

Publication list

Peer-reviewed Web of Science publications:

- Bühler, Y.**, Hafner, E. D., Zweifel, B., Zesiger, M., and Heisig, H.: Where are the avalanches? Rapid SPOT6 satellite data acquisition to map an extreme avalanche period over the Swiss Alps (2019): *The Cryosphere*, 13, 3225-3238, 10.5194/tc-13-3225-2019.
- Caviezel, A., Demmel, S. E., Ringenbach, A., **Bühler, Y.**, Lu, G., Christen, M., Dinneen, C. E., Eberhard, L. A., von Rickenbach, D., and Bartelt, P.: Reconstruction of four-dimensional rockfall trajectories using remote sensing and rock-based accelerometers and gyroscopes (2019): *Earth Surface Dynamics*, 7, 199-210, 10.5194/esurf-7-199-2019.
- Lu, G., Caviezel, A., Christen, M., Demmel, S. E., Ringenbach, A., **Bühler, Y.**, Dinneen, C. E., Gerber, W., and Bartelt, P.: Modelling rockfall impact with scarring in compactable soils (2019): *Landslides*, 10.1007/s10346-019-01238-z.
- Eker, R., **Bühler, Y.**, Schögl, S., Stoffel, A., and Aydin, A. (2019): Monitoring of Snow Cover Ablation Using Very High Spatial Resolution Remote Sensing Datasets, *Remote Sensing*, 11, 10.3390/rs11060699.
- Bühler, Y.**, von Rickenbach, D., Stoffel, A., Margreth, S., Stoffel, L., and Christen, M. (2018): Automated snow avalanche release area delineation – validation of existing algorithms and proposition of a new object-based approach for large-scale hazard indication mapping, *Natural Hazards Earth System Sciences*, 18, 3235-3251, 10.5194/nhess-18-3235-2018.
- Kääb, A., S. Leinss, A. Gilbert, **Y. Bühler**, S. Gascoin, S. G. Evans, P. Bartelt, E. Berthier, F. Brun, W.-A. Chao, D. Farinotti, F. Gimbert, W. Guo, C. Huggel, J. S. Kargel, G. J. Leonard, L. Tian, D. Treichler and T. Yao (2018): Massive collapse of two glaciers in western Tibet in 2016 after surge-like instability. *Nature Geoscience*, doi: 10.1038/s41561-017-0039-7
- Bühler, Y.**, Adams, M., Stoffel, A. and Boesch R. (2017): Photogrammetric reconstruction of homogenous snow surfaces in alpine terrain applying near infrared UAS imagery, *International Journal of Remote Sensing*, doi:10.1080/01431161.2016.1275060.
- Adams, M. S., **Bühler, Y.**, and Fromm, R. (2018): Multitemporal Accuracy and Precision Assessment of Unmanned Aerial System Photogrammetry for Slope-Scale Snow Depth Maps in Alpine Terrain, *Pure and Applied Geophysics*, 175, 3303-3324, 10.1007/s00024-017-1748-y.
- Caviezel, A., Schaffner, M., Cavigelli, L., Niklaus, P., **Bühler, Y.**, Bartelt, P., Magno, M., and Benini, L. (2018): Design and Evaluation of a Low-Power Sensor Device for Induced Rockfall Experiments, *IEEE Transactions on Instrumentation and Measurement*, 67, 767-779, 10.1109/TIM.2017.2770799.
- Lucas, C., Leinss, S., **Bühler, Y.**, Marino, A., and Hajnsek, I. (2017): Multipath Interferences in Ground-Based Radar Data: A Case Study, *Remote Sensing*, 9, 1260.
- Korzeniowska, K., **Y. Bühler**, M. Marty, and O. Korup (2017): Regional snow-avalanche detection using object-based image analysis of near-infrared aerial imagery, *Natural Hazards and Earth System Sciences*, 17(10), 1823-1836, doi:10.5194/nhess-17-1823-2017.
- Kenner, R., M. Phillips, C. Hauck, C. Hilbich, C. Mulsow, **Y. Bühler**, A. Stoffel, and M. Buchroithner (2017): New insights on permafrost genesis and conservation in talus slopes based on observations at Flüelapass, Eastern Switzerland, *Geomorphology*, 290, 101-113, doi:10.1016/j.geomorph.2017.04.011.

