10th May 2022

Personal

Ulf Büntgen

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

Professor of Physical Geography
Department of Geography
Masaryk University, Kotlářská 2, 61137 Brno, Czech Republic

Research Associate
CzechGlobe Global Change Research Institute CAS
Bělidla 986/4a, 60300 Brno, Czech Republic

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

Born 05 July 1976 in Bonn, Germany
Married to Christiane von und zu Gilsa since 05 April 2008
Two children: Otto Maria Friedrich and Elisa Anna Barbara, born 20 May 2014 and 2018 (*timing matters*)

Statistics and scores

Publications = **383** of which **305** are **ISI** listed (and **50** have been **cited >100 times** in *Google Scholar*)
Citations = **21,100** (*Google Scholar*)
h-index = **70** (*Google Scholar*)
Research Gate Score = **47.97**

Research question(s), scientific scope, and public relevance

What are the causes and consequences – biotic and/or abiotic – of past and present changes in diverse, though often intertwined environmental system components, across a wide range of spatiotemporal scales; and how can different tree-ring archives, parameters and techniques be optimised – intellectually, conceptually and methodologically – to provide scientific answers to timely, cross-epistemologically and interdisciplinary research questions of topical relevance at the crossroads of wildlife biology, forest ecology, mycology, (paleo)climatology and human history.

Credo: Ask the right question and let the data speak

Career and responsibilities

10.2021-present Head of ZiF Cooperation Group (Volcanos, Climate and History – VCH) at the Centre for Interdisciplinary Research, Bielefeld, Germany

12.2020-present Editorial Advisory Board of *Erdkunde*

10.2020-present Director of MPhil in Holocene Climates, Department of Geography, University of Cambridge, UK

06.2020-present Professor of Physical Geography, Department of Geography, Masaryk University, Brno, Czech Republic

11.2019-present Foreign Member of the Russian Academy of Science (RAS)

02.2018-present Associate Editor of *Dendrochronologia*

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

10.2016-05.2020 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" (www.pages-igbp.org/)

11.2013-present ITRDB board member (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 (paleoclimatology/paleoecology) 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 the 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)

Fieldwork and expeditions

09.2021 Iberian Peninsula – ERC MonoStar treeline sites (*partner in the project of Jan Esper*)

08.2019 Anyui volcano complex in northeastern Siberia, Chukotka, Russia – living, dry-dead, and subfossil wood (*PI*)

06.2019 Iceland – driftwood, archaeological remains, subfossil material, living inland conifers, as well as high-elevation dwarf shrubs and herbs (*PI together with Olafur Eggertsson*)

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

07.2017 Russian Altai-Sayan Mountains, Tuva Republic, Russia – living, dry-dead and archaeological wood from treeline ecotones (*PI together with Vladimir Mygland and Alexander Kirdyanov*)

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

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

07.2012 Coastal east Greenland, Scorsby Sund – driftwood, 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 Martinez-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 confers (*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 and relict conifers, and treeline dynamics (*PI together with Julio J. Camarero and Jan Esper*)

2003-2006, 2012, 2017 Tatra Mountains, 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*)

Publications

in review

Büntgen U, Piermattei A, Crivellaro A, Reinig F, Krusic PJ, Trnka M, Esper J (in review) Common Era treeline fluctuations and implications for climate reconstructions. *Nature Plants*

Centenaro G, Petraglia A, Carbognani M, Piotti A, Hudek C, **Büntgen U**, Koln T, Crivellaro A (in review) Revolutionising the age estimation of clonal plants – evidence from the oldest known *Salix herbacea* in the Northern Apennines (Italy). *Methods in Ecology and Evolution*

Essell H, Krusic J, Esper J, Wagner S, Braconnot P, Jungclaus J, Muschitiello F, Oppenheimer C, **Büntgen U** (in review) A frequency-optimised global temperature record for the Holocene. *Nature Geoscience*

Kuhl E, Zang C, Esper J, Riechelmann D, **Büntgen U**, Briesch M, Reinig F, Römer P, Konter O, Schmidhalter M, Hartl C (in review) Using machine learning to provenance the geographical origin of historical construction timbers. *Methods in Ecology and Evolution*

Lyu L, **Büntgen U**, Li M-H, Yu K, Zhang Q-B, Cherubini P (in review) Increasing constraints of neighbourhood competition on tree growth at eastern Tibetan treelines. *New Phytologist*

