

# Publication list

- 24 Refereed publications
- 1 Master theses
- 44 Conference presentations / posters
- 1 Popular publications and presentations
- 11 Data books and reports

## Refereed publications

Berhanu, T.A., J. Hoffnagle, C. Rella, D. Kimhak, P. Nyfeler, M. Leuenberger, High-precision atmospheric oxygen measurement comparisons between a newly built CRDS analyser and existing measurement techniques, *Atmos. Meas. Tech.*, **12**, 12, 6803-6826, doi: 10.5194/amt-12-6803-2019, 2019. <https://www.atmos-meas-tech.net/12/6803/2019/>

Boleti, E., C. Hueglin, S. Takahama, Trends of surface maximum ozone concentrations in Switzerland based on meteorological adjustment for the period 1990-2014, *Atmospheric Environment*, **213**, 326-336, doi: 10.1016/j.atmosenv.2019.05.018, 2019. <https://doi.org/10.1016/j.atmosenv.2019.05.018>

Bollhöfer, A., C. Schlosser, S. Schmid, M. Konrad, R. Purtschert, R. Kraus, Half a century of Krypton-85 activity concentration measured in air over Central Europe: Trends and relevance for dating young groundwater, *Journal of Environmental Radioactivity*, **205-206**, 7-16, doi: 10.1016/j.jenvrad.2019.04.014, 2019. <https://doi.org/10.1016/j.jenvrad.2019.04.014>

Creamean, J.M., C. Mignani, N. Bukowiecki, F. Conen, Using freezing spectra characteristics to identify ice-nucleating particle populations during the winter in the Alps, *Atmospheric Chemistry and Physics*, **19**, 12, 8123-8140, doi: 10.5194/acp-19-8123-2019, 2019. <https://doi.org/10.5194/acp-19-8123-2019>

Fanourgakis, G.S., M. Kanakidou, A. Nenes, S.E. Bauer, T. Bergman, K.S. Carslaw, ... F. Yu, Evaluation of global simulations of aerosol particle and cloud condensation nuclei number, with implications for cloud droplet formation, *Atmos. Chem. Phys.*, **19**, 8591-8617, 2019. <https://doi.org/10.5194/acp-19-8591-2019>

Giemsa, E., J. Jacobeit, L. Ries, S. Hachinger, Investigating regional source and sink patterns of Alpine CO<sub>2</sub> and CH<sub>4</sub> concentrations based on a back trajectory receptor model, *Environmental Sciences Europe*, **31**, 24, doi: 10.1186/s12302-019-0233-x, 2019. <https://enveurope.springeropen.com/track/pdf/10.1186/s12302-019-0233-x>

Gute, E., L. Lacher, Z.A. Kanji, R. Kohl, J. Curtius, D. Weber, H. Bingemer, H.C. Clemen, J. Schneider, M. Gysel-Beer, S.T. Ferguson, J.P.D. Abbatt, Field evaluation of a Portable Fine Particle Concentrator (PFPC) for ice nucleating particle measurements, *Aerosol Sci. Technol.*, **53**, 9, 1067-1078, doi: 10.1080/02786826.2019.1626346, 2019. <https://doi.org/10.1080/02786826.2019.1626346>

Hammer, S.E., M. Ebert, S. Weinbruch, Comparison of operator- and computer- controlled scanning electron microscopy of particles from different atmospheric aerosol types, *Analytical and Bioanalytical Chemistry*, **411**, 8, 1633-1645, doi: 10.1007/s00216-019-01614-7, 2019. <https://doi.org/10.1007/s00216-019-01614-7>

Harris, S.J., J. Lüsberg, L. Xia, J. Wei, K. Zeyer, L. Yu, B. Wolf, B.F.J. Kelly, D.I. Cendón, T. Blunier and J. Six, N<sub>2</sub>O isotopocule measurements using laser spectroscopy: analyzer characterization and intercomparison, *Atmos. Meas. Tech. Discuss.*, 1-84, 2019. <https://doi.org/10.5194/amt-2019-451>

Mahieu, E., O. Flock, J. Notholt, M. Palm, I. Pardo Cantos, M. Prignon, G. Roland, C. Servais, and A. Verma, Surveillance à long terme de l'atmosphère terrestre à la station du Jungfraujoch, *Bull. Soc. R. Sci. Liège*, **88**, 31-41, doi: 10.25518/0037-9565.9136, 2019. <https://popups.uliege.be/0037-9565/index.php?id=9136>