- Semakova, E., and **Y. Bühler** (2017): TerraSAR-X/TanDEM-X data for natural hazards research in mountainous regions of Uzbekistan, *Journal of Applied Remote Sensing*, 11(03), 1, doi:10.1117/1.JRS.11.036024.
- Wendeler, C., **Bühler, Y.**, Bartelt, P., Glover, J. and Luis, R. (2017): Application of three-dimensional rockfall modeling to rock-face, *Engineering, Geomechanics and Tunneling*, 10, 74 - 80.
- Bühler, Y.**, Adams, M., Bösch, R., and Stoffel, A. (2016): Mapping snow depth in alpine terrain with unmanned aerial systems (UASs): potential and limitations, *The Cryosphere*, 10, 1075-1088.
- Valero, C.V., Wever, N., **Bühler, Y.**, Stoffel, L., Margreth, S., and Bartelt, P., (2016): Modelling wet snow avalanche runout to assess road safety at a high-altitude mine in the central Andes. *Natural Hazards and Earth System Sciences*, 16, 11: 2303-2323.
- Phillips, M., Wolter, A., Lüthi, R., Amann, F., Kenner, R. and **Bühler, Y.** (2016): Rock slope failure in a recently deglaciated permafrost rock wall at Piz Kesch (Eastern Swiss Alps), February 2014. *Earth Surface Processes and Landforms*, doi:10.1002/esp.3992.
- Frey, H., Huggel, C., **Bühler, Y.**, Buis, D., Dulce Burga, M., Choquevilca, W., Fernandez, F., Garcia Hernandez, J., Giraldez, C., Masias, P., Portocarrero, C., Vicuna, L. & Walser, M. (2016): A robust debris-flow and GLOF risk management strategy for a data-scarce catchment in Santa Teresa, Peru. *Landslides*. doi: 10.1007/s10346-015-0669-z, 2016. 1-15
- Dreier, L., **Bühler, Y.**, Dufour, F., Ginzler, C. & Bartelt, P. (2016): Comparison of simulated powder snow avalanche velocities, volumes and flow widths with photogrammetric measurements. *Annals of Glaciology*, 57, 371 - 381.
- Eckerstorfer, M., **Bühler, Y.**, Frauenfelder, R. and Malnes, E. (2016): Remote sensing of snow avalanches: Recent advances, potential, and limitations, *Cold Regions Science and Technology*, 121, 126-140.
- Bartelt, P., Buser, O., Valero, C. V. and **Bühler, Y.** (2016): Configurational energy and the formation of mixed flowing/powder snow and ice avalanches, *Annals of Glaciology*, 57(71), 179 – 188.
- Bühler, Y.**, Marty, M., Egli, L., Veitinger, J., Jonas, T., Thee, P. & Ginzler, C. (2015): Spatially continuous mapping of snow depth in high alpine catchments using digital photogrammetry. *The Cryosphere*, 9 (1), 229 – 243.
- Bühler, Y.**, Meier, L., Ginzler, C. (2015): Potential of high spatial resolution near infrared remote sensing instruments for snow surface type mapping in alpine terrain. *IEEE Geoscience and Remote Sensing Letters*, 12 (4), 1 - 5.
- Caduff, R., Wiesmann, A., **Bühler, Y.** & Pielmeier, C. (2015): High spatial and temporal resolution continuous monitoring of snowpack displacement with terrestrial radar interferometry. *Geophysical Research Letters*, 42, DOI: 10.1002/2014GL062442.
- Bartelt, P., Vera Valero, C., Feistl, T., Christen, M., **Bühler, Y.** & Buser, O. (2015): A Model for Cohesion in Snow Avalanche Flow. *Journal of Glaciology*, 61 (229), 837 – 850.
- Vera Valero, C., Wikstroem Jones, K., **Bühler, Y.** & Bartelt, P. (2015): Release Temperature, Snow cover Entrainment and the Thermal Flow Regime of Snow Avalanches. *Journal of Glaciology*, 61 (225), 173 - 184.
- Grünewald, T., **Bühler, Y.** & Lehning, M. (2014): Elevation dependency of mountain snow depth. *The Cryosphere*, 8, 2381 - 2394.
- Aydin, A., **Bühler, Y.**: Christen, M. & Güreer, I. (2014): Avalanche situation in Turkey and back calculation of selected events. *Natural Hazards and Earth System Sciences*, 14, 1145–1154.
- Bartelt, P., Buser, O., **Bühler, Y.**, Dreier, L. & Christen, M. (2014): Numerical simulation of snow avalanches: Modelling dilatative processes with cohesion in rapid granular shear flows. *Numerical Methods in Geotechnical Engineering – Hicks, Brinkgreve & Rohe (Eds)*. 2014

Taylor & Francis Group, London, 978-1-138-00146-6.

- Feistl, T., **Bühler, Y.**, Christen, M., Bebi, P., Teich, M. Thuro, K., Bartelt, P. (2014): Observations and modeling of the breaking effect of forests on snow avalanche flow. *Journal of Glaciology*, 60 (209), 124 - 138.
- Kenner, R., **Bühler, Y.**, Delaloye, R., Ginzler, C. & Phillips, M. (2014): Monitoring of high alpine mass movements combining laser scanning with digital airborne photogrammetry. *Geomorphology*, 206: 492 - 504.
- Bühler, Y.**, Kumar, S., Veitinger, J., Stoffel, A., Christen, M. & Snehmani (2013): Automated Identification of Potential Snow Avalanche Release Zones based on Remote Sensing Data. *Natural Hazards and Earth System Sciences*, 13 (5), 1321 - 1335.
- Lato, M., Frauenfelder, R. & **Bühler, Y.** (2012): Automated avalanche deposit detection of fresh snow avalanches: Segmentation and classification of optical remote sensing imagery. *Natural Hazards and Earth System Sciences*. 12, 1 – 14.
- Bartelt, P., Feistl, T., **Bühler, Y.** & Buser, O. (2012): Overcoming the stauchwall: Viscoelastic stress redistribution and the start of full-depth gliding snow avalanches. *Geophysical Research Letters*. 39 (16), L16501.
- Bartelt, P., Glover, J., Feistl, T., **Bühler, Y.** & Buser, O. (2012): Formation of levees and en-echelon shear planes during snow avalanche runout. *Journal of Glaciology*, 58 (211), 980 – 992.
- Bühler, Y.**, Marty, M. & Ginzler, Ch. (2012): High resolution DEM generation in high-alpine terrain using airborne remote sensing techniques. *Transactions in GIS*, 16 (5), 635 - 647.
- Bartelt, P., **Bühler, Y.**, Buser, O., Christen, M. & Meier, L. (2012): Modeling mass-dependent flow regime transitions to predict the stopping and depositional behavior of snow avalanches, *Journal of Geophysical Research*, 117, F01015, doi:10.1029/2010JF001957.
- Sovilla, B., Sonatore, I., **Bühler, Y.** & Margreth, S. (2012): A case-study of wet-snow avalanche interacting with a deflecting dam: Field observations and numerical simulations. *Natural Hazards and Earth System Sciences*, 2, 1407–1423.
- Bühler, Y.**, Christen, M., Kowalski, J. & Bartelt, P. (2011): Sensitivity of snow avalanche simulations to digital elevation model quality and resolution. *Annals of Glaciology*, 52(58), 72–80.
- Bühler, Y.**, Hüni, A., Christen, M., Meister, R. & Kellenberger, T. (2009): Automated detection and mapping of avalanche deposits using airborne optical remote sensing data. *Cold Regions Science and Technology*, 57, 99 – 106.
- Forster, D., **Buehler, Y.** & Kellenberger, T. W. (2009): Mapping urban and peri-urban agriculture using high spatial resolution satellite data. *Journal of Applied Remote Sensing*, 3, 1 – 12.
- Forster, D., Kellenberger, T. W., **Buehler, Y.** & Lennartz, B. (2008): Mapping diversified peri-urban agriculture – Potential of object-based versus per-field land cover/land use classification. *Geocarto International*.
- Itten, K. I., Dell'Endice, F., Hueni, A., Kneubuhler, M., Schlaper, D., Odermatt, D., Seidel, F., Huber, S., Schopfer, J., Kellenberger, T., **Bühler, Y.**, D'Odorico, P., Nieke, J., Alberti, E. & Meuleman, K (2008): APEX - the Hyperspectral ESA Airborne Prism Experiment *Sensors*, 8, 6235-6259.

