



VAO Symposium 2017

28 March - 30 March 2017

Venue:

EURAC research

Viale Druso 1

I-39100 Bolzano, Italy

Programme

funded by
Bavarian State Ministry of the
Environment and Consumer Protection





Tuesday 28 March 2017

09:00 Arrival, welcome coffee & snacks

10:00 Welcome Notes

Dr. Martin Frede, Bavarian State Ministry of the Environment and Consumer Protection, Germany

Marianna Elmi, Deputy Secretary General, Permanent Secretariat of the Alpine Convention, Innsbruck, Austria

Prof. Dr. Roland Psenner, President of EURAC research, Bolzano, Italy

Prof. Dr. Michael Bittner, VAO-Coordinator, German Aerospace Center (DLR), Oberpfaffenhofen, Germany

Domenico Gaudioso, Head of Atmosphere and Climate Service, ISPRA, Italy

10:45 Key Note speech

Alpine Monitoring across scales at Eurac Research

Dr. Marc Zebisch, EURAC research, Bolzano, Italy

11:00 Session I: Atmospheric variability and trends Part 1 (Gases)

Session Lead: Prof. Dr. Markus Leuenberger, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland

Long-term trend of ozone at surface sites in the Alpine region

Eirini Boleti, Lukas Emmenegger, Satoshi Takahama, Christoph Hueglin

Contribution of oil and natural gas production to renewed increase in atmospheric methane after 2006: top-down estimate from ethane and methane column observations

Ralf Sussmann, Petra Hausmann, Dan Smale

Integrated observing systems in support of greenhouse gas emission reductions

Martin Steinbacher, Simon A. Wyss, Christoph Hueglin, Stefan Reimann, Markus Leuenberger, Lukas Emmenegger

Application of trajectory clustering and source attribution methods for investigating regional CO₂ and CH₄ concentrations at Germany's highest mountain site

Esther Giemsa, Jucundus Jacobeit, Ludwig Ries, Gabriele Frank, Stephan Hachinger, Julian Meyer-Arnek

Continuous atmospheric CO₂ and its $\delta^{13}\text{C}$ measurements (2012-2014) at environment research station Schneefernerhaus, Germany

Homa Ghasemifard, Ye Yuan, Marvin Luepke, Jia Chen, Ludwig Ries, Annette Menzel



10-years of combined CO₂ and O₂ measurements at two remote sites of Jungfraujoch, Switzerland and Puy de Dome, France

Tesfaye Ayalneh Berhanu, Michael F. Schibig, Markus Leuenberger

12:30 Lunch and Family Photo

13:45 Session I: Atmospheric variability and trends Part 2 (Gases and Aerosols)

Session Lead: Prof. Dr. Markus Leuenberger, Climate and Environmental Physics, Physics Institute, University of Bern, Switzerland

Long-term trends and spatio-temporal changes in atmospheric aerosols at UFS

Jia Sun, Markus Herrmann, Ludwig Ries, Wolfram Birmili, Alfred Wiedensohler

Aerosol observations at three sites at and around Jungfraujoch

Erik Herrmann, Nicolas Bukowiecki, Martin Gysel, Günther Wehrle, Stephan Henne, Martin Steinbacher, Yann Poltera, Urs Baltensperger

Impact of Saharan dust on deposition loads at a remote high alpine monitoring site in Austria

Marion Greiling, Daniela Kau, Gerhard Schauer, Anne Kasper-Giebl

Global and regional a posteriori validation of the Copernicus Atmosphere Monitoring Service products

Annette Wagner

Ten-year monitoring of PCDD/F and PCB in ambient air and deposition at Alpine summits

Wolfgang Moche, Peter Bleuler, Korbinian P. Freier, Gert Jakobi, Manfred Kirchner, Elke Ludwig, Marcus Schaub, Karl-Werner Schramm, Peter Weiss

15:15 Coffee Break

15:45 Session I: Atmospheric variability and trends Part 3 (Meteo and Physics)

Session Lead: Prof. Dr. Heinz Gäggeler, Paul Scherrer Institute (PSI), Villigen, Switzerland

Climate scenarios and remote sensing observations: observing the present for interpreting the future

