

## Personal

Ulf Büntgen

Professor of Environmental Systems Analysis  
Department of Geography  
University of Cambridge, Downing Place, CB2 3EN Cambridge, UK

Senior Scientist  
Swiss Federal Research Institute WSL  
Zurcherstrasse 111, 8903 Birmensdorf, Switzerland

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Masaryk University, Kotlářská 2, 61137 Brno, Czech Republic

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*[www.buentgen.com](http://www.buentgen.com) and [www.geog.cam.ac.uk/people/buentgen](http://www.geog.cam.ac.uk/people/buentgen)*

Born July 05, 1976 in Bonn, Germany

Married to Christiane von und zu Gilsa since April 2008, one child, Otto Maria Friedrich, born May 2014



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## Statistics and scores

Publications = **251** of which **182** are **ISI** listed

*h-index = 44/43/38 (according to Google Scholar/Research Gate/Web of Science)*

Research Gate Score = **44.65**

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## Main research question(s)

What are the causes and consequences of past and ongoing changes in diverse, though often intertwined environmental systems, including timely aspects of wildlife biology, forest- and myco-ecology, (paleo)climatology and human history, across a wide range of spatial and temporal scales; and how can different tree-ring archives, parameters and techniques be optimised to provide scientific answers to such and related inter- and cross-disciplinary research questions of societal relevance?

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## Education and career

02.2017-present member of the McDonald Institute for Archaeological Research, University of Cambridge, UK

01.2017-present Professor of Environmental Systems Analysis, Department of Geography, University of Cambridge, UK

01.2017-present Senior Scientist at Swiss Federal Research Institute WSL, Birmensdorf, Switzerland

10.2016-present Faculty Member at the Department of Geography, Masaryk University, Brno, Czech Republic

08.2016 The Electors to the Professorship of Environmental Systems Analysis have elected PD Dr Ulf Büntgen, MA, University of Bonn, PhD, University of Bern, Head of Dendroecology, Swiss Federal Research Institute WSL, into the said Professorship with effect from 1 January 2017

01.2014-12.2016 Head of PAGES (Past Global Changes) working group: Euro-Med2k “Climate of Europe and the Mediterranean of the last 2 millennia” (<http://www.pages-igbp.org/>)

11.2013-present ITRDB board member (<http://www.ncdc.noaa.gov/paleo/treering.html>)

01.2013-12.2016 Head of Dendroecology Group at Swiss Federal Research Institute WSL, Birmensdorf, Switzerland

09.2012-present Associated Senior Scientist at CzechGlobe Global Change Research Institute CAS, Brno, Czech Republic

05.2012 Call for S-Professorship in Palaeoclimatology at the Humboldt-University Berlin together with Group Leadership at GFZ Potsdam (declined)

12.2011 W2-Professorship in Climatology at Department of Geography, University of Bayreuth, Germany (shortlisted)

10.2011 Habilitation (Palaeoclimatology/palaeoecology) at University of Bern: Tree rings and climate – beyond temperature reconstructions

10-12.2010 Guest Professor at University of Madrid, Spain, Department of Astrophysics, collaboration with JF Gonzalez-Rouco

03-04.2009 Associated Research Fellow at Institute of Geography, Masaryk University of Brno, Czech Republic

06.2007-12.2016 Associated Research Fellow of Oeschger Centre for Climate Change Research, University of Bern, Switzerland

11.2006-12.2016 Scientist at Swiss Federal Research Institute WSL, Birmensdorf, Switzerland

11.2006 PhD thesis (Dr phil. nat.), Department of Geography, University of Bern, Switzerland: Long-term European climate reconstructions from high-elevation tree-rings. Grade: *summa cum laude*, supervisors: Wanner H, Esper J, Nicolussi K

09.2004-10.2006 PhD student, University of Bern, Switzerland

09.2003-08.2004 Scientific Research Assistant, Swiss Federal Research Institute WSL, Birmensdorf, Switzerland

08.2003 Master thesis, Department of Geography, University Bonn, Germany: Dendroklimatologische Analysen einer 1000-jährigen Lärchenchronologie aus rezenten und verbauten Hölzern für das Lötschental, Schweiz. Grade: 1.0, supervisors: Winiger M, Esper J, Neuwirth B

04.1999-08.2003 Studies of Geography, Geology and Cartography, University Bonn, Germany

09.1998-04.1999 Stay abroad: Oceanside, California, USA

08.1997-09.1998 Social service: 'GL-GL' in Bonn, Germany

06.1997 Allgemeine Hochschulreife: Gymnasium am Ölberg, Königswinter, Germany

1992-1998 Semi-professional Mountain Biker (Team Schauff) with several participations at German, European (France and Italy) and World Championships (France and USA)

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### Expeditions and fieldwork campaigns

11.2017 Southern Hungary – White truffle (*Tuber magnatum*) (PI together with Simon Egli and Istvan Baggi)

07.2017 Russian Altai-Sayan Mountain Range, Tuva Republic, Russia – living, dry-dead and archaeological wood from the upper and lower, temperature and drought-induced treeline ecotones (PI together with Vladimir Mygland and Alexander Kirilyanov)

07.2016 Indigirka River and Delta in northeastern Siberia, Yakutia, Russia – living, dry-dead, driftwood and subfossil wood (PI together with Alexander Kirilyanov and Anatoly Nicolaev)

07.2015 Yana River and Delta in northeastern Siberia, Yakutia, Russia – living, dry-dead, driftwood and subfossil wood (PI together with Alexander Kirilyanov and Anatoly Nicolaev)

08.2014 Central Hungary – Burgundy truffle (*Tuber aestivum*) (PI together with Simon Egli)

07-08.2013 Lena River and Delta in northeastern Siberia, Yakutia, Russia – living, dry-dead, driftwood and subfossil wood (PI together with Alexander Kirilyanov and Anatoly Nicolaev)

02.2013 Czech Republic, northeastern France and southern Germany – random oak sampling (PI together with Willy Tegel)

07.2012 Coastal east Greenland, Scorsby Sund – driftwood, shrubs, dwarf shrubs and herbs (PI together with Fritz Schweingruber)

07.2012 Northwest Iceland – driftwood, shrubs, dwarf shrubs and herbs (PI together with Fritz Schweingruber)

07.2011 Coastal east Greenland, Scorsby Sund – driftwood (PI together with Willy Tegel)

2011-present Soria Province, central Spain – Périgord Black truffle (*Tuber melanosporum*), living oaks and pines, as well as living junipers and construction timbers (PI together with Simon Egli and Fernando Martínez-Pena)

07.2010 Coastal east Greenland, Traill Island – driftwood (PI together with Benoit Sitter and Willy Tegel)

07.2009 Valee de Merveille, southern French Alps – living and dry-dead conifers (PI)

10.2008 Sierra de Guadarrama, central Spain – living conifers (PI together with J. Fidel Gonzalez-Rouco)

09.2007 Valee de Merveille, southern French Alps – living and dry-dead conifers (PI together with Jan Esper)

08.2007 High and Low Caucasus, Georgia – living conifers (PI together with Fritz Schweingruber)

10.2006 northern Fennoscandia – living, dry-dead and subfossil pines (Co-PI together with Jan Esper and David Frank)

2004-present Pyrenees – living conifers, dry-dead and subfossil wood, as well as treeline root-temperature loggers (PI together with Julio J. Camarero and Jan Esper)

2003-2006, 2012, 2017 Tatra Mountains, north-western Carpathian arc – living conifers (PI together with Jan Esper and David Frank)

2003-present Lötschental, Swiss Alps – living conifers, historical construction timber, dry-dead wood, settlement structures (PI together with Jan Esper and David Frank)

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## Publication record

### in review

Andrew C, Halvorsen R, Heegaard E, Kuyper TW, Heilmann-Clausen J, Krisai-Greilhuber I, Bässler C, Egli S, Gange AC, Høiland K, Kirk PM, Senn-Irlet B, Boddy L, **Büntgen U**, Kauserud H (in review) Climate, soil carbon and nitrogen deposition drive macrofungal assemblages in Europe. *Journal of Biogeography*

**Büntgen U**, Bolze N, Sittler B, Schweingruber FH, Ludemann T, Hellmann L (in review) Long-term recruitment dynamics of Arctic dwarf shrub communities in coastal east Greenland. *Dendrochronologia*

**Büntgen U**, Jenny H, Bollmann K (in review) Temperaturbedingter Höhenanstieg der Huftierabschüsse in Graubünden. *Naturwissenschaftliche Rundschau*