Further peer-reviewed publications and reports:

- Noetzli, C., **Bühler, Y.**, Lorenzi, D., Stoffel, A., and Rohrer, M. (2019): Schneedecke als Wasserspeicher - Drohnen können helfen, die Abschätzungen der Schneereserven zu verbessern, *Wasser, Energie, Luft*, 111.
- Bühler, Y.**, Stoffel, A., Eberhard, L., Feuerstein, G.C., Lurati, D. and Guler, A., (2018): Drohneneinsatz für die Kartierung der Schneehöhenverteilung. *Bündner Wald*, 71(8).
- Mulsow, C., Kenner, R., **Bühler, Y.**, Stoffel, A. and Maas, H.G., (2018) Subaquatic Digital Elevation Models from Uav-Imagery. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLII-2: 739-744.
- Bühler, Y.**, Christen, M., Margreth, S., Stoffel, L., Schär, M., Stoffel, A., Bebi, P. and Marty, C., (2017): Bericht Vorprojekt Gefahrenhinweiskarte Lawinen Kanton Graubünden, WSL- Institut für Schnee- und Lawinenforschung SLF.
- Lucas, C., Hajnsek, I., Marino, A., & **Bühler, Y.**, (2016): Investigation of Snow Avalanches with Ground Based Ku-band Radar. In: EUSAR 2016. 11th European Conference on Synthetic Aperture Radar. 06 - 09 June, 2016, Hamburg, Germany. Electronic Proceedings. Berlin, VDE. 519-522.
- Adams, M.S., **Bühler, Y.**, Boesch, R., Fromm, R., Stoffel, A. & Ginzler, C. (2016): Investigating the Potential of Low-Cost Remotely Piloted Aerial Systems for Monitoring the Alpine Snow Cover (RPAS4SNOW). Final Project Report, ÖAW – Austrian Academy of Sciences, Innsbruck (Austria), pp. 82.
- Boesch, R.; **Bühler, Y.**; Marty, M.; Ginzler, C., (2016): Comparison of digital surface models for snow depth mapping with UAV and aerial cameras. In: Halounova, L.; Á afár, V.; Raju, P.L.N.; Plánka, L.; Ádímal, V.; Srinivasa Kumar, T.; Faruque, F.S.; Kerr, Y.; Ramasamy, S.M.; Comiso, J.; Hussin, Y.A.; Thenkabail, P.S.; Lavender, S.; Skidmore, A.; Yue, P.; Patias, P.; Altan, O.; Weng, Q. (eds.) XXIII ISPRS Congress, Commission VIII. 12-19 July 2016, Prague, Czech Republic. Vol. XLI-B8. 453-458.
- Caduff, R.; Wiesmann, A.; **Bühler, Y.**; Bieler, C.; Limpach, P., (2016): Terrestrial radar interferometry for snow glide activity monitoring and its potential as precursor of wet snow avalanches. In: Koboltschnig, G. (ed) 13th Congress Interpraevent 2016. 30 May to 2 June 2016, Lucerne, Switzerland. Conference Proceedings. Living with natural risks. Luzern, International Research Society Interpraevent. 239-248.
- Stoffel, L.; Margreth, S.; Schaer, M.; Christen, M.; **Bühler, Y.**; Bartelt, P., (2016): Powder Snow Avalanche Engineering: New Methods to Calculate Air-Blast Pressures for Hazard Mapping. In: Koboltschnig, G. (ed) 13th Congress Interpraevent 2016. 30 May to 2 June 2016, Lucerne, Switzerland. Conference Proceedings. Living with natural risks. Luzern, International Research Society Interpraevent. 416-425.
- Ettlin, L.; Bründl, M.; Christen, M.; **Bühler, Y.**, (2016): RAMMS::RISK: a tool for mapping natural hazard risks. [Abstract] In: Koboltschnig, G. (ed) 13th Congress Interpraevent 2016. 30 May to 2 June 2016, Lucerne, Switzerland. Extended Abstracts. Living with natural risks. Luzern, International Research Society Interpraevent. 200-201.
- Veitinger, J.; Sovilla, B.; **Bühler, Y.**, (2016): Assessing the effect of the winter terrain surface on simulations of avalanche scenarios. [Abstract] In: Koboltschnig, G. (ed) 13th Congress Interpraevent 2016. 30 May to 2 June 2016, Lucerne, Switzerland. Extended Abstracts. Living with natural risks. Luzern, International Research Society Interpraevent. 168-169.
- Phillips, M.; Kos, A.; Amann, F.; Bonanomi, Y.; Huwiler, A.; Negrini, M.; Lüthi, R.; Kenner, R.; Wolter, A.; **Bühler, Y.**, (2016): Deep-seated rock slope failures in mountain permafrost: Pizzo Cengalo and Piz Kesch (Canton Grisons, Switzerland). [Abstract] In: Koboltschnig, G. (ed) 13th Congress Interpraevent 2016. 30 May to 2 June 2016, Lucerne, Switzerland. Extended