Marcello Petitta, Michael Matiu, Mattia Callegari, Carlo Marin, Alexander Jacob, Claudia Notarnicola, Marc Zebisch

A European ceilometers and lidar network for aerosol profiling

Werner Thomas, Ina Mattis, Frank Wagner, Margit Pattantyus-Abraham, Harald Flentje



Radar-lidar synergy for retrieving the microphysical properties of ice clouds

Andreas Reichegger, Tobias Zinner, Bernhard Mayer, Ralf Sussmann, Markus Rettinger, Hannes Vogelmann

Trends and variability of planetary wave activity in the stratosphere during the last 37 years

Lisa Küchelbacher, Sabine Wüst, Michael Bittner

Cross-national investigation of atmospheric dynamics in mountainous regions

Sabine Wüst, Patrick Hannawald, René Sedlak, Carsten Schmidt, Michael Bittner

Small-scale wavelike structures in the Alpine region observed in OH-airglow - comparison of measurements at Oberpfaffenhofen, Germany and Sonnblick, Austria

Patrick Hannawald, René Sedlak, Carsten Schmidt, Sabine Wüst, Michael Bittner

High resolution observations of small scale gravity waves and turbulence features in the OH airglow layer

René Sedlak, Patrick Hannawald, Carsten Schmidt, Sabine Wüst, Michael Bittner

Alpine Glaciers as local climate indicators – A Project to explore climate change on a regional scale, based on long-term observations

Markus Weber, Charalampos Charalampidis, Christoph Mayer

17:45 VAO Strategy

Prof. Dr. Michael Bittner, VAO-Coordinator, German Aerospace Center (DLR), Oberpfaffenhofen, Germany

19:00 Dinner at EURAC



Wednesday 29 March 2017

09:00 Session II: Alpine water supply Part 1

Session Lead: Dr. Elke Ludewig, Head of the Sonnblick Observatory, Austria

Spatial variation of forest fire danger in mountainous terrain

Christian Schunk, Nils Kern, Annette Menzel

Temporal and spatial distribution of radionuclides and stable water isotopes in the water cycle of an alpine catchment

Anne Pirk, Kerstin Hürkamp, Nadine Zentner, Christine Stumpp, Jochen Tschiersch

Influence of turbulence on the mixed clouds

Jan Moláček, Gholamhossein Bagheri, Eberhard Bodenschatz, Martin Hagen, Ulrike Lohmann

Monitoring Alpine water resources using satellite data

Carlo Marin, Mattia Callegari, Felix Greifeneder, Claudia Notarnicola, Marc Zebisch

Observation of orographic clouds in Alpine terrain with a holographic imager (HOLIMO)

Alexander Beck, Fabiola Ramelli, Jan Henneberger, Ulrike Lohmann

The local impact of climate change on the Alpine mountains Zugspitze and Sonnblick

Severin Kaspar, Andreas Philipp, Jucundus Jacobeit

10:30 Coffee Break

11:00 Session II: Alpine water supply Part 2

Session Lead: Dr. Elke Ludewig, Head of the Sonnblick Observatory, Austria

From local to global. The Environmental Research Station Schneesfernerhaus (UFS) as part of the international network of Alpine research catchment hydrology (INARCH)

Matthias Bernhardt, Karsten Schulz

Cloud observations at Schneesfernerhaus using a cloud radar

Martin Hagen, Axel Häring

Tracer-based hydrological investigations and monitoring in the Partnach region

Stefan Weishaupt, Karl-Friedrich-Wetzel

Observing and modelling soil moisture dynamics of mountain grasslands in South Tyrol

Giacomo Bertoldi, Claudia Notarnicola, Felix Greifeneder, Emanuele Cordano, Stefano Della Chiesa, Georg Niedrist, Ulrike Tappeiner

Using terrestrial LIDAR to monitor snow cover and to improve the hydrological modelling on the Zugspitzplatt

Michael Weber, Matthias Bernhardt, Ralf Ludwig

12:15 Lunch



13:30 Session V: Infrastructure and technology for environmental/high altitude research Part 1

Session Lead: Dr. Anton Frank, Leibniz Supercomputing Centre of the Bavarian Academy of Sciences and Humanities, Garching, Germany

