



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 CO₂ AND δ¹³C 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 S 357)

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
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- 14:45 **TEMPERATURE AND PRECIPITATION ANOMALIES AT MOUNT ZUGSPITZE IN RELATION TO NORTH-ATLANTIC-EUROPEAN ATMOSPHERIC CIRCULATION AND TELECONNECTION PATTERNS**
Jucundus Jacobeit, Markus Homann
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- 15:00 **FIRST HINTS FOR THE INFLUENCE OF PLANETARY WAVES ON THE OCCURRENCE OF MIDLATITUDE EXTREME TEMPERATURE EVENTS**
Dominik Laux, Lisa Küchelbacher, Michael Bittner
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- 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
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- 15:30 Coffee break**
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- 16:00 Session I: Atmospheric and climatic variability (aerosol)**
Session Chair: Prof Dr Ernest Weingartner
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- 16:00 Key Note:** Prof Dr Tuukka Petäjä, University of Helsinki
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- 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
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- 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
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- 17:00 **AVHRR AOD UNCERTAINTY PROPAGATION**
Thomas Popp
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- 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
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- 17:30 **OBSERVATORY MILEŠOVKA: OVERVIEW OF CLOUD, PRECIPITATION AND AEROSOL RESEARCH**
Pavel Sedlák
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- 17:45 Session I: Atmospheric and climatic variability (clouds)**
Session Chair: Prof Dr Ulrike Lohmann
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- 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 Engelmann, Maxime Hervo, Yves-Alain Roulet
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- 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
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- 18:15 **A NEW INSTRUMENT FOR CONTINUOUS MONITORING OF ICE NUCLEATING PARTICLES**
Cyril Brunner, Zamin A. Kanji
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- 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 **RECENT SCIENTIFIC INSIGHTS from the long-term COMPrehensive observations in high alpine ENVIRONMENTS**

Tuukka Petäjä, Mikko Sipilä, Tuija Jokinen, Federico Bianchi, Heikki Junninen, Jenni Kontkanen, Katrianne Lehtipalo, Markku Kulmala and Urs Baltensperger

19:15 **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 Marianne 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 <i>Stefan Weishaupt, Karl-Friedrich Wetzel</i>
12:00	NEW TRANSIENT HYDROLOGICAL SCENARIOS AND TIME OF EMERGENCE FOR ALPINE CATCHMENTS IN SWITZERLAND <i>Regula Mülchi, Ole Rössler, Jan Schwanbeck, Rolf Weingartner, Olivia Martius</i>
12:15	Eagle Wings Project
12:45	Lunch
14:00	Poster Exhibition (author attendance) (Session I – V)
1	COMPLEX MONITORING OF THE ATMOSPHERE AT BEO MOUSSALA <i>Christo Angelov</i>
1	WATER VAPOUR TRENDS IN SWITZERLAND FROM RADIOMETRY, FTIR AND GNSS GROUND STATIONS <i>Leonie Bernet, Elmar Brockmann, Thomas von Clarmann, Niklaus Kämpfer., Emmanuel Mahieu, Christian Mätzler, Gunter Stober, Klemens Hocke</i>
1	SMALL-SCALE SPATIAL VARIABILITY OF AEROSOL PARAMETERS AROUND JUNGFRAUJOCH, SWITZERLAND (3580 M A.S.L.). PARALLEL AEROSOL MEASUREMENTS AT AN ADJACENT MOUNTAIN RIDGE <i>Nicolas Bukowiecki, Benjamin Brem, Maxime Hervo, Martine Collaud Coen, Stéphane Affolter, Markus Leuenberger, Günther Wehrle, Urs Baltensperger, Martin Gysel</i>
1	CLIMATE RELEVANT OPTICAL AND MICROPHYSICAL PROPERTIES OF WILDFIRE PARTICULATE MATTER IN THE FREE TROPOSPHERE <i>Benjamin T. Brem, Günther Wehrle and Martin Gysel-Beer</i>
1	RADIOCARBON MEASUREMENTS OF ATMOSPHERIC METHANE <i>C. Espic, M. Battaglia, R. Schanda, M. Leuenberger, S. Szidat</i>
1	COMPARISON OF ATMOSPHERIC CO, CO₂ AND CH₄ MEASUREMENTS AT SCHNEEFERNERHAUS AND THE MOUNTAIN RIDGE AT ZUGSPITZE <i>A. Hoheisel, C. Couret, M. Schmidt</i>
1	HISTORICAL SNOW COVER AND WINTER TEMPERATURE EVOLUTION IN AUSTRIA OVER THE PERIOD 1950-2019 <i>Roland Koch, Marc Olefs, Wolfgang Schöner</i>
1	45 YEARS OF ATMOSPHERIC IN-SITU OBSERVATIONS AT JUNGFRAUJOCH <i>Martin Steinbacher, Christoph Hueglin, Stefan Reimann, Dominik Brunner, Brigitte Buchmann, Lukas Emmenegger</i>
1	STRATOSPHERIC INTRUSIONS AT JUNGFRAUJOCH <i>Martin Steinbacher, Martin K. Vollmer, Franz Conen, Stefan Reimann</i>
2	UNDERSTANDING GROUNDWATER CONNECTIVITY AND STORAGE IN ALPINE GLACIATED CATCHMENTS – THE CASE OF THE OTEMMA GLACIER <i>Tom Müller, Bettina Schaefli, Stuart Lane</i>
3	SEASONAL SNOW AGES WATER FROM ALPINE CATCHMENTS IN UNEXPECTED WAYS <i>Natalie Ceperley, Giulia Zuecco, Harsh Beria, Anthony Michelin, Bettina Schaefli</i>
3	MONITORING SNOW MELTING FROM SATELLITE <i>Carlo Marin</i>
5	FROM DATA TO KNOWLEDGE – A STREAM PROCESSING ARCHITECTURE FOR THE ALPENDAC PLATFORM TO TRIGGER COMPUTING AND MEASUREMENT OPERATIONS

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

5 GEO GNOME – GLOBAL NETWORK FOR OBSERVATIONS AND INFORMATION IN MOUNTAIN ENVIRONMENTS

Carolina Adler, Aino Kulonen

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 Gäggeler

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 Greilinger, Daniel Binder, Lucia Felbauer, Bernhard Hynek, Anton Neureiter, Stefan Reisenhofer, Wolfgang Schöner, Gernot Weyss

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 2018

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 Greilinger, Johannes Zbiral, Anne Kasper-Giebl

11:30 **INFLUENCE OF ENVIRONMENTAL CHARACTERISTICS ON SECONDARY COSMIC RAY NEUTRON FLUX AT THE TWO HIGH-ALTITUDE RESEARCH STATIONS JUNGFRAUJOCH 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 Hachinger, 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 **HEALTH EFFECTS OF ATMOSPHERIC AEROSOLS**

Urs Baltensperger, Imad El Haddad, Jianhui Jiang, André S.H. Prévôt, Kaspar R. Daellenbach

13:00 End of Session IV and Lunch

13:30 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 S 357)