**Büntgen U**, Johnson D, Gonzalez-Rouco JF, Luterbacher J, Stenseth NC (in review) Extending ‘Detection & Attribution’ to global change ecology. *Frontiers in Ecology and the Environment*

Cerrato R, Cherubini P, Coppola A, **Büntgen U**, Salvatore MC, Baroni C (in review) A tree-ring based reconstruction of historical larch budmoth outbreaks in the Central Italian Alps. *i-Forest*

Egli S, Elburg R, Tegel W, Sproll L, Stobbe U, Peter M, Molinier V, Nievergelt D, Andrew C, **Büntgen U** (in review) Archaeological techniques illuminate the hidden world of truffles. *Fungal Ecology*

Gleeson E, Franke J, Trouet V, **Büntgen U**, Esper J, Villalba R, Frank D (in review) Hydroclimatic variations in the upper Rio Santa Cruz Basin, Patagonia, Argentina. *Journal of Hydrometeorology*

Heer K, Behringer D, Piermattei A, Bässler C, Fady B, Jehl H, Liepelt S, Lorch S, Piotti A, Vendramin G, Weller M, Ziegenhagen B, **Büntgen U**, Opgenoorth Lars (in review) Linking dendroecology and association genetics: Stress responses archived in tree rings associate with SNP genotypes in *Abies alba* (Mill.). *New Phytologist*

Muigg B, Tegel W, Rohmer P, Schmidt UE, **Büntgen U** (in review) Dendroarchaeological evidence of early 1 medieval water mill technology. *Journal of Archaeological Science*

Participants of the 2017 UK Dendro Meeting (in review) The value of national dendro meetings. *Dendrochronologia*

Plunkett G, Pilcher JR, Sigl M, McConnell JR, Chellman N, **Büntgen U** (in review) Volcanic glass in Greenland ice core confirms Katla as the source of the 822/3 CE volcanic sulfur anomaly and subsequent climate impact. *Geology*

Richard F, Vogt-Schilb H, Schatz B, Malaval J-C, Rapior S, Fons F, Bourgade V, Moreau P-A, **Büntgen U** (in review) Causes and consequences of changing Mediterranean fungal ecology over the last 170 years. *Frontiers in Ecology and the Environment*

Sidor CG, **Büntgen U**, Popa I, Bosela M, Vlad R (in review) Management implications of a drought-induced decline in Romanian Scots pine forests. *Agricultural Forest Meteorology*

Trnka M, Hayes M, Jurečka F, Bartošová L, Anderson M, Brázdil R, Bronw J, Camarero JJ, Cudlín P, Dobrovolný P, Eitzinger J, Feng S, Finnessey T, Gregoric G, Havlik P, Hain C, Holman I, Johnson D, Kersebaum K, Jungqvist F, Luterbacher J, Micale F, Hartl-Meier C, Možný M, Nejedlik P, Olesen J, Ruiz-Ramos M, Rötter R, Senay G, Vicente-Serrano S, Svoboda M, Susnika A, Tadesse T, Vizina A, Wardlow B, Žalud Z, **Büntgen U** (in review) Priority questions in multidisciplinary drought research. *Climatic Research*

#### in revision

**Büntgen U**, Galvan JD, Mysterud A, Krusic PJ, Hülsmann L, Jenny H, Senn J, Bollmann K (in revision) Horn growth variation and hunting selection of managed ibex populations in the eastern Swiss Alps. *Journal of Animal Ecology*

Düthorn E, Tejedor Vargas E, Kirchhefer A, Timonen M, Holzkämper S, **Büntgen U**, Esper J (in revision) Diverse growth trends and climate responses of Fennoscandian lakeshore and inland trees. *European Journal of Forest Research*

Esper J, Holzkämper S, **Büntgen U**, Schöne B, Keppler F, Hartl-Meier C, St. George S, Treydte K (in revision) Site-specific climatic signals in stable isotope records from Swedish pine forests. *Trees – Structure and Function*

Kaczka RJ, Spyt B, Janecka K, Beil I, **Büntgen U**, Scharnweber T, Nievergelt D, Wilmking M (in revision) Different maximum latewood density and Blue Intensity techniques reveal similar results. *Dendrochronologia*

Oppenheimer C, Orchard A, Stoffel M, Newfield TP, Guillet S, Corona C, Sigl M, **Büntgen U** (in revision) Timing and consequences of the Eldgjá lava flood eruption, Iceland. *Climatic Change*

Reinig F, Nievergelt D, Esper J, Friedrich M, Helle G, Hellmann L, Kromer B, Morganti S, Pauly M, Sookdeo A, Tegel W, Treydte K, Verstege A, Wacker L, **Büntgen U** (in revision) New tree-ring evidence for the Late Glacial period. *Quaternary Science Reviews*

Vitali V, **Büntgen U**, Bauhus J (in revision) The effects of past and projected seasonal climate change on growth of native and exotic conifers in central Europe. *Dendrochronologia*

#### in press

Du H, Liu J, Li M-H, **Büntgen U**, Yang Y, Wu Z, He H, Wang L (in press) Warming-induced upward migration of the alpine treeline in the Changbai Mountains, northeast China. *Global Change Biology*

Gange A, Heegaard E, Boddy L, Andrew C, Kirk P, Halvorsen R, Kuyper T, Bässler C, Diez J, Heilmann-Clausen J, Høiland K, **Büntgen U**, Kauserud H (in press) Trait-dependent distributional shifts in fruiting of common British fungi. *Ecography*

Lendvay B, Hartmann M, Brodbeck S, Nievergelt D, Reinig F, Zoller S, Parducci L, Gugerli F, **Büntgen U**, Sperisen C (in press) Improved recovery of ancient DNA from subfossil wood – application to the world’s oldest Late Glacial pine forest. *New Phytologist*

#### Published

#### 2018

251(182) Andrew C, Heegaard E, Gange AC, Senn-Irlet B, Egli S, Kirk PM, **Büntgen U**, Kauserud H, Boddy L (2018) Congruency in fungal phenology patterns across dataset sources and scales. *Fungal Ecology* 32: 9-17

250(181) Bosela M, Lukac M, Castagneri D, Sedmák R, Biber P, Career M, Konôpka B, Motta R, Nagel T, Popa I, Roibu C, Svoboda M, Trotsiuk V, Büntgen U (2018) Contrasting effects of environmental change on the radial growth of co-occurring beech and fir trees across Europe. *Science of the Total Environment* 615: 1460-1469

#### 2017

249(180) Andrew C, Heegaard E, Kirk P, Bässler C, Heilmann-Clausen J, Krisai-Greilhuber I, Kuyper T, Senn B, **Büntgen U**, Diez J, Egli S, Gange A, Halvorsen R, Høiland K, Nordén J, Rustøen F, Boddy L, Kauserud H (2017) Big data integration: Pan-European fungal species observations’ assembly for addressing contemporary questions in ecology and global change biology. *Fungal Biology Reviews* 31: 88-98

248(179) Anchukaitis KJ, Wilson R, Briffa KR, **Büntgen U**, Cook ER, D’Arrigo R, Davi N, Esper J, Frank D, Gunnarson B, Hegerl G, Helama S, Klesse S, Krusic PJ, Linderholm HW, Myglan V, Osborn TJ, Zhang P, Rydval M, Schneider L, Schurer A, Wiles G, Zorita E (2017) Last millennium Northern Hemisphere summer temperatures from tree rings: Part II, spatially resolved reconstructions. *Quaternary Science Reviews* 163: 1-22

247(178) **Büntgen U** (2017) Was fehlt, wenn von allem genug da ist. *Horizonte* 114: 24

246(178) **Büntgen U**, Bagi I, Fekete O, Molinier V, Peter M, Splivallo R, Vahdatzadeh M, Richard F, Murat C, Tegel W, Stobbe U, Martínez-Peña F, Sproll L, Hülsmann L, Nievergelt D, Meier B, Egli S (2017) New insights into the complex relationship between weight and maturity of Burgundy truffles (*Tuber aestivum*). *PLOS ONE* 12(1): e0170375. doi,10.1371/journal.pone.0170375