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. *Global Change Biology*

Sookdeo A, Reinig F, Kromer B, Adolphi F, Beer J, Brehm N, **Büntgen U**, Christl M, Friedrich M, Guidobaldi G, Helle G, Muscheler R, Nievergelt D, Pauly M, Tegel W, Treydte K, Turney CSM, Synal HA, Wacker L (in review) Successive solar minima extended the duration of the North Atlantic Younger Dryas stadial. *Science Advances*

Stenseth NC, Tao Y, Zhang C, Bramanti B, **Büntgen U**, Cong X, Cui Y, Zhou H, Dawson L, Mooney S, Li D, Fell H, Cohn S, Sebbane F, Slavin P, Liang W, Tong H, Yang R, Xu L (in review) No evidence for permanent natural plague reservoirs in historical and modern Europe. *Nature*

Treydte K, Babst F, Frank DC, Gessler A, Kahmen A, Poulter B, Seneviratne SI, Wilson R, Andreu-Hayles L, Bednarz Z, Boettger T, Berninger F, **Büntgen U**, Daux V, Dorado-Linan I, Esper J, Friedrich M, Gagen M, Grabner M, Grudd H, Gunnarsson B, Gutierrez E, Haupt M, Hilasvouri E, Heinrich I, Helle G, Jalkanen R, Jungner H, Kalela-Brundin M, Kessler A, Kirchhefer A, Klesse S, Krapiec M, Levanič T, Leuenberger M, Linderholm HW, McCarroll D, Martinez-Sancho M, Masson-Delmotte V, Pawelcyk S, Pazdur A, Planells O, Pukiene R, Reynolds-Henne C, Rinne-Garmston KT, Robertson I, Saracino A, Saurer M, Schleser GH, Seftigen K, Siegwolf RTW, Sonninen E, Stievenard M, Szychowska-Krapiec E, Szymaszek M, Todaro L, Waterhouse JS, Weigl M, Weigt R, Wimmer R, Woodley EJ, Vitas A, Young G, Loader NJ (in review) Recent increase in European summer vapor pressure deficit is unprecedented over the past 400 years. *Proceedings of the National Academy of Science, USA*

in revision

Crivellaro A, Piermattei A, Dolezal J, Dupree P, **Büntgen U** (in revision) Cell wall lignification constrains global plant distribution at cold extremes. *Nature Communications Biology*

Esper J, Allen K, Anchukaitis KJ, Cook ER, D'Arrigo R, Guillet S, Ljungqvist FC, Reinig F, Schneider L, Smerdon JE, Stoffel M, Trnka M, Wilson R, **Büntgen U** (in revision) The IPCC's reductive Common Era temperature history. *WIREs Climate Change*

Hakenbeck S, **Büntgen U** (in revision) The role of drought during the Hunnic incursions into central-east Europe in the fourth and fifth centuries CE. *Journal of Archaeological Research*

Reinig F, Sookdeo A, Treydte K, Wacker L, Guidobaldi G, Nievergelt D, Saurer M, Esper J, Friedrich M, Helle G, Kromer B, Pauly M, Tegel W, Verstege A, **Büntgen U** (in revision) Improving the world's longest tree-ring record during the Younger Dryas. *Quaternary Geochronology*

Steidinger B, **Büntgen U**, Stobbe U, Tegel W, Sproll L, Haeni M, Moser B, Bagi I, Bonet JA, Buee M, Dauphin B, Martínez-Peña F, Molinier V, Zweifel R, Egli S, Peter M (in revision) The fall of the summer truffle: recurring hot, dry summers trigger declining fruitbody production of *Tuber aestivum* in central Europe. *Global Change Biology*

in press

Bässler C, Heilmann-Clausen J, Andrew C, Boddy L, **Büntgen U**, Diez J, Heegaard E, Egli S, Gange A, Halvorsen R, Kirk P, Krisai-Greilhuber I, Kuyper T, Nordén J, Senn-Irlet B, Krah F (in press) European mushroom assemblages are phylogenetically structured by temperature. *Ecography*

Čejka T, Thomas PW, Oliach D, Stobbe U, Egli S, Tegel W, Centenaro G, Sproll L, Bagi I, Trnka M, **Büntgen U** (in press) Understanding the behaviour of truffle dogs. *Journal of Veterinary Behaviour*

