PRECIPITATION AND AEROSOL RESEARCH**  
*Pavel Sedlák*

**17:45 Session I: Atmospheric and climatic variability (clouds)**  
**Session Chair:** Prof Dr Urs Baltensperger

17:45 **RACLETS CAMPAIGN: A QUEST FOR THE ORIGIN OF ICE CRYSTALS IN ALPINE CLOUDS**  
*Jan Henneberger, Alexander Beck, Zane Dedekind, Annika Lauber, Julie Pasquier, Fabiola Ramelli, Michael Rösch, Jörg Wieder, Zamin Kanji, Ulrike Lohmann, Claudia Mignani, Michael Lehning, Benjamin Walter, Alexis Berne, Athanasios Nenes, Aikaterini Bougiatioti, Johannes Bühl, Ronny Engemann, Maxime Hervo, Yves-Alain Roulet*

18:00 **REMOTE SENSING OF THE UPPER MESOSPHERE / LOWER THERMOSPHERE (UMLT): GRAVITY WAVES AND A SHORT GLIMPSE ON INFRASOUND (PROJECTS VOCAS-ALP AND WAVE)**  
*René Sedlak, Sabine Wüst, Carsten Schmidt, Alexandra Zuhr, Michael Bittner*

18:15 **A NEW INSTRUMENT FOR CONTINUOUS MONITORING OF ICE NUCLEATING PARTICLES**  
*Cyril Brunner, Zamin A. Kanji*

18:30 **CLIMATE SERVICES FOR THE ALPINE REGION: THE ROLE OF SEASONAL FORECAST FOR MANAGING CLIMATE INFORMATION**

*Marcello Petitta, Alice Crespi, Mattia Callegari, Felix Greifeneder, Claudia Notarnicola, Marc Zebisch, Alberto Troccoli*

18:45 **10 YEARS OF MESOPAUSE TEMPERATURE OBSERVATIONS AT THE ENVIRONMENTAL RESEARCH STATION "SCHNEEFERNERHAUS"**

*Carsten Schmidt, Lisa Küchelbacher, Patrick Hannawald, Sabine Wüst, Michael Bittner*

19:00 **End of Session I**

## Wednesday 5 February 2020

09:00 **Session II : Climate impact on Alpine environment, hazards and risks**

**Session Chair:** PD Dr Sabine Wüst

09:00 **Key Note:** Dr Marianna Elmi, Vice Secretary General Alpine Convention

09:20 **Key Note:** Dr Petr Blížkovský, Secretary General Committee of the Regions

09:45 **DAVOS-WEISSFLUJJOCH: AN ALPINE HOTSPOT OF INTERDISCIPLINARY ENVIRONMENTAL OBSERVATIONS**

*Marty C., Bebi P., Phillips M., Fierz C.*

10:00 **CZECH GROUND MEASUREMENTS OF ATMOSPHERIC DYNAMICS AND COLLABORATION WITH MOUNTAIN OBSERVATORIES**

*Chum, Jaroslav, Jan Laštovička, Ronald Langer, Jiří Baše, Jan Ruzs, Igor Strhárský*

10:15 **Coffee break**

10:45 **Session II : Climate impact on Alpine environment, hazards and risks (cont'd)**

**Session Chair:** PD Dr Sabine Wüst

10:45 **CHANGING SNOW COVER CONDITIONS IN EUROPEAN MOUNTAINS BASED ON A 35-YEAR TIME SERIES OF HIGH RESOLUTION REMOTE SENSING DATA**

*Andreas Dietz, Hu Zhongyang, Ya-Lun Tsai, Claudia Künzer*

11:00 **ALPSENSE: ALPINE REMOTE SENSING OF CLIMATE-INDUCED NATURAL HAZARDS: A MULTI-METHOD HAZARD PREDICTION**

*Krautblatter Michael, Mayer Christoph, Münzer Ulrich, Siegert Florian, Stilla Uwe, Wunderlich Thomas, Kraushaar Sabine, Keuschnig Markus, Leinauer Johannes*

11:15 **End of Session II**

11:15 **Session III : Alpine water cycle**

**Session Chair:** Dr Marc Zebisch

11:15 **A VERY HIGH-RESOLUTION REGIONAL CLIMATE SIMULATION FOR CENTRAL EUROPE AND COUPLED HYDROLOGICAL AND SNOW COVER SIMULATIONS**