Abstracts. Living with natural risks. Luzern, International Research Society Interpraevent. 148-149.

Bühler, Y., Bösch, R., Stoffel, A. & Adams, M. (2015): Geodatenerfassung im hochalpinen Gelände mittels Drohnen. *Geomatik Schweiz* 9/2015, 366 – 370.

Eckersdorfer, M. & **Bühler, Y.** (2015): Remote Sensing of Snow Avalanches - Potential and Limitation for Operational Use. *The Avalanche Review*, 33(4): 14 - 15.

Bühler, Y., Bieler, C., Pielmeier, C., Frauenfelder, R., Jaedicke, C., Bippus, G., Wiesmann, A., & Caduff, R. (2014): Improved Alpine Avalanche Forecast Service AAF, Final Report. European Space Agency ESA, Integrated Application Program IAP 4000108853/13/NL/NR. 20 pp.

Sovilla, B., McElwaine, J., Steinkogler, W., Veitinger, J., Köhler, A., **Bühler, Y.**, Scharr, M., Hiller, M., Dufour, F., Suriñach, E., Perez Guillen, C., Fischer, J.-T., Thibert, E., Baroudi, D. (2014): Le site expérimental de la vallée de la Sionne dédié à l'étude de la dynamique des avalanches. *Neige et avalanches* 145, avril: 40.

Ginzler, C., Marty, M. & **Bühler, Y.** (2013): Grossflächige hochaufgelöste Schneehöhenkarten aus digitalen Stereoluftbildern. *Geomatik Schweiz* 111, 9: 508-510.

Ginzler, C., Marty, M. & **Bühler, Y.**, (2013): Cartes de hauteurs de neige à haute résolution de zones étendues produites à partir de stéréophotographies aériennes numériques. *Geomatik Schweiz* 111, 9: 512-514.

Chrustek, P., Kolecka, N. & **Bühler, Y.** (2013): Using high resolution LiDAR data for snow avalanche hazard mapping. In: Kozak J., Ostapowicz K., Bytnerowicz A., Wyżga B. (Eds.) *Integrating Nature and Society towards Sustainability Integrating Nature and Society towards Sustainability*, Springer, pp. 597 – 613, ISBN 978-3-642-12724-3.

Chrustek, P., Wężyk, P., Kolecka, N., Biskupič, M., **Bühler, Y.** & Christen, M. (2013): Obtaining snow avalanche information by means of terrestrial photogrammetry - evaluation of a new approach. In: Kozak J., Ostapowicz K., Bytnerowicz A., Wyżga B. (Eds.) *Integrating Nature and Society towards Sustainability Integrating Nature and Society towards Sustainability*, Springer, pp. 579 – 595, ISBN 978-3-642-12724-3.

Bühler, Y. (2012): Ein Highway durch die Lawinhöhle. *Geoscience actuel* 4: 16-18.

Jörg, P., Granig, M., **Bühler, Y.**, Gauer, P. & Schreiber, H. (2012): Vergleich von gemessenen und simulierten Lawinengeschwindigkeiten. *Wildbach- und Lawenverbau*, 76, 214-225.

Christen, M., Gerber, W., Graf, C., **Bühler, Y.**, Bertelt, P., Glover, J., McArdeil, B., Feistl, T. & Steinkogler, W. (2012): Numerische Simulation von gravitativen Naturgefahren mit "RAMMS" (Rapid Mass Movements). *Wildbach- und Lawenverbau*, 76, 282 – 293.

Bartelt, P., **Buehler, Y.**, Christen, M., Deubelbeiss, Y., Salz, M., Schumacher, L. (2011): *RAMMS User Manual v1.4: Avalanche*. WSL Institute for Snow and Avalanche Research SLF.

Bartelt, P., **Buehler, Y.**, Christen, M., Deubelbeiss, Y., Graf, Ch., McArdeil, B. (2011): *RAMMS User Manual v1.01: Debris Flow*. Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Bühler, Y. (2010): Bericht: Lawinensimulationen im Himalaya. Newsl. Nat.gefahren [published online Dezember 2010] Available from World Wide Web: <http://www.slf.ch/dienstleistungen/newsletter/index_DE> 3/2010: 6-8.