Mignani, C., J.M. Creamean, L. Zimmermann, C. Alewell, F. Conen, New type of evidence for secondary ice formation at around -15 degrees C in mixed-phase clouds, *Atmos. Chem. Phys.*, **19**, 2, 877-886, doi: 10.5194/acp-19-877-2019, 2019. <https://doi.org/10.5194/acp-19-877-2019>

Motos, G., J. Schmale, J.C. Corbin, R.L. Modini, N. Karlen, M. Berto, U. Baltensperger, M. Gysel-Beer, Cloud droplet activation properties and scavenged fraction of black carbon in liquid-phase clouds at the high-alpine research station Jungfraujoch (3580 m a.s.l.), *Atmos. Chem. Phys.*, **19**, 6, 3833-3855, doi: 10.5194/acp-19-3833-2019, 2019. <https://doi.org/10.5194/acp-19-3833-2019>

Mühle, J., C.M. Trudinger, L.M. Western, M. Rigby, M.K. Vollmer, S. Park, A.J. Manning, D. Say, A. Ganesan, L.P. Steele, D.J. Ivy, T. Arnold, S. Li, A. Stohl, C.M. Harth, P.K. Salameh, A. McCulloch, S. O'Doherty, M.-K. Park, C.O. Jo, D. Young, K.M. Stanley, P.B. Krummel, B. Mitrevski, O. Hermansen, C. Lunder, N. Evangelou, B. Yao, J. Kim, B. Hmiel, C. Buizert, V.V. Petrenko, J. Arduini, M. Maione, D.M. Etheridge, E. Michalopoulou, M. Czerniak, J.P. Severinghaus, S. Reimann, P.G. Simmonds, P.J. Fraser, R.G. Prinn, R.F. Weiss, Perfluorocyclobutane (PFC-318, c-C<sub>4</sub>F<sub>8</sub>) in the global atmosphere, *Atmos. Chem. Phys.*, **19**, 10335-10359, doi: 10.5194/acp-19-10335-2019, 2019. <https://doi.org/10.5194/acp-19-10335-2019>

Nyeki, S., S. Wacker, C. Aebi, J. Gröbner, G. Martucci, and L. Vuilleumier, Trends in surface radiation and cloud radiative effect at four Swiss sites for the 1996-2015 period, *Atmos. Chem. Phys.*, **19**, 13227-13241, doi:10.5194/acp-19-13227-2019, 2019. <https://doi.org/10.5194/acp-19-13227-2019>