Temperature profiling with the UFS Raman-Lidar

Hannes Vogelmann, Lisa Klanner, Thomas Trickl

An interdisciplinary open-air laboratory between apple orchards and glaciers: the long-term (socio)-ecological research site Matsch/Mazia (Italian Alps)

Georg Niedrist, Veronika Fontana, Roberta Bottarin, Giacomo Bertoldi, Julia Seeber, Francesco Comiti, Ulrike Tappeiner

Aerosol measurement station 4.0 (AMS 4.0)

Marcus Hank, Markus Neumann, Wolfgang Junkermann, Andreas Philipp, Thomas Trickl, Hannes Vogelmann, Volker Ziegler

An integrated information system for environmental monitoring in South Tyrol

Roberto Monsorno, Bartolomeo Ventura, Andrea Vianello, Daniel Marsh-Hunn, Alexander Jacob, Armin Costa

Comparison of particle size distributions from APS and OPS at Schneefernerhaus Research Station

Harald Flentje, Björn Briel, Ludwig Ries

Extreme environment Simulator

Andrea Nollo, Hermann Brugger, Giacomo Strapazon, Rachel Turner, Andrea Vilardi, Georg Niedrist

15:00 Coffee Break

15:30 Session V: Infrastructure and technology for environmental/high altitude research Part 2

Session Lead: Dr. Anton Frank, Leibniz Supercomputing Centre of the Bavarian Academy of Sciences and Humanities, Garching, Germany

Seamless integration of satellite and surface data

Frank Baier, Julian Meyer-Arnek

AlpEnDAC – The Alpine environmental data analysis centre: an overview

Christoph Harsch, Stephan Hachinger, Julian Meyer-Arnek, Anton C. Frank, Helmut Heller, Till Rehm, Michael Bittner

Sentinel Alpine observatory – Services & infrastructure

Alexander Jacob, Armin Costa, Bartolomeo Ventura, Andrea Vianello, Sarah Asam, Carlo Marin, Roberto Monsorno, Marc Zebisch

Computing on Demand (COD) – Simulations in the AlpEnDAC

Stephan Hachinger, Christoph Harsch, Julian Meyer-Arnek, Anton C. Frank, Helmut Heller



WRF – Meteorological forecasting for the AlpEnDAC

Christoph Harsch, Stephan Hachinger, Julian Meyer-Arneke, Anton C. Frank, Helmut Heller

17:00 End of presentations

18:30 (~ 2 hours)

Guided City Tour 'Discovering Bolzano'

18:30 (~ 1.5 hours)

Guided Tour 'Ötzi' in the South Tyrol
Museum of Archaeology



Thursday 30 March 2017

09:00 Session IV: Environmental/high altitude medicine

Session Lead: Rachel Turner, Institute of Mountain Emergency Medicine, EURAC research

Organochlorine pesticides at high Alpine monitoring stations

Karl-Werner Schramm, Manfred Kirchner, Gert Jakobi, Wolfgang Körner, Walkiria Levy, Wolfgang Moche, Bernhard Niedermoser, Marcus Schaub, Ludwig Ries, Peter Weiss, Bernd Bussian, Felix Anritter, Norbert Fischer, Bernhard Henkelmann

Exposure to allergenic pollen in alpine versus urban environments: switching off allergic symptoms in 'safe' environments?

Megan Fleming, Gertrud Hammel, Franziska Häring, Sebastian Bezold, Nikolaos Bounas-Pyrros, Antonia Todorova, Marianne Thomas, Adam Chaker, Stefanie Gilles, Athanasios Damialis, Claudia Traidl-Hoffmann

A physiological window for detecting high altitude stress

Rachel Turner, Tomas Dal Cappello, Sandro Malacrida, Hermann Brugger, Giacomo Strapazon

Effect of rapid high altitude exposure on total body water dynamics among healthy humans in the Italian Alps

Matiram Pun, Giacomo Strapazon, Georg Hofer, Tomas Dal Cappello, Karla Balkenhol, Emily Procter, Antonio Piccoli, Hermann Brugger

10:00 Coffee Break

10:30 Poster exhibition

12:00 Lunch

13:00 Session III: Alpine environment: dangers and risks Part 1

Session Lead: Dr. Marc Zebisch, EURAC research, Bolzano, Italy

Mapping of Land Surface Phenology using a new MODIS product: A case study of Bavarian Forest National Park