- 245(177) **Büntgen U**, Di Cosmo (2017) Reply to ‘Climate of doubt: a re-evaluation of Büntgen and Di Cosmo’s environmental hypothesis for the Mongol withdrawal from Hungary, 1242 CE’. *Scientific Reports* 7: 12696
- 244(176) **Büntgen U**, Eggertsson Ó, Wacker L, Sigl M, Ljungqvist FC, Di Cosmo N, Plunkett G, Krusic PJ, Newfield TP, Esper J, Lane C, Reinig F, Oppenheimer C (2017) Multi-proxy dating of Iceland’s major pre-settlement Katla eruption to 822-823 CE. *Geology* 45: 783-786
- 243(175) **Büntgen U**, Greuter L, Bollmann K, Jenny H, Liebhold A, Galvan JD, Stenseth NC, Andrew C, Mysterud A (2017) Elevational range shifts in four mountain ungulate species from the Swiss Alps. *Ecosphere* 8(4): e01761. 10.1002/ecs2.1761
- 242(174) **Büntgen U**, Kirilyanov A, Vaganov E, Workshop Participants (2017) Overcoming reductionism when linking climate variability with human history. *PAGES Magazine* 25: 113
- 241(174) **Büntgen U**, Krusic PJ (2017) Ideas and perspectives: New research examples of autumnal climate change ecology. *Biogeosciences Discussion* doi: org/10.5194/bg-2017-265
- 240(174) **Büntgen U**, Krusic P, Verstege A, Sangüesa Barreda G, Wagner S, Camarero JJ, Zorita E, Ljungqvist FC, Konter O, Oppenheimer C, Tegel W, Gärtner H, Cherubini P, Reinig F, Esper J (2017) New tree-ring evidence from the Pyrenees reveals western Mediterranean climate variability since medieval times. *Journal of Climate* 30: 5295-5318
- 239(173) **Büntgen U**, Latorre J, Egli S, Martinez-Pena F (2017) Socio-economic, scientific and political benefits of mycotourism. *Ecosphere* 8(7): e01870. 10.1002/ecs2.1870
- 238(172) **Büntgen U**, Myglan VS, Charpentier Ljungqvist F, McCormick M, Di Cosmo N, Sigl M, Jungclaus J, Wagner S, Krusic PJ, Esper J, Kaplan JO, de Vaan MAC, Luterbacher J, Wacker L, Tegel W, Solomina ON, Nicolussi K, Oppenheimer C, Reinig F, Kirilyanov AV (2017) Reply to ‘Limited Late Antique cooling’. *Nature Geoscience* 10: 243
- 237(171) **Büntgen U**, Reinig F (2017) Vulkane, Klima und Geschichte - Die Spätantike Kleine Eiszeit zwischen 563 und ca. 660 AD. *Naturwissenschaftliche Rundschau* 70: 585-593
- 236(171) Di Cosmo N, Oppenheimer C, **Büntgen U** (2017) Interplay of environmental and socio-political factors in the downfall of the Eastern Türk Empire in 630 CE. *Climatic Change* 145: 383–395
- 235(170) Dobrovolný P, Rybníček M, Kolář T, Brázdil R, Trnka M, **Büntgen U** (2017) May–July precipitation reconstruction from oak tree-rings for Bohemia (Czech Republic) since AD 1040. *International Journal of Climatology* doi: 10.1002/joc.5305
- 234(169) Duan J, Esper J, **Büntgen U**, Li L, Xoplaki E, Zhang H, Wang L, Fang Y, Luterbacher J (2017) Weakening of annual temperature cycle over the Tibetan Plateau since the 1870s. *Nature Communications* 8: 14008
- 233(168) Esper J, **Büntgen U**, Denzer S, Krusic PJ, Luterbacher J, Schäfer R, Schreg R, Werner J (2017) Environmental drivers of historical grain price variations in Europe. *Climate Research* 72: 39-52

- 232(167) Esper J, **Büntgen U**, Hartl-Meier CTM, Oppenheimer C, Schneider L (2017) Northern Hemisphere temperature anomalies during the 1450s period of ambiguous volcanic forcing. *Bulletin of Volcanology* 79: 41 doi: 10.1007/s00445-017-1125-9
- 231(166) Hartl-Meier CTM, **Büntgen U**, Smerdon JE, Zorita E, Krusic PJ, Ljungqvist FC, Schneider L, Esper J (2017) Temperature covariance in tree-ring reconstructions and climate model simulations over the past millennium. *Geophysical Research Letters* 44: doi.org/10.1002/2017GL073239
- 230 (165) Hartl-Meier C, Esper J, Liebhold A, Konter O, Rothe A, **Büntgen U** (2017) Effects of host abundance on larch budmoth outbreaks in the European Alps. *Agricultural and Forest Entomology* doi: 10.1111/afe.12216
- 229(164) Heegaard E, Boddy L, Diez JM, Halvorsen R, Kauserud H, Kuyper TW, Bässler C, **Büntgen U**, Gange AC, Krisai-Greilhuber I, Andrew CJ, Ayer F, Høiland K, Kirk P, Egli S (2017) Fine-scale spatiotemporal dynamics of fungal fruiting: prevalence, amplitude, range and continuity. *Ecography* 40: 947-959
- 228(163) Hellmann L, Tegel W, Geyer J, Kirilyanov AV, Nikolaev AV, Eggertsson Ó, Altman J, Reinig F, Morganti S, Wacker L, **Büntgen U** (2017) Dendro-provenancing of Arctic driftwood. *Quaternary Science Reviews* 162: 1-11
- 227(162) Henne P, Bigalke M, **Büntgen U**, Colombaroli D, Conedera M, Feller U, Frank D, Fuhrer J, Grosjean M, Heiri O, Luterbacher J, Mestrot A, Rigling A, Rössler O, Rohr C, Rutishauser T, Schwikowski M, Stampfli A, Szidat S, Theurillat JP, Weingartner R, Wilcke W, Tinner W (2017) An empirical perspective for understanding climate change impacts in Switzerland. *Regional Environmental Change* doi: 10.1007/s10113-017-1182-9
- 226(162) Konter O, **Büntgen U**, Carrer M, Esper J (2017) Testing for climate signal age effects at two treeline sites in the European Alps and Tatra Mountains. *TRACE – Tree Rings in Archaeology, Climatology and Ecology* 15: 59-65
- 225(161) Moser B, **Büntgen U**, Molinier V, Peter M, Sproll L, Stobbe U, Tegel W, Egli S (2017) Vegetation as an indicator for *Tuber aestivum* occurrence in Central Europe. *Fungal Ecology* 29: 59-66
- 224(160) Nielsen SS, von Arx G, Damgaard CF, Abermann J, Buchwal A, **Büntgen U**, Treier UA, Barfod AS, Normand S (2017) Xylem anatomical trait variability provides insights on the climate-growth relationship of *Betula nana* in western Greenland. *Arctic, Antarctic, and Alpine Research* 49: 359-371
- 223(159) Sidorova MO, **Büntgen U**, Omurova GT, Kardash OV, Myglan VS (2017) First dendro-archaeological evidence of a completely excavated medieval settlement in the extreme north of Western Siberia. *Dendrochronologia* 44: 146-152
- 222(158) Wilson R, Wilson D, Rydval M, Crone A, **Büntgen U**, Clark S, Ehmer J, Forbes E, Fuentes M, Gunnarson BE, Linderholm HW, Nicolussi K, Wood C, Mills C (2017) Facilitating tree-ring dating of historic conifer timbers using Blue Intensity. *Journal of Archaeological Science* 78: 99-111
- 221(157) Oppenheimer C, Wacker L, Xu J, Galván JD, Stoffel M, Orchard A, Guillet S, Corona C, Sigl M, Di Cosmo N, Hajdas I, Pan B, Breuker R, Schneider L, Esper J, Fei J, Hammond JOS, **Büntgen U** (2017) Multi-proxy dating of the ‘Millennium Eruption’ of Changbaishan and the Eldgjá lava floods. *Quaternary Science Reviews* 158: 164-171



220(156) Piermattei A, Urbinati C, Tonelli E, Eggertsson Ó, Levanic T, Kaczka R, Andrew C, Schöne BR, **Büntgen U** (2017) Potential and limitation of combining terrestrial and marine proxy archives from Iceland. *Global and Planetary Change* 155: 213–224

219(155) Schenk-Jäger KM, Egli S, **Büntgen U** (2017) Pilzvorkommen in der Schweiz anhand von Daten von Tox Info Suisse. *Schweizerische Zeitschrift für Pilzkunde* 1: 12-17

218(154) Thomas P, **Büntgen U** (2017) First harvest of Périgord black truffle in the UK as a result of climate change. *Climate Research* 74: 67-70

217(153) Tian H, Yan C, Xu L, **Büntgen U**, Stenseth NC, Zhang Z (2017) Scale-dependent climatic drivers of human epidemics in China during the past two millennia. *Proceedings of the National Academy of Science, USA* 114: 12970-12975