Bühler, Y., Christen, M., Margreth, S., Bartelt, P., (2010): RAMMS: Simulation und Visualisierung von Lawinen im dreidimensionalen alpinen Gelände. *Geomatik Schweiz* 108, 9/2010: 410-413.

Buehler, Y. & Kellenberger, T. (2007): Development of processing chains for rapid mapping with satellite data. In: J. Li, S. Zlatanova, A. Fabbri (Eds.) *Geomatics Solutions for Disaster Management*. Springer, Berlin, 49 – 60.

- Buehler, Y. A.**, Kellenberger, T. W., Small, D. & Itten, K. I. (2006): Rapid mapping with remote sensing data during flooding 2005 in Switzerland by object-based methods - a case study. In: Martin-Duque, J. F., Brebbia, C. A., Emmanouloudis, D. E. & Mander, U. (Eds.) *Geo Environment & Landscape Evolution II, WIT Press, WIT Transactions on Ecology and the Environment*, 391 – 400.
- Bühler, Y.**, Seidel, F. & Kellenberger, T. (2006): Schnelle Schadenskartierung mit Satellitendaten während den Überschwemmungen 2005 zur Unterstützung des Katastrophen-Managements, *Geomatik Schweiz* 9/2006: 494 – 497.

Conference papers and selected talks:

- Bühler, Y. (2019):** Efficient geodata acquisition in challenging alpine terrain with optical Remote Sensing. Seminar, School of Surveying, University of Otago, Dunedin, New Zealand, 15. 08. 2019.
- Bühler, Y.**, von Rickenbach, D., Christen, M., Margreth, S., Stoffel, A., Stoffel, L., and Kühne, R.: Automated large scale hazard indication mapping for snow avalanches (2019): GeoComputation 2019, Queenstown, NZ.
- Bühler, Y. (2019):** UAS based Snow Depth Mapping-The Wägital Case Study. Climate-Seminar, *MeteoSchweiz*, Zürich Flughafen, Switzerland, 17. 01. 2019.
- Bühler, Y. (2019):** Drohnen für die Forschung im Hochgebirge. *DCL Event*, Galaaxy, Laax, Switzerland, 29. 03. 2019.
- Ringenbach, A., Caviezel, A., Demmel, S., Lu, G., **Bühler, Y.**, Christen, M., Bartelt, P., and Meier, L. (2019): Three-dimensional trajectory reconstruction of induced single block rockfall experiments., 14th international congress on rock mechanics and rock engineering (ISRM 2019), Foz do Iguassu, Brazil, 2019, 2887 - 2894,
- Bühler, Y. (2018):** Efficient geodata acquisition with AUS in alpine terrain. *WSL Applied Remote Sensing Lectures*, SLF Davos, Switzerland, 15. 11. 2018.
- Bühler, Y.**, von Rickenbach, D., Christen, M., Margreth, S., Stoffel, L., Stoffel, A. and Kühne, R., (2018): Linking modelled potential release areas with avalanche dynamic simulations: An automated approach for efficient avalanche hazard indication mapping, *International Snow Science Workshop ISSW*, Innsbruck, Austria.
- Eberhard, L., Marty, M., Stoffel, A., Kenner, R. and **Bühler, Y.**, (2018): Photogrammetric snow depth mapping: evaluation of different platforms and sensors, International Snow Science Workshop ISSW, Innsbruck, Austria.
- Eker, R., Aydın, A., **Bühler, Y.** and Stoffel, A., (2018): SfM-based 3D point clouds in determination of snow depth from high-resolution UAS data as alternative methods: Is it possible to use?, International Snow Science Workshop ISSW, Innsbruck, Austria.
- Harvey, S., Schmudlach, G., **Bühler, Y.**, Dürr, L., Stoffel, A. and Christen, C., (2018): Avalanche terrain maps for backcountry skiing in switzerland, *International Snow Science Workshop ISSW*, Innsbruck, Austria.
- Maggioni, M., Bovet, E., Freppaz, M., Segor, V. and **Bühler, Y.**, (2018): Potential of automated avalanche dynamic simulations for large scale hazard indication mapping in italy: a first test appli-cation in aosta valley, International Snow Science Workshop ISSW, Innsbruck, Austria.
- Monti, F., Alberti, R., Comin, P., Wolynski, A. and **Bühler, Y.**, (2018): Automated identification of

forest with protective function against snow avalanches in the Trento Province (Italy), International Snow Science Workshop ISSW, Innsbruck, Austria.