Esper J, Hartl C, Konter O, Reinig F, Römer P, Huneau F, Lebre S, Szymczak S, Bräuning A, **Büntgen U** (in press) Past millennium hydroclimate variability from Corsican pine tree-ring chronologies. *Boreas*

Torbenson M, Klippel L, Hartl C, Reinig F, Treydte K, **Büntgen U**, Trnka M, Schöne B, Schneider L, Esper J (in press) Investigation of age trends in tree-ring stable carbon and oxygen isotopes from northern Fennoscandia over the past millennium. *Quaternary International*

Vogt-Schilb H, Richard F, Malaval JC, Rapior S, Fons F, Bourgade V, Schatz B, **Büntgen U**, Moreau PA (in press) Climate-induced long-term changes in Mediterranean fungal diversity. *Fungal Ecology*

Yang B, Qin C, Bräuning A, Osborn TJ, Trouet V, Ljungqvist FC, Esper J, Schneider S, Grießinger J, **Büntgen U**, Rossi S, Dong G, Yan M, Ning L, Wang J, Wang X, Wang S, Luterbacher J, Cook ER, Stenseth NC (in press) Reply to Weiss: Tree-ring stable oxygen isotopes suggest an increase in Asian monsoon rainfall at 4.2 ka BP. *Proceedings of the National Academy of Science, USA*

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383(305) **Büntgen U** (2022) Scrutinizing tree-ring parameters for Holocene climate reconstructions. *WIREs Climate Change* e778

382(304) **Büntgen U**, Esper J, Oppenheimer C (2022) In praise of archives (and an open mind). *Nature Communications Earth & Environment* 3: 84

381(303) **Büntgen U**, Hodgson Smith S, Wagner S, Krusic P, Esper J, Piermattei A, Crivellaro A, Reinig F, Tegel W, Kirdyanov A, Trnka M, Oppenheimer C (2022) Global tree-ring response and inferred climate variation following the mid-thirteenth century Samalas eruption. *Climate Dynamics* doi.org/10.1007/s00382-022-06141-3

380(302) **Büntgen U**, Piermattei A, Krusic PJ, Esper J, Sparks T, Crivellaro A (2022) Plants in the UK flower a month earlier under recent warming. *Proceedings of the Royal Society B* 289: 20212456.

379(301) Čejka T, Isaac E, Oliach D, Martínez-Peña F, Egli S, Thomas P, Trnka M, **Büntgen U** (2022) Risk and reward of the global truffle sector under predicted climate change. *Environmental Research Letters* 17: 024001

378(300) Chen F, Yuan Y, Trouet V, **Büntgen U**, Esper J, Chen F, Yu S, Shen M, Zhang R, Shang H, Chen Y, Zhang H (2022) Ecological and societal effects of Central Asian streamflow variation over the past eight centuries. *npj Climate and Atmospheric Science* 5: 27

377(299) Hartl C, Schneider L, Riechelmann D, Kuhl E, Kochbeck M, Klippel L, **Büntgen U**, Esper J (2022) The temperature sensitivity along elevational gradients is more stable in maximum latewood density than tree-ring width. *Dendrochronologia* 73: 125958

376(298) Kolar T, Rybnicek M, Eggertsson O, Kirdyanov A, Cejka T, Cermak P, Zid T, Vavrcik H, **Büntgen U** (2022) Predicted sea-ice loss likely terminates Iceland's driftwood supply by 2060 CE. *Global and Planetary Change* 213: 103834

375(297) Ljungqvist F, Seim A, Tegel W, Krusic P, Baittinger C, Belingard C, Bernabei M, Bonde N, Borghaerts P, Couturier Y, Crone A, van Daalen S, Doeve P, Edouard JL, Frank T, Ginzler C, Grabner M, Gschwind FM, Haneca K, Hansson A, Herzig F, Heussner KU, Hofmann J, Houbrechts D, Kaczka RJ, Kolář T, Kontic R, Kyncl T, Labbas V, Lagerås P, Le Digol Y, Le Roy M, Leuschner HH, Linderson H, Ludlow FM, Marais A, Mills C, Neyses-Eiden M, Nicolussi K, Perrault C, Pfeifer K, Rzepecki A, Rybníček M, Schmidhalter M, Seifert M, Shindo L, Spyt B, Susperregi J, Svarva HL, Thun T, Walder F, Ważny T, Werthe E, Westphal T, Wilson RJ, **Büntgen U** (2022) Regional patterns of late medieval and early modern European building activity revealed by felling dates. *Frontiers in Ecology and Evolution* 9: 825751