- Prignon, M., S. Chabrilat, D. Minganti, S. O'Doherty, C. Servais, G. Stiller, G.C. Toon, M.K. Vollmer, E. Mahieu, Improved FTIR retrieval strategy for HCFC-22 (CHClF<sub>2</sub>), comparisons with in situ and satellite datasets with the support of models, and determination of its long-term trend above Jungfraujoch, *Atmos. Chem. Phys.*, **19**, 12309-12324, doi: 10.5194/acp-19-12309-2019, 2019. <https://www.atmos-chem-phys.net/19/12309/2019/acp-19-12309-2019.pdf>
- Religi, A., C. Backes, A. Chatelan, J.-L. Bulliard, L. Vuilleumier, L. Moccozet, M. Bochud, D. Vernez, Estimation of exposure durations for vitamin D production and sunburn risk in Switzerland, *J. Expo. Sci. Environ. Epidemiol.*, **29**, 742–752, doi:10.1038/s41370-019-0137-2, 2019. <https://www.nature.com/articles/s41370-019-0137-2>
- Sareban, M., L.M. Schiefer, F. Macholz, L. Schäfer, Q. Zangl, F. Inama, B. Reich, B. Mayr, P. Schmidt, A. Hartl, P. Baertsch, J. Niebauer, G. Treff, M.M. Berger, Endurance athletes are at increased risk for early acute mountain sickness at 3450 m, *Med Sci Sports Exerc.* doi: 10.1249/MSS.0000000000002232, 2019. <https://www.ncbi.nlm.nih.gov/pubmed/?term=Endurance+Athletes+Are+at+Increased+Risk+for+Early+Acute+Mountain+Sickness+at+3450+m>
- Stinecipher, J.R., P.J. Cameron-Smith, N.J. Blake, L. Kuai, B. Lejeune, E. Mahieu, I.J. Simpson, and J.E. Campbell, Biomass burning unlikely to account for missing source of carbonyl sulfide, *Geophys. Res. Lett.*, **46**, 24, 14912-14920 doi: 10.1029/2019GL085567, 2019. <https://doi.org/10.1029/2019GL085567>
- Suess, E., F. Aemisegger, J.E. Sonke, M. Sprenger, H. Wernli, L.H.E. Winkel, Marine versus continental sources of Iodine and Selenium in rainfall at two European high-altitude locations, *Environmental Science & Technology*, **53**, 4, 1905-1917, doi: 10.1021/acs.est.8b05533, 2019. <https://pubs.acs.org/doi/abs/10.1021/acs.est.8b05533>
- Tarasick, D., I.E. Galbally, O.R. Cooper, M.G. Schultz, G. Ancellet, T. Leblanc, T.J. Wallington, J. Ziemke, X. Liu, M. Steinbacher, J. Staehelin, C. Vigouroux, J.W. Hannigan, O. Garcia, G. Foret, P. Zanis, E. Weatherhead, I. Petropavlovskikh, H. Worden, M. Osman, J. Liu, K.-L. Chan, A. Gaudel, M. Lin, M. Granados-Munoz, A.M. Thompson, S.J. Oltmans, J. Cuesta, G. Dufour, V. Thouret, B. Hassler, T. Trickl, J.L. Neu, Tropospheric Ozone Assessment Report: Tropospheric ozone from 1877 to 2016, observed levels, trends and uncertainties, *Elementa*, **7**, 39, 2019. <https://doi.org/10.1525/elementa.376>
- Vogel, A.L., A. Lauer, L. Fang, K. Arturi, F. Bachmeier, K.R. Daellenbach, T. Kaser, A. Vlachou, V. Pospisilova, U. Baltensperger, I. El Haddad, M. Schwikowski, S. Bjelic, A comprehensive nontarget analysis for the molecular reconstruction of organic aerosol composition from glacier ice cores, *Environmental Science & Technology*, **53**, 21, 12565-12575, doi: 10.1021/acs.est.9b03091, 2019. <https://pubs.acs.org/doi/10.1021/acs.est.9b03091>
- Vollmer, M.K., F. Bernard, B. Mitrevski, L.P. Steele, C.M. Trudinger, S. Reimann, R.L. Langenfelds, P.B. Krummel, P.J. Fraser, D.M. Etheridge, M.A.J. Curran, J.B. Burkholder, Abundances, emissions, and loss processes of the long-lived and potent greenhouse gas octafluorooxolane (octafluorotetrahydrofuran, c-C<sub>4</sub>F<sub>8</sub>O) in the atmosphere, *Atmos. Chem. Phys.*, **19**, 3481–3492, doi: 10.5194/acp-19-3481-2019, 2019. <https://doi.org/10.5194/acp-19-3481-2019>
- Yu, L., E. Harris, S. Henne, S. Eggleston, M. Steinbacher, L. Emmenegger, C. Zellweger and J. Mohn, The isotopic composition of atmospheric nitrous oxide observed at the high-altitude research station Jungfraujoch, Switzerland, *Atmos. Chem. Phys. Discuss.*, 2019. <https://www.atmos-chem-phys-discuss.net/acp-2019-829/>
- Zellweger, C., R. Steinbrecher, O. Laurent, H. Lee, S. Kim, L. Emmenegger, M. Steinbacher, B. Buchmann, Recent advances in measurement techniques for atmospheric carbon monoxide and nitrous oxide observations, *Atmospheric Measurement Techniques*, **12**, 5863–5878, 2019. <https://doi.org/10.5194/amt-12-5863-2019>

## Theses

Thalmann, M., The effect of cold ice on the ablation of Gornergletscher, Master Thesis, Universität Zürich, 2019.

## Conference presentations / Posters

Bernet, L., E. Brockmann, Ch. Mätzler, N. Kämpfer, and K. Hocke, Water vapour trends in Switzerland based on data from ground-based microwave radiometry and GNSS ground stations, 7th International Colloquium on Scientific and Fundamental Aspects of GNSS, ETH Zürich, Switzerland, September 4-6, 2019.