216(152) Vitali V, **Büntgen U**, Bauhus J (2017) Silver fir and Douglas fir are more tolerant to extreme droughts than Norway spruce in south-western Germany. *Global Change Biology* 23: 5108-5119

## 2016

215(151) Andrew C, Heegaard E, Halvorsen R, Martinez-Pena F, Egli S, Kirk PM, Bässler C, **Büntgen U**, Aldea J, Høiland K, Boddy L, Kausrud H (2016) Climate impacts on fungal community and trait dynamics. *Fungal Ecology* 22: 17-25

214(150) Blanchette R, Held BW, Hellmann L, Millman L, **Büntgen U** (2016) Arctic driftwood reveals unexpectedly rich fungal diversity. *Fungal Ecology* 23: 58-65

213(159) Bosela M, Popa I, Gomory D, Longauer R, Tobin B, Kyncl J, Kyncl T, Nechita C, Petráš R, Sidor C, Seben V, **Büntgen U** (2016) Effects of postglacial phylogeny and genetic diversity on the growth variability and climate sensitivity of European silver fir. *Journal of Ecology* 104: 716-724

212(148) Brázdil R, Dobrovolný P, Trnka M, **Büntgen U**, Řezníčková L, Kotyza O, Valášek H, Stepanek P (2016) Documentary and instrumental-based drought indices for the Czech Lands back to AD 1501. *Climatic Research* 70: 103-117

211(147) **Büntgen U** (2016) Bridge over troubled water – valuing Russia’s scientific landscape. *Climate Research* 70: 95-98

210 **Büntgen U** (2016) Fritz Schweingruber feiert seinen 80. Geburtstag. *WSLintern* 2: 12-13

209(146) **Büntgen U**, Di Cosmo N (2016) Climatic and environmental aspects of the Mongol withdrawal from Hungary in 1242 CE. *Nature Scientific Reports* 6: 25606, doi: 10.1038/srep25606

208(145) **Büntgen U**, Jäggi M, Stobbe U, Tegel W, Sproll L, Eikenberg J, Egli S (2016) All-clear for gourmets: truffles not radioactive. *Biogeosciences* 13: 1145-1147

208 **Büntgen U**, Ljungqvist CF, Esper J, Luterbacher J, Wagner S, Werner JP, workshop participants (2016) Consolidation, finalization and publication of the Euro-Med2k database. *PAGES Magazine* 24: 43

- 206(144) **Büntgen U**, Myglan VS, Charpentier Ljungqvist F, McCormick M, Di Cosmo N, Sigl M, Jungclaus J, Wagner S, Krusic PJ, Esper J, Kaplan JO, de Vaan MAC, Luterbacher J, Wacker L, Tegel W, Kirilyanov AV (2016) Cooling and societal change during the Late Antique Little Ice Age from 536 to around 660 AD. *Nature Geoscience* 9: 231-236
- 205(143) Camenisch C, Keller KM, Salvisberg M, Amann B, Bauch M, Blumer S, Brázdil R, Brönnimann S, **Büntgen U**, Campbell BMS, Fernández-Donado L, Fleitmann D, Glaser R, González-Rouco F, Grosjean M, Hoffmann RC, Huhtamaa H, Joos F, Kiss A, Kotyza O, Lehner F, Luterbacher J, Maughan N, Neukom R, Novy T, Pribyl K, Raible CC, Riemann D, Schuh M, Slavin P, Werner JP, Wetter O (2016) The 1430s: a cold period of extraordinary internal climate variability during the early Spörer Minimum with social and economic impacts in north-western and central Europe. *Climate of the Past* 12: 2107-2126
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3 Treydte K, Welscher C, Schleser GH, Helle G, Esper J, Winiger M, Frank DC, **Büntgen U** (2004) The climatic signal in oxygen isotopes of junipers at the lower timberline in the Karakorum, Pakistan. In: Gärtner H, Esper J, Schleser G (eds) *TRACE* 2: 100-106

## 2003

2 **Büntgen U** (2003) Dendroklimatologische Analysen einer 1000-jährigen Lärchenchronologie aus rezenten und verbauten Hölzern für das Lötschental/Schweiz. Diplomarbeit, Universität Bonn 95pp

1 **Büntgen U**, Frank DC, Esper J (2003) A detailed view on instrumental temperature data from Northern Eurasia. In: Gärtner H, Esper J, Schleser G (eds) *TRACE* 1: 28-35

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## Teaching

17-24.09.17 Cambridge University Field-Course, Fafleralp Lötschental, Switzerland: Physical Geography

22.09.16 Masaryk University, Brno, Czech Republic: Western Mediterranean climate variability since medieval times (IZ048 Progress in Physical Geography)

21.09.16 Masaryk University, Brno, Czech Republic: A tree-ring perspective on environmental systems analysis (IZ048 Progress in Physical Geography)

11-14.07.16 University of Bern, Switzerland: Methods of Climate Reconstruction (03709-FS2014-0) (together with J Luterbacher)

22.09.15 University of Mainz, Germany (Lötschental, Valais, Switzerland): Mesmethoden im Gelände – Beispiel Lötschental (together with Jan Esper)

15-17.09.15 Princeton University, New Jersey, USA: Paleoclimate-Dendroclimatology Workshop for Pre-Modernists (together with Jürg Luterbacher)

26.08.15 FORESCALE NZF Summer School, Fafleralp, Lötschental, Switzerland: Dendroecological and Geographical Excursion

07-11.06.15 InterDrought Summer School, Mikulov, Czech Republic: Causes and concurrences of Eurasia's unprecedented 6th century summer cooling

01.05.15 Schweizer Jugend Forscht, Nationaler Wettbewerb 2015, Davos, Switzerland: Das Alter und Wachstum von *Sequoiadendron Giganteum* (Riesenmammutbäume) von Marc Buchs

02-06.02.15 University of Bern, OCCR, Switzerland: Dendrochronology – Tree-ring research at the interface of archaeology, climatology and ecology (410251-FS2015-0)

20.01.15 Siberian Federal University and V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk, Russia: Frontiers in Tree-Ring Research

21-24.07.14 University of Bern, Switzerland: Methods of Climate Reconstruction (03709-FS2014-0) (together with J Luterbacher and D Frank)

01-04.07.14 InterDrought SummerSchool, Mikulov, Czech Republic: Dendroecological contributions to modern drought research

23.01.14 Volkshochschule Region Brugg, Schweiz: Das Klima der letzten 2500 Jahre

16.01.14 Volkshochschule Region Brugg, Schweiz: Jahrringe als Umweltarchiv

31.10.13 University of Lincoln, Nebraska, USA: Using tree rings in paleo-environmental research

15.03.13 University of Zurich, Switzerland: Dendrochronologie – Jahrringe als Archiv

07.11.12 Masaryk University, Brno, Czech Republic: Tree-rings at the interface of archaeology, climatology and ecology

06.11.12 Mendel University, Brno, Czech Republic: Tree-rings at the interface of archaeology, climatology and ecology

11.10.12 University of Freiburg, Germany: On the effect of climate variability on fungi productivity and phenology

09-13.04.12 Bern, Institute of Geography at the University of Bern: Methods of climate reconstructions (together with Luterbacher J and Frank DC)

26-30.03.12 Brno, Czech Republic, Masaryk University: 1) From the cell to the Holocene – the role of tree rings in palaeoclimatology, 2) The importance of time-series analyses in physical geography

15.11.11 Vienna, University of Vienna, Ringvorlesung: Jahrringforschung an der Schnittstelle zwischen Klimatologie, Archäologie und Ökologie

11-14.07.11 St. Petersburg, Russia, Hydro-Meteorological State University: Summer-School on Climate Change

17.06.11 Giessen, Germany, University of Giessen: (Field excursion and research seminar): From oaks to droughts

01.10-19.12.10 Madrid, Spain, University of Madrid: Tree rings and climate

27-28.05.10 Giessen, Germany, University of Giessen (Field excursion, laboratory work and research seminar): From oaks to droughts

09.11.09 Campulung, Romania, Romanian Forest Institute: European Climate Variability – Past, Present and Future

07.09.09 Vallais, Switzerland: International Dendroecological Field-week

02.04.09 Brno, Czech Republic, Masaryk University: Reconstructing climate during the past millennium

31.03.09 Brno, Czech Republic, Masaryk University: Tree-rings and climate – a European perspective

09.03.09 Winterthur, Switzerland, IAM – Institut für angewandte Medienwissenschaft: Tempowechsel innerhalb der Klima-Debatte – Unterschiedliche Geschwindigkeiten wissenschaftlicher Erkenntnisgewinnung, medialer Inszenierung und politischem Aktionismus