374(296) Lu X, Liang E, Babst F, Camarero JJ, **Büntgen U** (2022) Climate-induced tipping points of Arctic and alpine shrub recruitment. *PNAS* 119: 9e2118120119

373(295) Roibu CC, Nagavciuc V, Ionita M, Popa I, Horodnic S-A, Mursa A, **Büntgen U** (2022) A new tree ring-based summer drought reconstruction for eastern Europe back to 1768 CE confirms historical documentary evidence and reveals large-scale teleconnection patterns. *Climate Dynamics* doi.org/10.1007/s00382-022-06255-8

2021

372(294) Arzac A, Tychkov I, Rubtsov A, Tabakova MA, Brezhnev R, Koshurnikova N, Knorre A, **Büntgen U** (2021) Phenological shifts compensate warming-induced drought stress in southern Siberian Scots pines. *European Journal of Forest Research* 140: 1487-1498

371(293) Bosela M, Tumajer J, Cienciala E, Dobor L, Kulla L, Marčiš P, Popa I, Sedmák R, Sedmáková D, Sitko R, Šebeň V, Štěpánek P, **Büntgen U** (2021) Climate warming induced synchronous growth decline in Norway spruce populations across biogeographical gradients since 2000. *Science of the Total Environment* 752: 141794

370(292) **Büntgen U** (2021) Warum die Klimatologie Vulkane untersuchen sollte. *Naturwissenschaftliche Rundschau* 74: 341-344

369(292) **Büntgen U**, Allen K, Anchukaitis K, Arseneault D, Boucher É, Bräuning A, Chatterjee S, Cherubini C, Churakova (Sidorova) O, Corona C, Gennaretti F, Grießinger J, Guillet S, Guiot J, Gunnarson B, Helama S, Hochreuther P, Hughes MK, Huybers P, Kirdyanov AV, Krusic PJ, Ludescher J, Meier WJ-H, Myglan VS, Nicolussi K, Oppenheimer C, Reinig F, Salzer MW, Seftigen K, Stine AR, Stoffel M, St. George S, Tejedor E, Trevino A, Trouet V, Wang J, Wilson R, Yang B, Xu G, Esper J (2021) The influence of decision-making in tree ring-based climate reconstructions. *Nature Communications* 12: 3411

368(291) **Büntgen U**, Cejka T, Trnk M, Thomas PW (2021) Rethinking a sustainable truffle sector under global crises. *Erdkunde* 75: 311-314

367(290) **Büntgen U**, Kirdyanov A, Krusic PJ, Shishov VV, Esper J (2021) Arctic aerosols and the 'Divergence Problem' in dendroclimatology. *Dendrochronologia* 67: 125837

366(289) **Büntgen U**, Krusic PJ, Di Cosmo N (2021) Science in silence. *Erdkunde* 75: 61-63

365(288) **Büntgen U**, Urban O, Krusic PJ, Rybníček M, Kolář T, Kyncl T, Ač A, Koňasová E, Čáslavsky J, Esper J, Wagner S, Saurer M, Tegel W, Dobrovonly P, Cherubini P, Reinig F, Trnka M (2021) Recent European drought extremes beyond Common Era background variability. *Nature Geoscience* 14: 190-196

364(287) **Büntgen U**, Peter M, Tegel W, Stobbe U, Elburg R, Sproll L, Molinier V, Cejka T, Isaac E, Egli S (2021) Eco-archaeological snapshots of subterranean truffle growth. *Fungal Biology* 125: 951-961

363(286) **Büntgen U**, Piermattei A, Reinig F (2021) Ein neues Archiv für die Klimaforschung – Mit moderner Holzanatomie auf der Suche nach historischen Vulkanausbrüchen. *Naturwissenschaftliche Rundschau* 74: 61-68

362(286) Camarero JJ, Colangelo M, Garcia-Balaga A, Ortega-Martinez MA, **Büntgen U** (2021) Demystifying the age of old olive trees. *Dendrochronologia* 65: 125802