Brockmann, E., S. Lutz, J. Zurutuza, A. Caporali, M. Lidberg, C. Völksen, L. Sánchez, E. Serpelloni, S.I. Bitharis, C. Pikridas, A. Fotiou, E. Mathis, J.A. Sánchez Sobrino, M. Valdés Péres De Vargas, P. Vernant, A. Baron, M. Westerhaus, J. Legrand, C. Kreemer, M. Gianniou, G. Nykiel, M. Figurski, A. Kenyeres, Ali Ihsan Kurt, Towards a Dense Velocity Field in Europe as a basis for Maintaining the European Reference Frame, 27th IUGG Assembly, Montreal, Canada, July 8-18, 2019.

Brockmann, E., D. Ineichen, J. Liechti, S. Lutz, Impact of Multi-GNSS observations on precise geodetic applications used at the Swiss Mapping Agency swisstopo, 7th International Colloquium on Scientific and Fundamental Aspects of GNSS, ETH Zürich, Switzerland, September 4-6, 2019.

Brockmann, E., swisstopo Report for EGVAP 2019, EGVAP expert meeting, Offenbach, Germany, November 28-29, 2019.

Brockmann, E. et al., National Report of Switzerland, EUREF-Symposium in Tallinn, Estonia, May 22–24, 2019.

Brockmann, E., S. Lutz, Towards a European Dense Velocities Field as a basis for Maintaining the European Reference Frame, EUREF-Symposium in Tallinn, Estonia, May 22–24, 2019.

Brockmann, E., M. Clausen, PROJ – usage of transformations in Switzerland (swisstopo), Tutorial contribution to the EUREF-Symposium in Tallinn, Estonia, May 22–24, 2019.

Brockmann, E., D. Ineichen S. Lutz, Multi-GNSS activities at swisstopo, EUREF LAC Workshop, Warsaw, Russia, October 16-17, 2019.

Burri, S., M. Steinbacher, L. Hörtnagl, M. Leuenberger, L. Emmenegger, R. Zweifel, N. Buchmann and the ICOS-CH Consortium, ICOS Switzerland - The Swiss Contribution to a Pan-European Environmental Research Infrastructure, 20th Swiss Global Change Day, Bern, Switzerland, February 07, 2019.

Cabrerizo Pastor, D., V. Senaj, T. Kramer, Data acquisition system for HEH monitor, 22nd IEEE International Pulsed Power Conference, Orlando, FL, USA, June 23-28, 2019.

Collaud Coen, M., E. Andrews, Methodology of long-term trend analysis applied to aerosol parameters, European Aerosol Conference (EAC) 2019, Gothenburg, Sweden, August 25-30, 2019.