Gourav Misra, Allan Buras, Sarah Asam, Annette Menzel

Immission and deposition of flame retardants determined in high Alpine monitoring stations and corresponding accumulation in honey bees

Regina Wachinger, Wolfgang Körner, Ullrich Waller, Wolfgang Moche, Korbinian P. Freier, Sergio Angeli, Kerstin Leopold, Gert Jakobi, Manfred Kirchner

Effects of climate change on tourism in selected regions of the Alps

Michael Bischof



Multi-sensor proximal and remote sensing observations for slope surface deformation monitoring

Romy Schlögel, Mattia Callegari, Christian Kofler, Marcello Petitta, Mehdi Darvishi, Giovanni Cuzzo, Abraham Mejia Aguilar

14:00 Coffee Break

14:30 Session III: Alpine environment: dangers and risks Part 2

Session Lead: Dr. Marc Zebisch, EURAC research, Bolzano, Italy

Secondary neutrons at the UFS – A unique neutron reference field for cosmic rays and hadron therapy

Vladimir Mares, Thomas Brall, Gerhard Donth, Werner Rühm

Measurement of secondary cosmic ray neutrons at the high altitude Research Station Jungfraujoch

Thomas Brall, Rolf Bütikofer, Gerhard Donth, Werner Rühm, Vladimir Mares

The GRETA project – Near-surface geothermal resources in the territory of the Alpine Space

Fabian Böttcher

15:15 Wrap Up and Outlook

State Minister Ulrike Scharf, Bavarian State Ministry of the Environment and Consumer Protection, Germany

Prof. Dr. Michael Bittner, VAO-Coordinator, German Aerospace Center (DLR), Oberpfaffenhofen, Germany

15:45 End of Symposium

Friday 31 March 2017

9:00 – 15:30 2nd Meeting of the VAO Board (closed session)



General Information

- Scientific presentations:** 10 minutes presentation plus 5 minutes subsequent discussion
In case of oversubscription abstracts for scientific presentations may have to be changed into poster presentations
- Poster presentation:** Posters should be provided on the first meeting day in Bolzano and authors or co-authors should be available on Thursday for the poster session
- Time table:** Morning Sessions on Wednesday & Thursday start at 9 am

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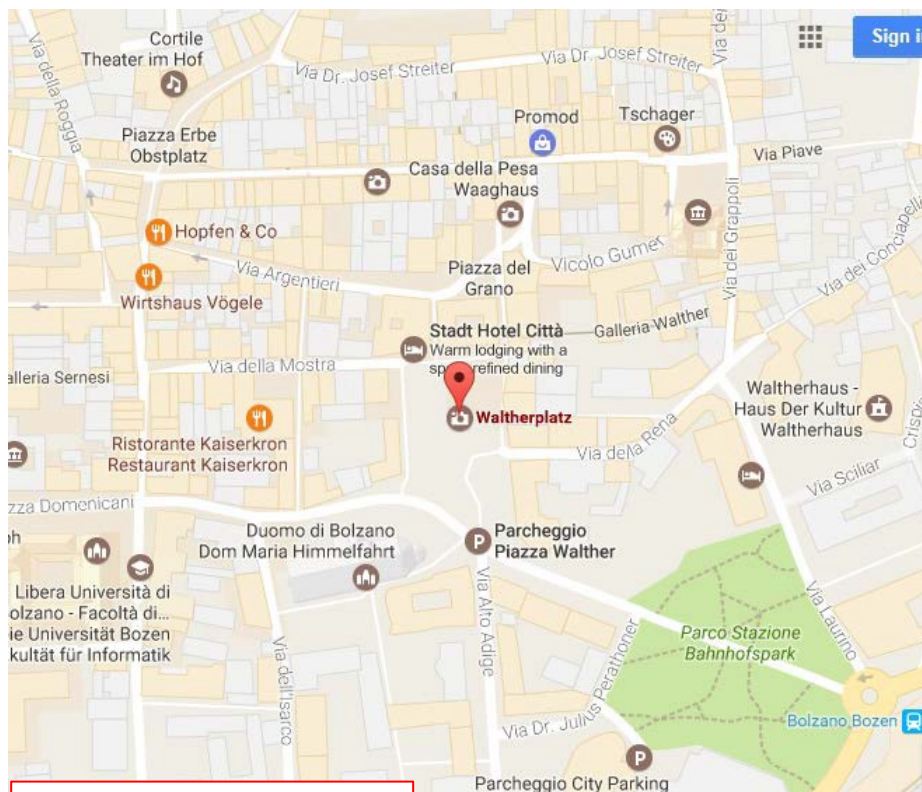
Guided City Tour: 'Discovering Bolzano'