361(285) Camarero JJ, Collado E, Martínez de-Aragón J, de-Miguel S, **Büntgen U**, Martinez-Peña F, Martín-Pinto P, Ohenoja E, Romppanen T, Salo K, Oria de-Rueda JA Bonet JA (2021) Associations between climate and earlywood and latewood width in boreal and Mediterranean Scots pine forests. *Trees, Structure and Function* 35: 155-169

360(284) Di Cosmo N, Wagner S, **Büntgen U** (2021) Climate and environmental context of the Mongol invasion of Syria and defeat at 'Ayn Jālūt (1258–60 CE). *Erdkunde* 75: 87-104

359(283) Esper J, **Büntgen U** (2021) The future of paleoclimate. *Climate Research* 83: 57-59

358(282) Esper J, Konter O, Klippel L, Reinig F, Krusic PJ, **Büntgen U** (2021) Pre-instrumental summer precipitation variability in northwestern Greece from a high-elevation *Pinus heldreichii* network. *International Journal of Climatology* 41: 2828-2839

357(281) Hartl C, Düthorn E, Tejedor E, Kirchhefer A, Timonen M, Holzkämper S, **Büntgen U**, Esper J (2021) Micro-site conditions affect Fennoscandian forest growth. *Dendrochronologia* 65: 125787

356(280) Linderholm HW, Gunnarson BE, Fuentes M, **Büntgen U**, Hormes A (2021) The origin of driftwood on eastern and south-western Svalbard. *Polar Studies* 29: 100658

355(279) Pauly M, Turney CSM, Palmer JG, **Büntgen U**, Brauer A, Helle G (2021) Kauri tree-ring stable isotopes reveal a centennial climate downturn following the Antarctic Cold Reversal in New Zealand. *Geophysical Research Letters* 48: e2020GL090299

354(278) Reinig F, Wacker L, Jöris O, Oppenheimer C, Guidobaldi G, Nievergelt D, Adolph F, Cherubini P, Engels S, Esper J, Land A, Lane C, Pfanz H, Remmele S, Sigl M, Sookdeo A, **Büntgen U** (2021) Precise date for the Laacher See eruption synchronizes the Younger Dryas. *Nature* 595: 66-69

353(277) Römer P, Hartl C, Schneider L, Bräuning A, Szymzcak S, Huneau F, Lebre S, Reinig F, **Büntgen U**, Esper J (2021) Reduced temperature sensitivity of maximum latewood density formation in high-elevation Corsican pines under recent warming. *Atmosphere* 12: 804

352(276) Rybníček M, Kolář T, Ač A, Balek J, Koňasová E, Trnka M, Urban O, **Büntgen U** (2021) Non-pooled oak stable isotopes reveal enhanced climate sensitivity compared to ring widths. *Climate Research* 83: 27-41

351(275) Sander L, Kirdyanov A, Crivellaro A, **Büntgen U** (2021) Short communication: Driftwood provides reliable chronological markers in Arctic coastal deposits. *Geochronology* 3: 171-180

350(274) Urban O, Ac A, Kolar T, Rybnicek M, Pernicova N, Konasova E, Trnka M, **Büntgen U** (2021) The dendroclimatic value of oak stable isotopes. *Dendrochronologia* 65: 125804

349(273) Yan C, Tian H, Wan X, He J, Ren G, **Büntgen U**, Stenseth NC, Zhang Z (2021) Climate change affected the spatio-temporal occurrence of disasters in China over the past five centuries. *Royal Society Open Science* 8: 200731

348(272) Yang B, Qin C, Bräuning A, Osborn TJ, Trouet V, Ljungqvist FC, Esper J, Schneider S, Grießinger J, **Büntgen U**, Rossi S, Dong G, Yan M, Ning L, Wang J, Wang X, Wang S, Luterbacher J, Cook ER, Stenseth NC (2021) Long-term decrease in Asian monsoon rainfall and abrupt climate change events over the past 6,700 years. *Proceedings of the National Academy of Science, USA* 118: 30.e2102007118

2020

347(271) Avanzi C, Heer K, **Büntgen U**, Labriola M, Leonardi S, Opgenoorth L, Piermattei A, Urbinati C, Vendramin GG, Piotti A (2020) Individual reproductive success in Norway spruce natural populations depends on growth rate, age and sensitivity to temperature. *Heredity* 124: 685-698