- Henne, S., J. Mohn, M. Leuenberger, M. Steinbacher, S.A. Wyss, L. Emmenegger, D.W. Brunner, Swiss Nitrous Oxide and Methane Emissions Estimated by Inverse Modelling, European Geoscience Union General Assembly, Vienna, Austria, April 7-12, 2019.
- Henne, S., J. Mohn, M. Leuenberger, M. Steinbacher, M.K. Vollmer, S. Reimann, L. Emmenegger, D. Brunner, Top-down Validation of non-CO<sub>2</sub> Greenhouse Gas Emissions in Support of Swiss National Inventory, 8th International Symposium on Non-CO<sub>2</sub> Greenhouse Gases (NCGG8), Amsterdam, The Netherlands, June 12-14, 2019.
- Henne, S., J. Mohn, M. Leuenberger, M. Steinbacher, M.K. Vollmer, S. Reimann, L. Emmenegger, D.W. Brunner, Validation of Swiss Non-CO<sub>2</sub> Emissions in Support of National Inventory Reporting, IG3IS -Transcom workshop, Paris, France, October 15-18, 2019.
- Kazadzis, S., N. Kouremeti, Aerosol Optical Depth Measurements at the WMO Global Atmospheric Watch - PFR Network Stations, American Geophysical Union Conference, San Francisco, USA, December 9-13, 2019.
- Lacher, L., O. Möhler, F. Vogel, J. Nadolny, M. Adams, B.J. Murray, C. Boffo, T. Pfeuffer, A. Zipori, N. Bukowiecki, E. Hermann, M. Steinbacher, U. Lohmann and Z.A. Kanji, Measurements of ice nucleating particles in remote locations of the atmosphere, American Geophysical Union Fall Meeting, invited oral presentation, San Francisco, CA, USA, December 9-13, 2019.
- Los, M., E. Shehaj, J.D. Wegner, S. D'Aronco, A. Geiger, E. Brockmann, Machine learning assessment for tropospheric pathdelays prediction using meteorological parameters in Switzerland, 17th Swiss Geoscience Meeting 2019, Fribourg, Switzerland, November 22-23, 2019.
- Lutz, S., E. Brockmann, Status report of the Working Group European Dense Velocities, 16th European Geosciences Union – General Assembly, Vienna, Austria, April 8-12, 2019.
- Mahieu, E., M. Prignon, C. Servais, S. Chabrilat, Q. Errera, M. Friedrich, S. Smeekes, L. Froidevaux, R.J. Salawitch, P. Wales, J. Notholt, and M.P. Chipperfield, Post-peak trend of upper stratospheric hydrogen chloride derived from ground-based FTIR solar spectra and model simulations, Paper presented at European Geosciences Union General Assembly, Vienna, Austria, April 12, 2019. <http://hdl.handle.net/2268/237056>
- Mignani, C., J.M. Creamean, L. Zimmermann, C. Alewell, and F. Conen, Probing secondary ice formation at around -15 °C in mixed-phase clouds, EGU General Assembly 2019, Vienna, Austria, April 12, 2019 (oral presentation).  
<https://meetingorganizer.copernicus.org/EGU2019/EGU2019-7048.pdf>
- Minganti, D., S. Chabrilat, Y. Christophe, Q. Errera, M. Prignon, E. Mahieu, and M. Abalos, Investigation of stratospheric circulation using long-lived tracers with WACCM, BASCOE CTM and a reanalysis of MLS observations, Poster presented at European Geosciences Union General Assembly, Vienna, Austria, April 12, 2019. <http://hdl.handle.net/2268/236874>
- Pieber, S.M., B. Tuzson, D. Brunner, S. Henne, A. Jordan, H. Moossen, M. Rothe, M. Steinbacher, L. Emmenegger, A decade of continuous high altitude atmospheric CO<sub>2</sub> isotope ratio ( $\delta^{13}\text{C}$ ,  $\delta^{18}\text{O}$ ) measurements at Jungfrauoch, CH, European Geoscience Union General Assembly, Vienna, Austria, April 7-12, 2019.