- Semakova, E., Safronov, V., Mamaraimov, A., Nurtaev, B., Semakov, S. and **Bühler, Y.**, (2018): Applying numerical snow avalanche simulations for hazard assessment in the Kamchik pass area, Uzbekistan, International Snow Science Workshop ISSW, Innsbruck, Austria.
- Bühler, Y.** (2018): Drones@SLF: efficient geodata acquisition in challenging terrain with Unmanned Aerial Systems (UASs). *SLF Kolloquium*, SLF Davos, Switzerland, 09. 11. 2018.
- Bühler, Y.** (2018): Mapping Snow Depth in Complex Terrain – How Good Can We Get? *European Space Agency ESA Eo4Alps Workshop*, Innsbruck, Austria, 27. 06. 2018.
- Bühler, Y.** (2018): Regional Scale Avalanche Hazard Mapping. *Academy of Science Uzbekistan*, Tashkent, Uzbekistan, 12. 04. 2018
- Bühler, Y.** (2018): Satellite based rapid mapping of snow avalanche activity. *Swisstopo Kolloquium*, Wabern, Switzerland, 23. 03. 2018.
- Bühler, Y.** (2018): Pilotprojekt Gefahrenhinweiskarte Kanton Graubünden. *Amt für Wald und Naturgefahren*, Kanton Graubünden, Chur, 30. 01. 2018
- Bühler, Y.**, Stoffel, A. and Jonas T (2018): Swiss experience in snow monitoring: research and operational products. *Workshop on the evolution of Copernicus snow and ice monitoring product*. European Environmental Agency, Kopenhagen DK, 25. 01. 2018
- Bühler, Y.**, Stoffel, A. and Ginzler, C. (2017): UAS applications in high alpine, snow-covered terrain. *AGU*, New Orleans, USA, 13. 12. 2017
- Bühler, Y.**, Stoffel, A. and Eberhard, L. (2017): UAS@SLF: Anwendung von Drohnen im hochalpinen Gebieten. *Einsatzleiterkurs Alpine Rettung Graubünden*, Thuisis, 28. 10. 2017.
- Bühler, Y.**, Christen, M., Caviezel, A., Lu, G. and Bartelt, P. (2017): Remote Sensing Tools for Numerical Rockfall Simulations. *GEO-SUMMIT 2017, Geobruigg*, Intercontinental Davos, 17. 10. 2017.
- Bühler, Y.**, Christen, M., Caviezel, A. and Bartelt, P. (2017): Digitale Geländemodelle als Basis für numerische Simulationen von alpinen Naturgefahren. *7. Wildbachworkshop Qualitätssicherung in der Anwendung digitaler Daten und Modellen*. Bregenz AT, 03 – 04. Oktober 2017.
- Bühler, Y.**, Christen, M., Margreth, S., Stoffel, L., Schär, M., Stoffel, A., Harvey, S., Schudlach, G., Bebi, P. and Marty, C. (2017): Regional Scale Avalanche Hazard Mapping, SLF-Kolloquium.
- Bühler, Y.** and Stoffel, A. (2017): UAS @ SLF – Applications of unmanned aerial systems in high alpine terrain. Faculty of Forestry, Department of Forest Engineering, Düzce University, Turkey.
- Bühler, Y.** and Stoffel, A. (2017): High spatial resolution mapping of the alpine snow cover. *Faculty of Forestry, Department of Forest Engineering*, Düzce University, Turkey.
- Bühler, Y.**, Adams, M., Stoffel, A. and Bösch, R. (2017): Snow Depth Mapping Applying Unmanned Aerial Systems – Closing the Gap Between Field Measurements and Low Spatial Resolution Satellite Data. *8th EARSeL workshop on Land Ice and Snow*, Special Interest Group of Land Ice and Snow. University of Bern, Bern, Switzerland.
- Bühler, Y.**, Stoffel, A., Marty, M., Bösch, R. and Ginzler, C. (2016): UAS applications on snow in high alpine terrain. *Small UAS for Environmental Research Conference*, University of Worcester, Worcester, UK.
- Bühler, Y.**, Stoffel, A., Adams, M., Bösch, R., and Ginzler, C. (2016): UAS Photogrammetry of

Homogenous Snow Cover, *Dreiländertagung der DGPF, der OVG und der SGPF*, Bern, Switzerland, 306 - 316.

- Bühler, Y.**, Stoffel, A., Marty, M., Bösch, R. and Ginzler, C. (2015): High spatial resolution mapping of alpine snow depth variability. *WSL/SLF Applied Remote Sensing Lectures*, SLF Davos Switzerland.
- Bühler, Y.**, Stoffel, A., Bösch, R. and Ginzler, C. (2015): Efficient geo-data acquisition in high alpine terrain using UAS. *Der Alpenraum und seine Herausforderungen im Bereich Orientierung, Navigation und Informationsaustausch AHORN*, Wildhaus SG, Switzerland.
- Bühler, Y.** and Kenner, R. (2015): Monitoring of mass movements in high alpine areas using LiDAR. *WSL/SLF Applied Remote Sensing Lectures*, WSL Birmensdorf, Switzerland.
- Bühler, Y.**, Bieler, C., Pielmeier, C., Wiesmann, A., Caduff, R., Frauenfelder, R., Jaedicke, C. & Bippus, G. (2014): All-weather avalanche activity monitoring from space? *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Bühler, Y.**, Christen, M., Dreier, L., Feistl, T. & Bartelt, P. (2014): Merging of recent developments in avalanche simulation technology into practice. *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Honig, J., **Bühler, Y.** & Bartelt, P. (2014): West Twin Avalanche Helicopter involvement - How safe are our pick-up locations? *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Frauenfelder, R., Jónsson, A., Lied, K., Schwerdtfeger, D., Bergum, G., **Bühler, Y.** & Stoffel, L. (2014). Analysis of an artificially triggered avalanche at the Nepheline Syenite Mine on Stjernøya, Alta, Northern Norway. *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Dreier, L., **Bühler, Y.**, Steinkogler, W., Feistl, T., Christen, M. & Bartelt, P. (2014): Modelling small and frequent avalanches. *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Ettlin, L., Bründl, M., Christen, M. & **Bühler, Y.** (2014): Automated risk mapping for buildings endangered by avalanches. *International Snow Science Workshop ISSW*, Banff, AB, Canada.
- Bühler, Y.**, Glover, J., Christen, M. & Bartelt, P. (2014): Digital elevation models in numerical rockfall simulations. *European Geosciences Union General Assembly*. 2014EGU2014-2109.
- Bartelt, P., Buser, O., **Bühler, Y.**, Dreier, L. & Christen, M., (2014): Numerical simulation of snow avalanches: Modelling dilatative processes with cohesion in rapid granular shear flows, Numerical Methods in Geotechnical Engineering - Proceedings of the 8th European Conference on Numerical Methods in Geotechnical Engineering, NUMGE 2014, pp. 327-332.
- Bartelt, P., **Bühler, Y.**, Buser, O., Ginzler, C., (2013): Plume Formation in Powder Snow Avalanches. In: Naaim-Bouvet F., Durand Y., Lambert, R. (eds.) Proceedings International Snow Science Workshop "a merging of theory and practice", ISSW 2013, 7-11 october, Grenoble Chamonix Mont-Blanc. 576-582.
- Maggioni, M., Bovet, E., Dreier, L., **Buehler, Y.**, Godone, D., Bartelt, P., Freppaz M., Chiaia, B., Segor V., (2013): Influence of summer and winter surface topography on numerical avalanche simulations. In: Naaim-Bouvet F., Durand Y., Lambert, R. (eds.) Proceedings International Snow Science Workshop "a merging of theory and practice", ISSW 2013, 7-11 October, Grenoble Chamonix Mont-Blanc. 591 - 598.
- Chrustek, P., Kolecka, N., **Bühler, Y.**, (2013): Snow avalanches mapping – evaluation of a new approach. In: Naaim-Bouvet F., Durand Y., Lambert, R. (eds.) Proceedings International Snow Science Workshop "a merging of theory and practice", ISSW 2013, 7-11 october, Grenoble Chamonix Mont-Blanc. 750 – 755.
- Bühler, Y.** (2013): Introduction to the program RAMMS, Seminar in snow, slush- and debris flows:

Hazard analysis and protection measures. September 2013 UNIS, Longyearbyen, Spitzbergen.

Philipp Weihs, Julian Gröbner, Luca Egli, Gregor Hülsen, **Yves Bühler** (2013): Effective albedo retrieval from spectral UV measurements using 3-D modelling of inhomogeneous topography. DACA-13. July 8-12, 2013, Davos, Switzerland.

Ginzler, C., Marty, M., **Bühler, Y.** (2013): Grossflächige hochaufgelöste Schneehöhenkarten aus digitalen Stereoluftbildern. DGPF Tagungsband 22/2013, 71 – 78.

Bühler, Y., Graf, C., (2013): Sediment transfer mapping in a high-alpine catchment using airborne LiDAR. In: Graf, C. (Red.) *Mattental - ein Tal in Bewegung. Publikation zur Jahrestagung der Schweizerischen Geomorphologischen Gesellschaft* 29. Juni - 1. Juli 2011, St. Niklaus. Birmensdorf, Eidg. Forschungsanstalt WSL. 113-124.

Graf, C., Deubelbeiss, Y., **Bühler, Y.**, Meier, L., McArdeLL, B., Christen, M., Bartelt, P., (2013): Gefahrenkartierung Mattental: Grundlagenbeschaffung und numerische Modellierung von Murgängen. In: Graf, C. (Red.) *Mattental - ein Tal in Bewegung. Publikation zur Jahrestagung der Schweizerischen Geomorphologischen Gesellschaft* 29. Juni - 1. Juli 2011, St. Niklaus. Birmensdorf, Eidg. Forschungsanstalt WSL. 85-112.

Bühler, Y. (2012): Remote Sensing Tools for Snow and Avalanche Research. International Snow Science Workshop ISSW 2012, Anchorage, Alaska, USA.

Bühler, Y. (2012): Snow and avalanche Research in the Indian Himalaya. Experiences from my visit at SASE from March to June 2012. SLF-Colloquium, Davos, Switzerland.

Bühler, Y. and Graf, C. (2013): Sediment transfer mapping in a high-alpine catchment using airborne LiDAR In: Graf, C. (ed.) *Mattental - ein Tal in Bewegung. Publikation zur Jahrestagung der Schweizerischen Geomorphologischen Gesellschaft* 29. Juni - 1. Juli 2011, St. Niklaus. Birmensdorf, Eidg. Forschungsanstalt WSL.

Christen, M., **Bühler, Y.**, Bartelt, P., Leine, R., Glover, J., Schweizer, A., Graf, C., McArdeLL, B.W., Gerber, W., Deubelbeiss, Y., Feistl, T. & Volkwein, A. (2012): Integral hazard management using a unified software environment: numerical simulation tool "RAMMS" for gravitational natural hazards. In: Koboltschnig, G., Hübl, J., Braun, J. (eds.) 12th Congress INTERPRAEVENT, 23-26 April 2012 Grenoble - France. Proceedings. Vol. 1. Klagenfurt, International Research Society *INTERPRAEVENT*. 77-86.

Jörg P., Granig M., **Bühler Y.**, Schreiber H. (2012): Comparison of measured and simulated snow avalanche velocities. In: Koboltschnig, G., Hübl, J., Braun, J. (eds.) 12th Congress INTERPRAEVENT, 23-26 April 2012 Grenoble - France. Proceedings. Vol. 1. Klagenfurt, International Research Society *INTERPRAEVENT*. 169-178.

Bühler, Y., Egli, L. & Ginzler, Ch. (2011): Towards wide area high resolution snow depth mapping using airborne optical scanner data. *6th EARSeL Workshop Cryosphere, Hydrology & Climate interactions*. Berne, Switzerland

Bühler, Y., Willi, Ch., Graf, Ch., Kenner, R. & Glover, J. (2011): Murgang- und Steinschlagforschung im hochalpinen Mattental. *AHORN 2011 - der Alpenraum und seine Herausforderungen im Bereich Orientierung, Navigation und Informationsaustausch*, Imst, Österreich.