346(270) **Büntgen U**, Arseneault D, Boucher É, Churakova (Sidorova) OV, Gennaretti F, Crivellaro A, Hughes MK, Kirdyanov A, Klippel L, Krusic PJ, Linderholm HW, Ljungqvist FC, Ludescher J, McCormick M, Myglan VS, Nicolussi K, Piermattei A, Oppenheimer C, Reinig F, Sigl M, Vaganov EA, Esper J (2020) Prominent role of volcanism in Common Era climate variability and human history. *Dendrochronologia* 64: 125757

345(269) **Büntgen U**, Jenny H, Galvan JD, Krusic PJ, Bollmann K (2020) Stable body size of Alpine ungulates. *Royal Society Open Science* 7: 200196

344(268) **Büntgen U**, Johnson D, Gonzalez-Rouco JF, Luterbacher J, Stenseth NC (2020) Extending the climatological concept of 'Detection and Attribution' to global change ecology in the Anthropocene. *Functional Ecology* 34: 2270-2282

343(267) **Büntgen U**, Kaennel-Dobbertin M, Gärtner H (2020) Schweingruber's cosmos of inspiration. *Dendrochronologia* 60: 125680

342(266) **Büntgen U**, Kolář T, Rybníček M, Koňasová E, Trnka M, Ač A, Krusic PJ, Esper J, Treydte K, Reinig F, Kirdyanov A, Herzig F, Urban O (2020) No age trends in oak stable isotopes. *Paleoceanography and Palaeoclimatology* 34: 10.1029/2019PA003831

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2003

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Teaching

16.03.22 Department of Geography, Masaryk University, Brno, Czech Republic: Holocene climate variability and global change ecology

2022 (Lent Term) Department of Geography, University of Cambridge, UK: MPhil in Holocene Climates, Biogeography and Quaternary (both 1b and part 2)

30.11.21 Department of Geography, University of Giessen, Germany, zoom: Volcanos, climate and history

20.10.21 Mendel University, Brno, Czech Republic: Ask the right questions and let the data speak

11.05.21 Department of Geography, Masaryk University Brno, Czech Republic, zoom: Common Era climate variability – why and how

2021 (Lent Term) Department of Geography, University of Cambridge, UK: MPhil in Holocene Climates, Biogeography and Quaternary (both 1b and part 2)

2020 (Michaelmas Term) Department of Geography, University of Cambridge, UK: MPhil in Holocene Climates, Biogeography and Quaternary (both 1b and part 2)

2020 (Lent Term) Department of Geography, University of Cambridge, UK: Part II Quaternary

2020 (Michaelmas Term) Department of Geography, University of Cambridge, UK: Part II Biogeography

05.11.19 NERC DTP Advances Programme, University of Cambridge, UK: Using Tree Ring Analysis to investigate Recent and Current Environmental Change

2019 (Michaelmas Term) Department of Geography, University of Cambridge, UK: Part IB Biogeography

2019 (Lent Term) Department of Geography, University of Cambridge, UK: Part II Quaternary

2019 (Lent Term) Department of Geography, University of Cambridge, UK: Part II Biogeography

2019 (Lent Term) Department of Geography, University of Cambridge, UK: Part IB Biogeography

17.09.18 Cambridge Summer Academy - Climate Workshop Series, Jesus College, Cambridge, UK: Tree rings and climate

20-23.06.18 OCCR, University of Bern, OCCR, Switzerland: Methods of Climate Reconstruction (03709-FS2014-0) (together with J Luterbacher)

15.03.2018 Department of Geography, Masaryk University, Brno, Czech Republic: Environmental Systems Analysis at Cambridge's Department of Geography

14.03.2018 Department of Geography, Masaryk University, Brno, Czech Republic: Tree-Ring Research & Common Era Climate Variability

2018 (Lent Term) Department of Geography, University of Cambridge, UK: Part II Quaternary

2018 (Lent Term) Department of Geography, University of Cambridge, UK: Part II Biogeography

2018 (Lent Term) Department of Geography, University of Cambridge, UK: Part IB Biogeography

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 OCCR, 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 OCCR 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-Climate 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

25.04.22 SustES Annual Meeting, Boretice, Czech Republic: Volcanos, climate and society

31.03.22 Cambridge Natural History Society (CNHS), Cambridge, UK: Truffles in a warming world

26.02.22 Trufforum in Vic, Spain, by the European Mycological Institute (EMI), zoom: Risk and reward of the global truffle sector under predicted climate change