29 March 2017

Time schedule

Timeline: 18:30 – 20:30

Guide: Mr. Stefan Renzler, certified guide of South Tyrol



Starting Point „Waltherplatz“

Meeting Point

Waltherplatz Bolzano, in front of the monument „Walther von der Vogelweide“

Waltherplatz

39100 Bolzano

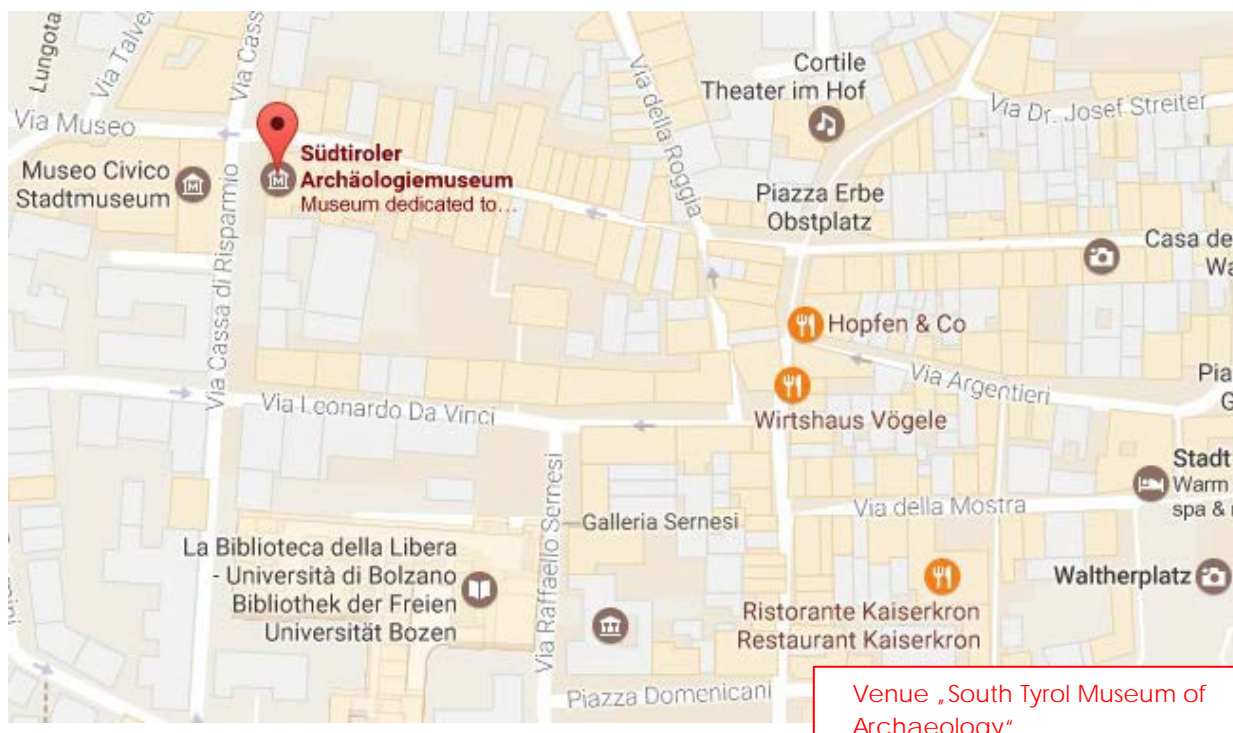


Guided Tour 'Ötzi' in the South Tyrol Museum of Archaeology

29 March 2017

Time schedule

Timeline: 18:30 – 20:00



Meeting Point

South Tyrol Museum of Archaeology

Museumstraße 43

39100 Bolzano