*Michael Warscher, Patrick Laux, Ulrich Strasser, Harald Kunstmann*

11:30 **SIMULATED FUTURE RUNOFF REGIME CHANGES FOR A GLACIERIZED MONITORING CATCHMENT IN THE ÖTZTAL ALPS, AUSTRIA**

*Ulrich Strasser, Michael Warscher, Florian Hanzer*

11:45 **RUNOFF SEPARATION OF THE PARTNACH RIVER BY MEANS OF DIFFERENT METHODS**

*Stefan Weishaupt, Karl-Friedrich Wetzel*

12:00 **NEW TRANSIENT HYDROLOGICAL SCENARIOS AND TIME OF EMERGENCE FOR ALPINE CATCHMENTS IN SWITZERLAND**

*Regula Mülchi, Ole Rössler, Jan Schwanbeck, Rolf Weingartner, Olivia Martius*

12:15	Eagle Wings Project
12:45	Lunch
14:00	Poster Exhibition (author attendance) (Session I – V)
1	<b>COMPLEX MONITORING OF THE ATMOSPHERE AT BEO MOUSSALA</b> <i>Christo Angelov</i>
1	<b>WATER VAPOUR TRENDS IN SWITZERLAND FROM RADIOMETRY, FTIR AND GNSS GROUND STATIONS</b> <i>Leonie Bernet, Elmar Brockmann, Thomas von Clarmann, Niklaus Kämpfer,, Emmanuel Mahieu, Christian Mätzler, Gunter Stober, Klemens Hocke</i>
1	<b>SMALL-SCALE SPATIAL VARIABILITY OF AEROSOL PARAMETERS AROUND JUNGFRAUJOCH, SWITZERLAND (3580 M A.S.L.). PARALLEL AEROSOL MEASUREMENTS AT AN ADJACENT MOUNTAIN RIDGE</b> <i>Nicolas Bukowiecki, Benjamin Brem, Maxime Hervo, Martine Collaud Coen, Stéphane Affolter, Markus Leuenberger, Günther Wehrle, Urs Baltensperger, Martin Gysel</i>
1	<b>CLIMATE RELEVANT OPTICAL AND MICROPHYSICAL PROPERTIES OF WILDFIRE PARTICULATE MATTER IN THE FREE TROPOSPHERE</b> <i>Benjamin T. Brem, Günther Wehrle and Martin Gysel-Beer</i>
1	<b>RADIOCARBON MEASUREMENTS OF ATMOSPHERIC METHANE</b> <i>C. Espic, M. Battaglia, R. Schanda, M. Leuenberger, S. Szidat</i>
1	<b>COMPARISON OF ATMOSPHERIC CO, CO<sub>2</sub> AND CH<sub>4</sub> MEASUREMENTS AT SCHNEEFERNERHAUS AND THE MOUNTAIN RIDGE AT ZUGSPITZE</b> <i>A. Hoheisel, C. Couret, M. Schmidt</i>
1	<b>HISTORICAL SNOW COVER AND WINTER TEMPERATURE EVOLUTION IN AUSTRIA OVER THE PERIOD 1950-2019</b> <i>Roland Koch, Marc Olefs, Wolfgang Schöner</i>
1	<b>45 YEARS OF ATMOSPHERIC IN-SITU OBSERVATIONS AT JUNGFRAUJOCH</b> <i>Martin Steinbacher, Christoph Hueglin, Stefan Reimann, Dominik Brunner, Brigitte Buchmann, Lukas Emmenegger</i>
1	<b>STRATOSPHERIC INTRUSIONS AT JUNGFRAUJOCH</b> <i>Martin Steinbacher, Martin K. Vollmer, Franz Conen, Stefan Reimann</i>
2	<b>UNDERSTANDING GROUNDWATER CONNECTIVITY AND STORAGE IN ALPINE GLACIATED CATCHMENTS – THE CASE OF THE OTEMMA GLACIER</b> <i>Tom Müller, Bettina Schaepli, Stuart Lane</i>
3	<b>SEASONAL SNOW AGES WATER FROM ALPINE CATCHMENTS IN UNEXPECTED WAYS</b> <i>Natalie Ceperley, Giulia Zuecco, Harsh Beria, Anthony Michelon, Bettina Schaepli</i>
3	<b>MONITORING SNOW MELTING FROM SATELLITE</b> <i>Carlo Marin</i>
5	<b>FROM DATA TO KNOWLEDGE – A STREAM PROCESSING ARCHITECTURE FOR THE ALPENDAC PLATFORM TO TRIGGER COMPUTING AND MEASUREMENT OPERATIONS</b> <i>J. Munke, A. Götz, H. Heller, S. Hachinger, D. Laux, O. Goussev, J. Handschuh, S. Wüst, M. Bittner, R. Mair, B. Wittmann, T. Rehm, I. Beck, M. Neumann</i>
5	<b>GEO GNOME – GLOBAL NETWORK FOR OBSERVATIONS AND INFORMATION IN MOUNTAIN ENVIRONMENTS</b> <i>Carolina Adler, Aino Kulonen</i>

**5 PREPARATION OF THE ESA FORUM (EARTH-EXPLORER-9) MISSION: VALIDATION OF THE FIRMOS PROTOTYPE BY E-AERI AND LIDAR AT THE ZUGSPITZE**  
*R. Sussmann, H. Vogelmann, M. Rettinger, C. Belotti, M. Gai, G. Di Natale, L. Palchetti*

**15:00 End of Poster Session & Coffee break**

**15:30 Session V: Improving the VAO Infrastructure**  
**Session Chair:** Prof Dr Heinz Gaggeler

**15:30 ALPENDAC – THE ALPINE ENVIRONMENTAL DATA ANALYSIS CENTRE**  
*D. Laux, O. Goussev, J. Handschuh, S. Wüst, M. Bittner, A. Götz, H. Heller, J. Munke, R. Mair, B. Wittmann, T. Rehm, I. Beck, M. Neumann*