Bühler, Y., Marty, M., Raetzo, H., Ginzler, C., 2011: High-resolution digital elevation model (DEM) generation in high alpine terrain using airborne remote sensing techniques. In: Graf, C. (ed) *Mattental - ein Tal in Bewegung. Jahrestagung der Schweizerischen Geomorphologischen Gesellschaft (SGmG) 2011. Abstract-Band*. Birmensdorf, Eidg. Forschungsanstalt WSL. 22-23.

Kenner, R., **Bühler, Y.**, Delaloye, R., Jörger, L., Phillips, M., (2011): Determination of volumetric changes and kinematics in permafrost terrain combining terrestrial and airborne laser scanning with aerial photogrammetry and DGPS: Grabengufer, Mattental. In: Graf, C. (ed) *Mattental - ein Tal in Bewegung. Jahrestagung der Schweizerischen Geomorphologischen*

- Gesellschaft (SGmG) 2011. Abstract-Band. Birmensdorf, Eidg. Forschungsanstalt WSL. 54-55.
- Graf, C., Deubelbeiss, Y., **Bühler, Y.**, Meier, L., McArdeell, B.W., Christen, M., Bartelt, P., (2011): Gefahrenkartierung Matteredal: Grundlagenbeschaffung und numerische Modellierung von Murgängen. In: Graf, C. (ed) Matteredal - ein Tal in Bewegung. Jahrestagung der Schweizerischen Geomorphologischen Gesellschaft (SGmG) 2011. Abstract-Band. Birmensdorf, Eidg. Forschungsanstalt WSL. 32-33.
- Bühler, Y.**, Gilgien, M. & Thee, P. (2010): Einsatz von Satellitennavigation für Forschungsanwendungen im hochalpinen Gelände - Aktuelle Projekte und Herausforderungen. *AHORN 2010 - der Alpenraum und seine Herausforderungen im Bereich Orientierung, Navigation und Informationsaustausch*, Bad Tölz, Deutschland.
- Bühler, Y.** (2010): Remote Sensing tools for snow- and avalanche research. SLF-Colloquium. Davos, Switzerland.
- Bühler, Y.**, Christen, M. & Bartelt, P. (2010): Sensitivity of snow avalanche simulations to digital elevation model quality and resolution. *IGS2010. International Symposium on Snow, Ice and Humanity in a Changing Climate*. Sapporo, Japan.
- Bühler, Y.** (2010): Remote Sensing for Snow and Avalanche Research. *Avalanche Dynamics & Avalanche Hazard Mapping Workshop*. HQ SASE, Manali, India. 1st - 4th November 2010
- Bühler, Y.**, Hüni, A., Christen, M., Meister, R. & Kellenberger, T. (2009): Automated detection and mapping of rough snow surfaces including avalanche deposits using airborne optical remote sensing. In: Schweizer, J. & van Herwijnen, A. (Eds.) *International Snow Science Workshop ISSW09*, 170 – 174. Davos, Switzerland.
- Bühler, Y.** (2009): Anwendung von ADS40 Daten in Schneegebieten. Swisstopo Kolloquium. Berne, Switzerland
- Bühler, Y.**, Hüni, A., Kellenberger, T. & Itten, K. I. (2009): Towards an automated detection of avalanche deposits using their directional properties. Imaging Spectroscopy SIG workshop: proceedings , Tel Aviv, Israel, CD-ROM.
- Treichler, D., **Bühler, Y.**, Hüni, A. & Itten, K. (2009): Spectral discrimination of avalanche deposits, In: 6th EARSeL Imaging Spectroscopy SIG workshop: proceedings , Tel Aviv, Israel, CD-ROM.
- Bühler, Y.** & Kellenberger, T. (2008) Avalanche detection using optical remote sensing data *5th EARSeL Workshop: Remote Sensing of Land Ice and Snow, Berne, Switzerland*.
- Bühler, Y.**, Kneubuehler, M., Bovet, S. & Kellenberger, T. (2007): Anwendung von ADS40 Daten im Agrarbereich. *Dreiländertagung SGPBF, DGPF & OVG*, Muttenz, Switzerland.
- Seidel, F., Kellenberger, T., **Bühler, Y.** & Perret J.-P. (2006): Satellite response to the August 2005 floods in Switzerland: Charter Call 100, International Disaster Reduction Conference IDRC. Davos, Switzerland.
- Bühler, Y.** A., Kellenberger, T. W., Small, D. & Itten, K. I. (2006): Rapid mapping with remote sensing data during flooding 2005 in Switzerland by object-based methods - a case study. *Geo Environment & Landscape Evolution*, Rhodos, Greece.

Thesis:

Bühler, Y. (2009): Automatisierte Erkennung und Kartierung von Lawinenablagerungen mit optischen Fernerkundungsdaten. Dissertation, Mathematisch-naturwissenschaftliche Fakultät, Universität Zürich (PhD Thesis).

Bühler, Y. (2003): Change Detection Nordostschweiz. Diplomarbeit. Geographisches Institut, Universität Zürich (Master Thesis).

Web of Science Researcher ID:

[B-9859-2011](#)

ORCID:

<https://orcid.org/0000-0002-0815-2717>,

ResearchGate:

https://www.researchgate.net/profile/Yves_Buehler