- Pieber, S.M., D. Brunner, S. Henne, A. Jordan, H. Moossen, M. Rothe, M. Steinbacher, B. Tuzson, L. Emmenegger, A decade of continuous and discrete trace gas and stable isotope ratio measurements at Jungfrauoch: method comparison, RINGO Annual Scientific Meeting, Southampton, UK, March 20-22, 2019.
- Pieber, S.M., B. Tuzson, D. Brunner, S. Henne, A. Jordan, H. Moossen, M. Rothe, M. Steinbacher, L. Emmenegger, Atmospheric stable CO<sub>2</sub> isotope ratio measurements at Jungfrauoch since 2008, ICOS CH Meeting, Birmensdorf, Switzerland, September 12, 2019.
- Pieber, S.M., B. Tuzson, D. Brunner, S. Henne, A. Jordan, H. Moossen, M. Rothe, M. Steinbacher, L. Emmenegger, A decade of continuous and highly time-resolved stable carbon dioxide isotope ratio measurements at Jungfrauoch, GAW Landesausschuss, Dübendorf, Switzerland, November 6, 2019.
- Prignon, M., P.F. Bernath, S. Chabrilat, M.P. Chipperfield, S. Dhomse, W. Feng, D. Minganti, C. Servais, D. Smale, and E. Mahieu, Impact of lower stratospheric dynamical variability on total inorganic fluorine derived from ground-based FTIR, satellite and model data, Poster presented at European Geosciences Union General Assembly, Vienna, Austria, April 12, 2019. <http://hdl.handle.net/2268/234238>
- Reimann, S, M.K. Vollmer, S. Henne, D. Brunner, M. Maione, F. Graziosi, J. Arduini, U. Giostra, HFC-23 from the Production of HCFC-22 as seen at Background Sites in Europe, Non-CO<sub>2</sub> Greenhouse Gas Conference – 8, Amsterdam, The Netherlands, June 12–14, 2019.
- Schibig, M., P. Nyfeler, M. Leuenberger, ICOS flask sampler tests in Bern, ICOS Atmospheric Monitoring Station Assembly (MSA) Meeting, CNR at Bologna, Italy, November 18-20, 2019.
- Senaj, V., D. Cabrerizo Pastor, T. Kramer, High sensitivity HEH monitor, 22nd IEEE International Pulsed Power Conference – oral presentation, Orlando, FL, USA, June 23-28, 2019.
- Simpson, F., N. Desboeufs, A. Leimbacher, T. Le, G. Cosi, T. Haider, M. Gassmann, M. Thiersch, Effect of high altitude exposure and voluntary exercise on cancer growth and metastasis, 15th Symposium of Zurich Center for Integrative Human Physiology (ZHIP), Zurich, Switzerland, August 23, 2019.
- Simpson, F., N. Desboeufs, A. Leimbacher, T. Le, G. Cosi, T. Haider, M. Gassmann, M. Thiersch, Effect of voluntary exercise on cancer growth and metastasis at high altitude, Poster presentation at the 2nd Poster and Networking day, Vetsuisse Faculty, Zurich, Switzerland, September 25, 2019.
- Steinbacher, M., The use of cavity-enhanced laser spectrometers in the European Integrated Carbon Observation System (ICOS) Research Infrastructure, AGAGE Meeting, Weggis, Switzerland, April 29, 2019.
- Steinbacher, M., Update on the Integrated Carbon Observation System (ICOS), HFJSG Users Meeting, Bern, Switzerland, May 24, 2019.
- Steinbacher, M., C. Zellweger, L. Emmenegger, B. Buchmann, WMO/GAW Quality Assurance / Science Activity Centre Switzerland (QA/SAC – CH), Landesausschuss-Sitzung GAW-CH, MeteoSchweiz, Zürich, November 06, 2019.
- Steinbacher, M., C. Zellweger, L. Emmenegger, B. Buchmann, Training, twinning, and capacity building in support of greenhouse gas observations in data sparse regions, GMT-2019, Seogwipo, Jeju-do, South Korea, September 01-05, 2019.
- Steinbacher, M., S. Wyss, S. Pieber, B. Tuzson, L. Emmenegger, Update from ICOS-CH Atmosphere Network and Jungfrauoch, ICOS CH National Meeting, Birmensdorf, Switzerland, September 12, 2019.
- Steinbacher, M., Updates on ICOS RI, ICOS CH National Meeting, Birmensdorf, Switzerland, September 12, 2019.