14.01.09 Oslo, Norway, Centre for Ecological and Evolutionary Synthesis – CEES Extra Seminar: Climatic triggers of plague dynamics over the past millennium

03-10.11.08 Urumqi, China, Institute of Desert Meteorology IDM: Frontiers in tree-ring research, Large-scale approaches, Standardization and chronology development, Methodological issues related to MXD and TRW

02.11.08 Beijing, China, Institute of Meteorology; Chinese Academy of Science: Tree-rings and climate – potential and limitations

15-20.09.08 Vallais, Switzerland: International Dendroecological Field-week

27.03.08 Gregynog Hall, University of Wales, *Arctica islandica* workshop: Shell detrending

16-22.09.07 Lötschental, Switzerland: International Dendroecological Field-week

01.09.05 Grindelwald, Switzerland, 4th international NCCR-Climat summer school: Alpine tree-rings and climate

28.01.05 Basel, Switzerland, Department of Botany, Dendroecology: Alpine tree-rings and climate

04-09.10.04 Bonn, Germany, Department of Geography: Die Objektivität der Wissenschaft: Beispiele aus der aktuellen Klima-Debatte

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## Talks

- 05.12.17 UK Dendro Meeting, Department of Geography, University of Cambridge, UK: Dendro@Cambridge
- 09.11.17 Archaeology Research Seminar, Department of Archaeology, University of Reading, UK: Tree rings at the interface of archaeology, climatology, ecology and history
- 19.10.17 Department of Geography, University of Cambridge, UK: A tree-ring perspective on climate and history
- 17.10.17 Department of Archaeology, University of Cambridge, UK: Cooling and societal change during the Late Antique Little Ice Age (536 to around 660 CE)
- 25.09.17 Department of Geography, University of Cambridge, UK: Tree-ring research at Cambridge
- 12.09.17 Italian Ecological Society – Annual Meeting, Naples, Italy: Climate extremes and ecological systems: impacts and feedbacks - A tree-ring perspective throughout time
- 13.06.17 Birmensdorf Tree Ring Lectures, WSL, Switzerland: Volcanos, climate, tree rings and societies
- 06.06.17 Cambridge Lunch Seminar of the Ecology Group, University of Cambridge: Cross-disciplinary tree-ring research from the cell to the globe and from the present to the Holocene
- 07.05.17 McDonald Institute for Archaeology, University of Cambridge: Tree-ring research at the interface of archaeology, climatology and ecology
- 27.04.17 EGU, Vienna, Austria: Dendroecological opportunities to shift and cross disciplinary boundaries
- 20.04.17 Cambridge Centre for Climate Science, Student Symposium 2017 “Understanding the Climate: from Samples to Models”, Centre for Mathematical Sciences, Cambridge: The importance of tree rings for paleoclimatology
- 10-14.04.17 PAGES workshop "Overcoming reductionism when linking climate variability with human history – a cross-disciplinary approach in the Altai Mountains", Siberian Federal University, Krasnoyarsk, Russia: The role of inner Eurasia on the rise and demise of nomadic empires
- 27.03.17 Workshop on Climate Change in Eurasian Late Antiquity: A Dialogue between Science, History, and Archaeology, Institute for Advanced Study – School of Historical Studies, NJ, USA: Tree-ring evidence for the Late Antique Little Ice Age
- 14.12.16 Farewell Lecture within our Birmensdorfer Tree-Ring Lectures, WSL: A personal perspective on 14-years of tree-ring research at WSL
- 17.11.16 FocusTerra – Vortrag zur Sonderausstellung "Tambora und das Jahr ohne Sommer", ETH Zurich: Warum Bäume und Vulkanausbrüche für die Klimaforschung so wichtig sind
- 06.09.16 N-Trend workshop, Aviemore, Scotland: Western Mediterranean climate variability since medieval times and new insights from the COSMIC project

09.05.16 Burgfestspiele Bad Vilbel, Germany: Das Klima im 14. Jahrhundert und seine Auswirkungen auf den Gang der Geschichte

27-29.04.16 PAGES initiative, Icelandic Forest Research Institute Mógilsá, Iceland: Using Arctic driftwood at the interface of marine and terrestrial (paleo-) environmental research

23-25.03.16 PAGES EuroMed 2k meeting at Hoeri, Germany: Consolidation, finalization and publication of the EuroMed2k database

16.03.16 Verband der Angehörigen des Koordinierten Wetterdienstes (VAKW), Dübendorf, Switzerland: Jahrringe als Klima- und Umweltarchiv

25.11.15 Invited keynote at the FORESTERRA FINAL CONFERENCE, Lisbon, Portugal: The impact of climate change on forest ecosystems

13.11.15 Invited keynote at WSL/SLF internal PhD-course “Data Science und Advanced Statistics”: Successful publishing

20.05.15 Invited keynote lecture at TRACE, Seville, Spain: Frontiers in tree-ring research

06.05.15 Bolin Centre Lecture, Department of Geography, University of Stockholm, Sweden: Frontiers in tree-ring research

28.04.15 W3 Nachfolge Prof. Spiecker, IWW Freiburg, Germany: Frontiers in tree-ring research

27.04.15 W3 Nachfolge Prof. Spiecker, IWW Freiburg, Germany: Waldwachstumskundliche Analysen von Dauerversuchsflächen

19.02.15 Famines during the ‘Little Ice Age’ (1300-1800). Socio-natural Entanglements in Premodern Societies. Bielefeld, Germany: A tree-ring perspective on ‘Little Ice Age’ summer temperature variability

18.02.15 COST Action FP1203. European Non-Wood Forest Products (NWFPs) Network. 3rd Workshop and 4th Management Committee Meeting. Zagreb, Croatia: A (dendro)climatological perspective on fungal ecology

04.12.14 The coldest decade of the millennium? The Spörer Minimum, the climate during the 1430s, and its economic, Social and Cultural impact. University of Bern, Switzerland: A tree-ring perspective on the Spörer Minimum

01.12.14 Climate variability in Italy during the last two millennia - Italy 2k. Accademia Nazionale dei Lincei, Roma, Italy: Continental-scale temperature variability during the past two millennia – The PAGES 2k project

14.-17.09.14 PAGES EuroMed 2k meeting in Soria, Spain (PI): Compilation and evaluation of high- to low-resolution, marine and terrestrial proxy archives from the North Atlantic/EU sector that cover several centuries to millennia

26.08.14 Auditorium der Academia Engiadina, Samedan, Switzerland: Jahrringforschung oberhalb der Baumgrenze oder: was Dendrochronologen und Steinböcke verbindet

21.07.14 AK-Hochgebirge, Lötschental Exkursion, Switzerland: Das ‚wilde‘ Lötschental – museales Landschaftsartefakt oder moderner Lebensraum

13.05.2014 Heidelberger Geographische Gesellschaft, HHG, Heidelberg, Germany: Wenn Bäume Geschichte machen – Jahrringe als Umweltarchiv

15.04.14 ETH-Rat Dialog, Zurich, Switzerland: Late glacial tree-ring research

14.02.14 ClimFun and Micosylva+ meeting in Soria, Spain: Linking mushroom phenology, productivity and diversity to tree-ring and climate variability in Pinar Grande

28.01.14 Micosylva+ Annual meeting in Catalonia, Spain: Breaking new ground at the interface of dendroecology and mycology

08.11.13 Oeschger Centre for Climate Change Research, WP1 and WP2 meeting, Bern, Switzerland: Tree-ring amplification of the early-19th century cooling

04.11.13 LDEO, Columbia University, NY, USA: Frontiers in tree-ring research at the interface of archaeology, climatology and ecology

30.10.13 University of Lincoln, Nebraska, USA: Frontiers in tree-ring research at the interface of archaeology, climatology and ecology

16.10.13 Geocycles Workshop, Mainz, Germany: Keynote - Linking climate variability with human history: a tree-ring perspective

03.09.13 ClimTree 2013 Conference, Zurich, Switzerland: Frontiers in dendroclimatology and -ecology

19.06.13 InterDrought SummerSchool, Telc, Czech Republic: Dendroecological applications in modern drought research

22.01.13 WSL, Birmensdorf, Switzerland, Dendro-Seminar: Annual increments from above the Alpine treeline

10.01.13 Oslo, Norway, Centre for Ecological and Evolutionary Synthesis – CEES Extra Seminar: European climate variability controls Alpine ibex vitality