**15:45 ALPCLIMNET: A NETWORK FOR CLIMATE PROTECTION IN THE ALPINE SPACE**  
*Elena Kalusche, Michael Bittner*

**16:00 IMPLEMENTING “OPERATING ON DEMAND” INFRASTRUCTURE - FIRST STEPS INTEGRATING FAIM AND GRIPS INSTRUMENTS**  
*Oleg Goussev, Patrick Hannawald*

**16:15 INFRASTRUCTURE OF THE GLACIOLOGICAL MONITORING AT PASTERZE AND THE GLACIERS AROUND MT. SONNBLICK**  
*Marion Greiling, Daniel Binder, Lucia Felbauer, Bernhard Hynek, Anton Neureiter, Stefan Reisenhofer, Wolfgang Schöner, Gernot Weys*

**16:30 FRACTIONATION FOR OXYGEN AT GAS INTAKE LINE**  
*Markus C. Leuenberger, Michael F. Schibig, Peter Nyfeler*

**16:45 FLASK SAMPLING PROGRAM AT JUNGFRAUJOCH**  
*Michael F. Schibig, Markus Leuenberger, Peter Nyfeler*

**17:00 HARMONIZING ACCESS AND PROCESSING OF EO DATA: AN EXAMPLE FROM THE H2020 OPENEO PROJECT**  
*Alexander Jacob*

**17:15 End of Session V**

**19:30 Conference Dinner**

## Thursday 6 February 2020

**09:00 Session IV: Environment and human health**  
**Session Chair:** PD Dr Emrush Rexhaj

**09:00 Key Note:** Prof Dr Urs Baltensperger, Paul Scherrer Institute

**09:30 ARTERIAL HYPERTENSION AND ALTITUDE**  
*Franz Messerli*

**09:45 PULMONARY ARTERIAL PRESSURE AT REST AND DURING EXERCISE IN CHRONIC MOUNTAIN SICKNESS**  
*Rodrigo Soria*

**10:00 CHILDREN AND HIGH ALTITUDE**  
*Inselspital (NN)*

**10:15 ATMOSPHERIC MERCURY DEPOSITION AND ACCUMULATION IN ALPINE ECOSYSTEMS**  
*Mirjam Dietrich, Gabriela Ratz, Matthias Mauder, Till Rehm, Wolfgang Moche, Monika Denner, Jürgen Diemer, Karl-Friedrich Wetzel, Korbinian P. Freier*

**10:30 Coffee break**

**11:00 Session IV: Environment and human health (cont'd)**

**Session Chair:** PD Dr Emrush Rexhaj

**11:00 WHY COSMIC RAY MONITORING AT HIGH ALTITUDE?**

*Rolf Bütikofer*

**11:15 IMPACT OF DESERT DUST CONTRIBUTIONS TO PM10 LIMIT VALUE EXCEEDANCE IN STYRIA (SOUTHERN AUSTRIA) FROM 2013-2018**

*Marion Greiling, Johannes Zbiral, Anne Kasper-Giebl*

**11:30 INFLUENCE OF ENVIRONMENTAL CHARACTERISTICS ON SECONDARY COSMIC RAY NEUTRON FLUX AT THE TWO HIGH-ALTITUDE RESEARCH STATIONS JUNGFRAUJUCH AND ZUGSPITZE**

*Thomas Brall, Vladimir Mares, Werner Rühm, Rolf Bütikofer*

**11:45 AIRBORNE POLLEN AND FUNGAL SPORES WHERE AEROALLERGENS SHOULD NOT EXIST: WHERE IS IT SAFE FOR ALLERGIC PATIENTS?**

*Maria P. Plaza, Daniela Bayr, Franziska Kolek, Vivien Leier-Wirtz, Stefanie Gilles, Claudia Traidl-Hoffmann, Athanasios Damialis*

**12:00 TOWARDS A BIOCLIMATIC INFORMATION SYSTEM FOR THE ALPS**

*Thilo Erbertseder, Lisa Mittelstädt, Lorenza Gilardi, Oleg Goussev, Stephan Haching, Claudia-Traidl Hoffman, Michael Bittner*

**12:15 LONG TERM ANALYSIS OF AN AGGREGATE HEALTH RISK DUE TO THE EXPOSURE TO AIR POLLUTION ON A BROAD AREA COVERAGE**

*Lorenza Gilardi, T. Erbertseder, L. Mittelstädt, F. Baier, M. Bittner*

**12:30 CITIZEN SCIENCE – RESEARCH INTERFACE BETWEEN ENVIRONMENT AND HEALTH?**

*Gertrud Hammel, Katharina Harter, Claudia Traidl-Hoffmann*

**12:45 End of Session IV and Lunch**

**13:15 Lunch / Poster Session**

**14:00 Splinter Meetings**

**AlpEnDAC – Workshop** (*please bring your own laptop*)

(...)

**15:30 End of symposium**

**16:00 -17:00 Closed Side-meeting VAO Board (Room S357)**