- Steinbacher, M., Quality Control of Trace Gas Observations, NIES technical training course on greenhouse gases and air pollutants monitoring in Indonesia, Tsukuba, Japan, November 24 – 30, 2019.
- Vollmer, M.K., M. Rigby, AGAGE Team, UEA Team, Increasing Emissions of Montreal-Protocol Substances other than CFC-11, CFC-11 Symposium, Vienna, Austria, March 25-27, 2019.
- Vollmer, M.K., S. Henne, S. Reimann, M. Guillevic, M. Hill and AGAGE Team, Atmospheric Hydrofluoro-olefines (HFOs) and Hydrochloro-olefines (HCFOs) at Jungfrauoch (Switzerland) and other AGAGE stations, Non-CO<sub>2</sub> Greenhouse Gas Conference – 8, Amsterdam, The Netherlands, June 12–14, 2019.
- Vollmer, M.K., S. Reimann, M. Hill, L. Emmenegger, Continuous Measurements of Halogenated Greenhouse and Ozone-Depleting Gases, ON THE TOP - SCS Symposium 2019 on Environmental Science, Bern, Switzerland, April 25, 2019.
- Vollmer, M.K. et al., Atmosphärenspione am Jungfrauoch — Top-Down Validierung von Emissionsinventaren, Carbotech Umweltgespräche, Zürich, Switzerland, November 7, 2019.
- Yu, L., E. Harris, E. Ibraim, M. Steinbacher, S. Henne, L. Emmenegger, C. Zellweger and J. Mohn, Partitioning N<sub>2</sub>O sources with isotopes: from ground to atmosphere, DASIM Conference - tracing Denitrification, Giessen, Germany, March 12-14, 2019.
- Yu, L., E. Harris, S. Henne, M. Steinbacher, L. Emmenegger, C. Zellweger and J. Mohn, Seasonal patterns and trends of N<sub>2</sub>O isotopes observed in the unpolluted atmosphere, American Geoscience Union Fall Meeting, San Francisco, USA, December 9-13, 2019.
- Popular publications and presentations**
- Decurtins, S., "High Altitude Research Stations Jungfrauoch and Gornergrat", Vortrag für die Naturwissenschaftliche Gesellschaft Thun, Thun, Switzerland, February 26, 2019.
- Data books and reports**
- BAFU (eds) – Luftqualität 2018, Messresultate des Nationalen Beobachtungsnetzes für Luftfremdstoffe (NABEL), pp. 28, Bundesamt für Umwelt, Bern, Umwelt-Zustand Nr. 1916, 2019.
- Huss, M., A. Bauder, Ch. Marty, J. Nötzli, Schnee, Gletscher und Permafrost 2017/18 - Neige, glace et pergélisol en 2017/18- Neve, ghiaccio e permafrost 2017/18, Die Alpen - Les Alpes - Le Alpi (Zeitschrift des Schweizer Alpen-Club), 95 (7/2019), 32-37, 2019.
- ICOS RI, ICOS Atmospheric Greenhouse Gas Mole Fractions of CO<sub>2</sub>, CH<sub>4</sub>, CO, 14CO<sub>2</sub> and Meteorological Observations September 2015 - April 2019 for 19 stations (49 vertical levels), final quality controlled Level 2 data (Version 1.0), ICOS ERIC - Carbon Portal, 2019. <https://doi.org/10.18160/CE2R-CC91>
- Permafrost in Switzerland, 2014/2015 to 2017/2018, Noetzli J., C. Pellet and B. Staub (eds.), Glaciological Report Permafrost No. 16-19, Swiss Permafrost Monitoring Network, c/o Department of Geosciences, University of Fribourg, Cryospheric Commission of the Swiss Academy of Sciences, 104p., doi: 10.13093/permos-rep-2019-16-19, 2019. <http://www.permos.ch/publications.html>
- Reimann, S., M.K. Vollmer, D. Brunner, M. Steinbacher, M. Hill, S. Henne, L. Emmenegger, CLIMGAS-CH, Kontinuierliche Messung der Nicht-CO<sub>2</sub>-Treibhausgase auf dem Jungfrauoch und in Beromünster, Zwischenbericht, Empa/BAFU, 91 S., July 2019. <https://www.empa.ch/documents/56101/190047/CLIMGAS-CH-2018/924aecb2-e290-47dc-817f-81b9976d0e7b>
- SPARC Report N°9 of The SPARC LOTUS Activity: SPARC/IO3C/GAW Report on Long-term Ozone Trends and Uncertainties in the Stratosphere, edited by I. Petropavlovskikh, S. Godin-Beekmann, D. Hubert, R. Damadeo, B. Hassler, and V. Sofieva, GAW Report No. 241, WCRP Report 17/2018, SPARC Report No. 9, doi: 10.17874/f899e57a20b, 2019. <https://www.sparc-climate.org/publications/sparc-reports/sparc-report-no-9/>
- Strahlenschutz und Überwachung der Radioaktivität in der Schweiz, Ergebnisse 2018, Bundesamt für Gesundheit BAG, Abteilung Strahlenschutz, 2019.
- Umweltradioaktivität und Strahlendosen in der Schweiz 2018, Bundesamt für Gesundheit, Abteilung Strahlenschutz, 2019.
- Umweltradioaktivität und Strahlenbelastung, Deutschland, Jahresbericht 2018, Reihe Umweltpolitik, Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, 2019.
- Update on Ozone-Depleting Substances (ODSs) and Other Gases of Interest to the Montreal Protocol, Chapter 1 in Scientific Assessment of Ozone Depletion: 2018, Global Ozone Research and Monitoring Project-Report No. 58, World Meteorological Organization, Geneva, Switzerland, 2019.
- World Meteorological Organisation, WMO Reactive Gases Bulletin – Highlights from the Global Atmosphere Watch Programme, pp. 8, World Meteorological Organisation, Geneva, Bulletin No. 15, 2019.