15.11.12 Charles University, Prague, Czech Republic: Tree-rings at the interface of archaeology, climatology and ecology

21.06.12 Norwich, University of East Anglia, CRU: Potential and limitations of randomly updating German oaks

14.06.12 Mainz, University of Mainz, Lecture-Series: Jahrringe an der Schnittstelle zwischen Archäologie, Klimatologie und Ökologie

21.05.12 Hamburg, PAGES 2K-meeting: Tree ring-based temperature reconstructions for Europe and the last millennium

24.01.12 Bern, Swiss National Science Foundation: European Climate Variability of the Late to Mid Holocene - ECHO

- 14.12.11 Lausanne, EPFL: Tree rings in archaeology, climatology and ecology
- 06.12.11 Berlin, Humboldt University Berlin: Möglichkeiten der Jahrringforschung an der Schnittstelle von Paläoklimatologie und -ökologie (Neubesetzung der S-Professur für Paläoklimatologie)
- 06.10.11 Bern, University of Bern, Habilitationsvortrag: Potential und Limitierung jahrringbasierter Klimarekonstruktionen
- 14.09.11 Engelberg, Switzerland, 24. International Dendroecological Fieldweek: Frontiers in Dendroecology
- 07.09.11 Samedan, Engadiner Naturforschende Gesellschaft – SESN: Wenn Bäume Geschichte machen – Jahrringe als Klimaarchiv
- 06.07.11 Bayreuth, University of Bayreuth, Department of Geography: Beiträge der Jahrringforschung zur Klimatologie/Ökologie in der Physischen Geographie (Wiederbesetzung der Professur für Klimatologie)
- 10.05.11 Ettswil, Schloss Wyher, Generalversammlung Auto-Schweiz: Was können uns Jahrringe über das Klima sagen?
- 09.05.11 Bern, Institute for Plant Sciences, Research Colloquium: Frontiers in Dendroclimatology and -ecology
- 18.04.11 London, UK, Clyde & Co – International Law Firm Seminar Lecture: What tree rings can tell us about climate change?
- 08.02.11 Amsterdam, Netherlands, University of Amsterdam and Faculty of Earth & Life Sciences: Tree-ring sampling along the Yenisei
- 04.02.11 Erlangen, Germany, AK-Hochgebirge, Annual meeting: 2500 years of European climate variability and human susceptibility
- 18.01.11 Oslo, Norway, CEES: Frontiers in dendroclimatology and -ecology
- 16.12.10 Zaragoza, Spain, ARAID-Instituto Pirenaico de Ecología (CSIC): Frontiers in dendroclimatology and -ecology
- 19.11.10 Hamburg, Germany, University of Hamburg, Tag der Holzwirtschaft: Neue Wege in der Dendroklimatologie
- 16.09.10 Zurich, Switzerland, European Meteorological Society: European climate variability and human susceptibility over the past 2500 years
- 14.06.10 Rovaniemi, Finland, World Dendro: Scandinavian temperatures offset global warming (presented by David Frank)
- 24.04.10 Freiburg, Germany, International Conference TRACE: Complex climate response of Carpathian Scots pine cliff sites
- 03.12.09 Innsbruck, Austria, University of Innsbruck: Dendrochronology – *quo vadis*

19.11.09 Padova, Italy, University of Padova: Advances in European tree-ring research - from annual insect outbreaks to millennial climate variability

27.10.09 Mallorca, Spain, EuroDendro: Hydro-climatic drivers of Medieval Black Death

28.09.09 Toulouse, France, European Meteorological Society: Climatic drivers of *Yersinia pestis* – a holistic perspective on Medieval Black Death

10.09.09 Brno, Czech Republic, Masaryk University: Climate variability and its human dimension in Central Europe during the 18th century

05.09.09 Oslo, Norway, CEES in the Norwegian Academy of Science and Letters: The Black Death and climate

31.01.09 Marburg, Germany, Hessisches Landesamt für geschichtliche Landeskunde: Klimavariabilität und Pestausbrüche während der letzten 1000 Jahre

24.01.09 Heidelberg, Germany, South Asia Institute, Department of Geography, Germany, AK-Hochgebirge annual meeting: Diverse growth trends and climate responses of high-elevation Mediterranean tree-ring width and density

12.09.08 Brig, Switzerland, Institute for Alpine Research: Alpine summer temperatures of the past millennium

23.06.08 Madrid, Spain, University of Madrid: European climate and tree-ring variability of the past millennium

28.04.08 Zakopane, Poland, International Conference TRACE: Three centuries of Central European drought dynamics

28.04.08 Zakopane, Poland, International Conference TRACE – Podium Discussion: On the Divergence Problem in tree-ring research

23.04.08 Lötschental, Switzerland, Bauernhausforschung-Alpen: 1000 years of settlement and building history, insect outbreaks, and temperature variability in the Lötschental

15.04.08 Augsburg, Germany, Deutsche Baumpflege: How do trees react to climate change

14.03.08 Mallorca, Spain, EU meeting MILLENNIUM: Proxy data calibration and verification

19.01.08 Passau, Germany, AK-Hochgebirge annual meeting: Testing for tree-ring divergence in the European Alps

03.11.07 Freiburg, Germany, AK-Klima annual meeting: Two tests for tree-ring divergence in the European Alps

28.09.07 Stockholm, Sweden, EU meeting MILLENNIUM: A test for tree-ring divergence in the European Alps

16-22.09.07 Lötschental, Switzerland: International Dendroecological Field-week

04.05.07 Riga, Latvia, International Conference TRACE: Eight centuries of Pyrenees summer temperatures from tree-ring density



19.04.07 Oslo, Norway, Center for Ecological and Evolutionary Synthesis CEES, Dep. of Biology, University of Oslo: Climatic and insect controls on inter-annual to multi-centennial growth of the European larch (*Larix decidua* Mill.)

07.02.07 Mallorca, Spain, EU meeting MILLENNIUM: Long-term European climate variations from high-elevation tree-ring density

27.01.07 Marburg, Germany, AK-Hochgebirge annual meeting: Zweierlei Grenzen in der Palaeoklimatologie: Fallbeispiel Jahrringforschung

21.04.06 Brussels, Belgium, International Conference TRACE: Tree growth and climate in the Tatra Mountains

14.02.06 Mallorca, Spain, EU meeting MILLENNIUM: Tree-rings and uncertainties

06.10.05 Trier, Germany, 55. Deutscher Geographentag: Jahrringe und Klima der Alpen

22.04.05 Fribourg, Switzerland, International Conference TRACE: Alpine temperature variations, 755-2004

07.04.05 Bologna, Italy, EU meeting ALP-IMP: Long-term Alpine temperature reconstructions

22-25.09.04 Luzern, Switzerland, ESF-HOLIVAR workshop: A 1052-year alpine tree-ring proxy captured warmest summer temperatures in the last decade

28-29.05.04 Kippel, Switzerland, Schweizerische Bauernhausforschung: Tree-rings & climate

23.04.04 Birmensdorf, Switzerland, International Conference TRACE: A Millennial-long Alpine summer temperature reconstruction derived from tree rings

29.01.04 Kippel, Switzerland, Schweizerische Bauernhausforschung/AG Wallis: Dendro-klimatologische Analyse einer 1300-jährigen Lärchenchronologie aus rezenten und verbauten Hölzern für das Wallis/Schweiz

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### **Fund raising and project managing**

**aDND:** Evaluating the potential of the subfossil “Binz” pines for ancient DNA analyses (WSL internal call 2014; CHF 53'000) – Co-PI

**AIVEC:** Linking Alpine Ibex Vitality to European Climate Variability (WSL internal call 2013; CHF 79'000) – PI (together with Kurt Bollmann, Josef Senn, Simon Egli and Achilleas Psomas)

**ALP-IMP:** Multi-centennial climate variability in the Alps based on instrumental data, model simulations, and proxy data (European Commission, Grant # EVK2-CT-2002-00148) – *involved*

**BINZ I:** Improving Late Glacial European tree-ring chronologies for accurate climate archive dating - Consolidation and extension of the Swiss-German pine chronology back to 14 000 BP (Swiss National Science Foundation + DFG, Grant # 20021L\_157187 / 1; CHF 477'277 + Euro 300'000) – Co-PI (together with Wacker L)

**BINZ II:** One-year extension of “Improving Late Glacial European tree-ring chronologies for accurate climate archive dating - Consolidation and extension of the Swiss-German pine chronology back to 14 000 BP” (Swiss National Science Foundation # 20021L\_157187 / 2; CHF 126'092) – *Co-PI (together with Wacker L)*

**COSMIC:** Extraterrestrial evaluation of global-scale tree-ring dating in the first millennium CE (WSL internal call 2014; CHF 53'777) – *PI*

**DAAD:** Siberian Driftwood (DAAD personal grant; Euro 1'000) – *PI*

**DITREC:** Disentangling Truffle Ecology (WSL internal call 2011; CHF 46'000) – *PI (together with Egli S)*

**Euro-FC:** Linking European Fungal Ecology with Climate Variability (Swiss National Science Foundation, Grant # 205321\_169613; CHF 159'000; 2016-2018) – *PI*

**EUROTRANS:** European multi-centennial climatic variability and extremes along a maritime-continental tree-ring transect (Swiss National Science Foundation, Grant # 200021-105663) – *co-inventor and main employee*

**EVA MAYR-STIHL STIFTUNG:** Grönländisches Treibholz als Umweltarchiv, 2010 – Rekonstruktion nacheiszeitlicher Klimaschwankung, Ozeanströmung und Landhebung (Eva Mayr-Stihl-Stiftung; Euro 10'000) – *PI*

**EVA MAYR-STIHL STIFTUNG:** Arctic driftwood Project 2011, extension of the former Greenland project (Eva Mayr-Stihl-Stiftung; Euro 18'000) – *PI*

**EVA MAYR-STIHL STIFTUNG:** Arctic driftwood Project 2012, extension of the activities from 2010 and 2011 (Eva Mayr-Stihl-Stiftung; Euro 20'000) – *PI*

**EVA MAYR-STIHL STIFTUNG:** Arctic driftwood Project 2013, extension of the activities from 2010-2012 (Eva Mayr-Stihl-Stiftung; Euro 54'000) – *PI*

**EXTRACT:** Extended thousand-year reconstructions of Alpine climate from tree-rings (Swiss National Science Foundation, NCCR-Climat) – *involved*

**GenTree:** Optimising the management and sustainable use of forest genetic resources in Europe (*European Commission – Horizon 2020; Euro 520'000*) – *Co-PI 2016*

**IBEX:** Unraveling the effects of hunting and climate on the Swiss Alpine ibex population (Ernst Göhner Stiftung; CHF 50'000) – *PI (together with Kurt Bollmann) 2016*

**INTERDROUGHT:** Building up a multidisciplinary scientific team focused on drought; 35 month from August 2012 to June 2016 (European Commission through Czech Ministry of Education, Youth and Sports; Euro 1'280'000) – *Co-PI*

**LÖTSCHENTAL-TRANSECT:** (Swiss National Science Foundation) – *co-inventor*

**MADRID:** Tree rings, model simulations and climate variations on the Iberian Peninsula (UNIVERSIDAD COMPLUTENSE; Euro 7'2000) – *PI*

**MEDCLIVAR:** 500 years of tree ring-based drought reconstructions for the Central Iberian Peninsula – *main inventor*

**MILLENNIA:** Millennia-long Northern Hemisphere climate reconstructions from tree rings (Swiss National Science Foundation, Grant # 2100-066628) – *involved*

**MILLENNIUM:** (European Commission, Grant # 017008-2; Euro 480'000) – *co-inventor and main employee*

**PAGES:** Compilation and evaluation of marine and terrestrial archives for Europe and the last 2k years (EuroMed2k), September 14-17, 2014 Soria, Spain (US\$ 10'000) – *PI*

**PAGES:** Consolidation, finalization and publication of the EuroMed2k database (EuroMed2k), March 23-25, 2016 WSL, Switzerland (US\$ 7'500) – *PI*

**PAGES:** Arctic driftwood at the interface of marine and terrestrial (paleo-) environmental research, April 27-30, 2016 Mógilsá, Iceland (US\$ 4'000) – *PI*

**PAGES:** Overcoming reductionism when linking climate variability with human history – a cross-disciplinary approach in the Altai Mountains, Spring 2017 Krasnoyarsk, Russia (US\$ 10'000) – *PI together with Alex Kirilyanov*

**PALEO:** 2000 years of **PA**Leoclimatology and **E**cology from **O**ak stable isotopes in the Czech Republic (Czech Science Foundation Grant # 17-22102S; CZK 10'000'000) – *PI*

**TRÜFFEL:** Natürliche Verbreitung und nachhaltige Nutzung von Burgunder Trüffeln (*Tuber aestivum*) in der Schweiz. (Ernst Göhner Stiftung; CHF 50'000) – *PI (together with Simon Egli)*

**UPDATE:** Updating the historical record of European oak tree-ring data (Columbia University, LDEO, NY; Dollar 4'500) – *PI*

**VITA:** Varves, ice cores and tree rings: archives with annual resolution (Swiss National Science Foundation, NCCR-Climate) – *involved*

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## Review & editorial work

*Annals of Forest Science;* <http://www.afs-journal.org/>

*Bergen Research Foundation (BSF);* [http://www.uib.no/bfs/index\\_eng.htm](http://www.uib.no/bfs/index_eng.htm)

*Biology Letters;* <http://rsl.royalsocietypublishing.org/>

*Canadian Journal of Forest Research;* <http://pubs.nrc-cnrc.gc.ca/rp-ps/journalDetail.jsp?jcode=cjfr&lang=eng>

*Chemical Geology;* <http://ees.elsevier.com/chemge/default.asp>

*Climate Dynamics;* <http://www.springer.com/earth+sciences/geophysics/journal/382>

*Climate of the Past;* <http://www.climate-of-the-past.net/>

*Climate Research;* <http://www.int-res.com/journals/cr/>

*Climatic Change;* <http://www.springer.com/earth+sciences+and+geography/meteorology+%26+climatology/journal>

*Czech Science Foundation;* <http://www.gacr.cz/>

*Dendrochronologia;* <http://shop.elsevier.de/dendro>

*DFG;* <http://www.dfg.de/index.jsp>

*DFG Exzellenzcluster CLiSAP;* <http://www.dfg.de/>

*Ecography;* <http://www.wiley.com/bw/journal.asp?ref=0906-7590&site=1>

Ecological Modeling; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/503306/description#description](http://www.elsevier.com/wps/find/journaldescription.cws_home/503306/description#description)  
 Geophysical Research Letters; <http://www.agu.org/journals/gl/>  
 Global Change Biology; <http://www.wiley.com/bw/journal.asp?ref=1354-1013&site=1>  
 Global and Planetary Change; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/503335/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/503335/description)  
 IAWA Journal; <http://bio.keulewen.be/sys/iawa/>  
 International Journal of Biometeorology; <http://www.springerlink.com/content/100429/>  
 International Journal of Climatology; <http://www3.interscience.wiley.com/journal/4735/home>  
 Israel Journal of Ecology and Evolution; <http://www.israelsciencejournals.com/eco.htm>  
 Journal of Atmos. & Solar-Terrestrial Physics; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home](http://www.elsevier.com/wps/find/journaldescription.cws_home)  
 Journal of Biogeography; <http://www.wiley.com/bw/journal.asp?ref=0305-0270>  
 Journal of Animal Ecology; <http://www.journalofanimalecology.org/view/0/index.html>  
 Journal of Geophysical Research; <http://www.agu.org/journals/jd/>  
 Journal of Geophysical Research-B; <http://www.agu.org/journals/jg/>  
 New Phytologist; <http://www.wiley.com/bw/journal.asp?ref=0028-646X&site=1>  
 NOAA Climate Program; <http://www.climate.noaa.gov/>  
 Oecologia; <http://www.springer.com/life+sci/ecology/journal/442>  
 Palaeogeography, Palaeoclimatology, Palaeoecology; <http://www.sciencedirect.com/science/journal/00310182>  
 PAGES; <http://www.pages.unibe.ch/>  
 Plant Ecology; <http://www.springer.com/life+sci/plant+sciences/journal/11258>  
 Polish Journal of Environmental Studies; <http://www.pjoes.com/>  
 Proceedings of the National Academy of Sciences USA; <http://www.pnas.org/>  
 Quaternary Research; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/622937/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/622937/description)  
 Quaternary Science Reviews; [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/636/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/636/description)  
 Silva Fennica; [www.metla.fi/silvafennica](http://www.metla.fi/silvafennica)  
 Swiss National Science Foundation; <http://www.snf.ch/E/Pages/default.aspx>  
 The Holocene; <http://hol.sagepub.com/>  
 Theoretical & Applied Climatology; <http://www.springer.com/springerwiennewyork/geosciences/journal/704>  
 Tree-Ring Research; <http://www.treeringsociety.org/journal.html>  
 Trees, Structure and Function; <http://www.springer.com/life+sci/forestry/journal/468>  
 Tropical Ecology; <http://journals.cambridge.org/action/displayJournal?jid=TRO>

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## Research foci

**Alpine ibex horn growth:** Disentangling biotic and abiotic drivers of annual Caprinae horn growth rates  
**Arctic driftwood:** Wood anatomy, Ocean Circulation Patterns, Provenancing, aDNA sequencing  
**Climate variability:** MWP, LIA, Recent Warming, Color-preservation, Forcing agents  
**Dendrochronology:** De-trending, Composite chronologies, Maximum Latewood Density  
**Early instrumental measurements:** Homogenization, Urban-Heat-Island, High-elevation observations  
**Mountain systems:** European Alps, Carpathian arc, Pyrenees, Caucasus, Scandinavia and Tien Shan  
**Mushroom phenology and productivity:** Intra- and inter-annual extremes and trends in fungi fruiting  
**Landscape dynamics:** Change and persistence in Alpine environment, settlement and building history  
**Palaeoclimatology:** Long-term reconstructions, regional- to large-scale networks, frequency domains  
**Plague dynamics:** Climatic and environmental triggers of plague outbreaks in Central Asia and Europe  
**Population ecology:** Long-term insect outbreak dispersal and dynamics, fungi fruiting and phenology  
**Settlement activity:** Construction timber, felling dates, dendroarchaeology, human history, population migration  
**Truffle ecology:** Fruit body formation, daily growth rings, climatic drivers, ectomycorrhizal ecology, host plant  
**Vegetation dynamics:** Intra-/interannual growth responses, treeline and ecotone dynamics, shrubs and herbs

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## Supervision

- Pascal Affolter** (07) Aufbau und Klimatische Analyse eines tieflagen Netzwerk, Wallis. Master thesis, Institute of Geography, University of Bern, Switzerland (Master)
- Lea Regina Moser** (08) Interannuelle Wachstumsanalyse entlang eines Höhentransekts im Lötschental, Wallis. Master thesis, Institute of Geography, University of Bern, Switzerland (Master)
- Thomas Neuenschwander** (08) Eine 1000-jährige Temperaturrekonstruktion für die Französischen Seealpen. Master thesis, Institute of Geography, University of Bern, Switzerland (Master)
- George Sakhuari** (08) Trends in Georgian forest growth productivity and climate sensitivity during the 20th century. PhD thesis, Institute of Biology, University of Tbilisi, Georgia (PhD)
- Benjamin Herzog** (09) Tempowechsel innerhalb der Klima-Debatte – Unterschiedliche Geschwindigkeiten wissenschaftlicher Erkenntnisgewinnung, medialer Inszenierung und politischem Aktionismus, IAM Winterthur (Bachelor)
- Oliver Lutz** (09) Tempowechsel innerhalb der Klima-Debatte – Unterschiedliche Geschwindigkeiten wissenschaftlicher Erkenntnisgewinnung, medialer Inszenierung und politischem Aktionismus, IAM Winterthur (Bachelor)
- Laura Fernández Donado** (09) Tree-rings and climate of the Iberian Peninsula, University of Madrid (Master)
- Lara Läubli** (10) Linking Alpine glacier dynamics to tree growth, University of Zürich (Master)
- Steffen Walz** (11) Extra-tropical biomass response to the unknown 1258 AD eruption, University of Würzburg (Master)
- Wilhelm Tegel** (11-12) Neolithic construction timber and environmental change, University of Freiburg (PhD)
- Ulrich Stobbe** (11-12) Truffle ecology in southwest Germany, University of Freiburg (PhD)
- Janine Grossjean** (11-12) Dendroklimatologisches Potential von *Juniperus thurifera* in Zentral Spanien, University of Mainz (Master)
- Lena Hellmann** (11-12) Wood anatomical analysis of Arctic driftwood, University of Würzburg (Master)
- Felix Fischer** (12) Potential and limitation of “branch dendrochronology” to date eagle nests in the Swiss Alps, University of Würzburg (Master)
- Joachim Ortsiefen** (12) Combining living and historical Juniper trees towards a precipitation sensitive composite chronology for Central Spain, University of Mainz (Master)
- Lena Hellmann** (13-16) Potential and limitation of Arctic driftwood as an environmental archive, OCCR at the University of Bern (PhD)
- Simon Dippel** (13) Using historical wood to develop a composite chronology in the Bavarian Alps, TU Munich (Bachelor)
- Frederick Reinig** (14) Potential and limitation to develop a tree ring-based summer temperature reconstruction for northeastern Siberia and the past millennium (Master)
- Marc Buchs** (14-15) Swiss BrainPower: Nationaler Wettbewerb Schweizer Jugend Forscht in Davos: Das Alter und Wachstum von *Sequoiadendron Giganteum*
- Oliver Konter** (13-16) Trends and Signals in tree-ring Parameters, University of Mainz, Germany (PhD second supervisor)
- Jan Geyer** (15) Dendroprovenancing Arctic Driftwood, University of Freiburg, Germany (Bachelor co-supervisor)
- Valentina Vitali** (15-17) Drought tolerance of Douglas fir, Norway spruce and Silver fir in the Black Forest region – a dendrochronological analysis (PhD second supervisor)
- Flurina Rigling** (16) Swiss BrainPower: Nationaler Wettbewerb Schweizer Jugend Forscht: Trüffel (*Tuber aestivum*) mit Wachstumsringen?
- Nancy Bolze** (16) Re-visiting temperature-induced recruitment pulses of Greenlandic dwarf shrub communities. University of Freiburg, Germany (Master supervisor)

**Frederick Reinig** (15-19) The Binz Project (PhD supervision together with Jan Esper)  
**Bernhard Muigg** (16-19) Wald und Holz im frühen Mittelalter – Dendroarchäologische Untersuchungen zu Wald- und Holznutzung in Mitteleuropa. University of Freiburg, Germany (PhD co-supervisor)  
**Annemarie Eckes** (17-20) High-resolution tree growth modelling and its application for the global carbon budget. University of Cambridge, UK (PhD co-supervisor together with Andrew Friend and David Coomes)  
**Tamara Brian** (17) Updating the Löttschental tree-ring width chronology. University of Cambridge  
**Janice Johnson** (17-20) Illuminating the mysterious truffle kingdom across Europe. University of Cambridge (PhD supervisor)

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## Research locations

**Alps:** TRW and MXD network, living and relict wood material, composite chronologies, millennial-long summer temperature reconstructions, spatiotemporal reconstructions of LBM outbreaks, settlement and building history, intra-annual growth dynamics, treeline studies, Löttschental, Southern French Alps, Valais, Engadine, Tyrol, treeline soil-temperature logger, *Larix decidua*, *Picea abies*, *Pinus cembra*, *Pinus sylvestris*, *Abies alba*  
**Aragon:** Truffle assessment in the Teruel region, tree-ring sampling of *Juniperus thurifera*  
**Atlas:** TRW network, living trees, millennial-long PDSI reconstruction, NAO studies, *Cedrus atlantica*  
**Carpathians:** TRW network, living trees, summer temperature, treeline soil-temp. logger, *Larix decidua*, *Picea abies*, *Pinus cembra*, *Pinus sylvestris*  
**Caucasus:** TRW network, living trees, growth-climate response analysis, treeline soil-temp. logger, *Pinus sylvestris*  
**Germany:** TRW composite chronology of the last millennium, drought reconstruction, *Quercus spec.*  
**Greenland:** Arctic driftwood sampling, chronology development, reconstructing ocean circulation and post-glacial uplift  
**Guadarrama:** TRW network, living trees, *Pinus sylvestris*, *Pinus nigra*, *Pinus pinaster*, *Pinus pinea*  
**Moravia:** TRW network, living and relict wood material, 700-year long composite chronology, *Abies alba*  
**Pyrenees:** TRW and MXD network, living and relict wood, treeline soil-temp. logger, *Pinus uncinata*  
**Scandinavia:** TRW and MXD network, living trees, offshore sampling, *Pinus sylvestris*  
**Siberia:** TRW and MXD living and relict wood, shore and off-shore, driftwood and treeline dynamics  
**Tatra:** TRW network, MXD site chronologies, living trees, summer temperature and drought reconstructions of the past ~300 years, treeline soil-temp. logger, *Larix decidua*, *Picea abies*, *Pinus cembra*, *Pinus sylvestris*, *Abies alba*  
**Vosges:** TRW network, living trees, mixed signal, species-specific upper treeline, *Fagus sylvatica*

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