17.11.21 Centre for Interdisciplinary Research, ZiF, University of Bielefeld, Germany: Vulkane, Klima und Geschichte

04.11.21 Mycoforum in Albarracin, Spain, zoom: Climate change and fungi – evidence, consequences and adaptation

22.09.21 RusDendro Annual Meeting, zoom: Potential and limitations of tree ring-based Common Era climate reconstructions

13.09.21 SustES Annual Meeting, Telc, Czech Republic: Ask the right questions and let the data speak

08.06.21 Birmensdorf Tree-Ring Lectures, zoom: The influence of decision-making in tree ring-based climate reconstructions

14.03.21 Trufforum by the European Mycological Institute (EMI), zoom: Towards a more sustainable truffle sector in a warmer and drier future

24.01.21 annual Meeting of the Association for Trans-Eurasia Exchange and Silk-Road Civilization Development (ATES), WG5, zoom: Silk Road Civilization and Environment; zoom: A tree-ring contribution

15.12.20 Birmensdorf Tree-Ring Lectures, zoom: Re-thinking the effects of climate on the LBM system

01.12.20 University of Quebec, Institute of Forest Research, zoom: Re-thinking the boundaries of dendrochronology

21.11.20 Annual Meeting of the British Mycological Society and Kew Garden, Zoom: Interactions – truffle and climate

16.11.20 IKI and RAS together with SPRI, zoom: New frontiers in tree-ring research: re-thinking dendrochronology

21.05.20 Birmensdorf Tree-Ring Lectures, zoom: New tree-ring data for the Common Era (together with Jan Esper)

09.03.20 SustES Annual Meeting, Boretice, Czech Republic: A tree-ring stable isotopic perspective on central European summer hydroclimate variability in the Common Era

24.01.20 Trufforum by the European Mycological Institute (EMI), Vic, Spain: Risk and reward of Europe's truffle sector under climate change

28.11.19 Fitzwilliam College, Cambridge, UK: Anyui – Volcanoes, Climate and Society

15.11.19 ZIF Bielefeld, Germany: Prominent role of global volcanism in Common Era climate variability and human history

13.11.19 Department of Geography, University of Oxford, UK: Re-thinking Dendrochronology

24.10.19 KOSMOS lecture at Humboldt-University, Berlin, Germany: Wie Bäume zur interdisziplinären Umwelt- und Klimaforschung beitragen

17.10.19 Medieval History Research Seminar, University of Cambridge, UK: Prominent role of global volcanism in Common Era climate variability and human history

15.10.19 Queen's University Belfast, UK: Tree rings at the interface of archaeology, biology, climatology and ecology

12.10.19 Annual Meeting of the Germany Truffle Association, Geisenheim, Germany: Trüffel und Klima

08.10.19 Scientific Board Meeting of Masaryk University, Brno Czech Republic: Towards a joint future between Brno and Cambridge

12.06.19 SusTES Annual Meeting, Telc, Czech Republic: Emphasizing the volcano–climate–human cause-effect relationship - Or why model predictions should include volcanic forcing

10.06.19 SusTES Annual Meeting, Telc, Czech Republic: grow fast – die young & ecological consequences of arctic pollution

04.04.19 Cambridge Natural History Society (CNHS), Cambridge, UK: Tree rings at the interface of archaeology, biology, climatology and ecology

19.03.19 Cambridge Science Festival, University of Cambridge, UK: Tree rings at the interface of archaeology, climatology and ecology

08.03.19 Climatic Research Unit, University of East Anglia, Norwich, UK: Re-thinking the boundaries of dendrochronology

07.03.19 Geographic Society, King's College Cambridge: Re-thinking the boundaries of dendrochronology

04.03.19 University of Exeter, Penryn Campus, Penryn Cornwall: The infinite variety of tree-ring research: Re-thinking the disciplinary boundaries

16.02.19 17th Truffle Festival Abejar, Spain: Climate variation and truffle production

14.02.19 Regional Government of Aragon, Spain: Ecological and Socio-Economic Challenges and Opportunities of Climate Change in Rural southern Europe

28.01.19 Department of Botany and Biodiversity Research, University of Vienna, Austria: Modern tree-ring research at the interface of archaeology, biology, climatology, ecology and history

08.11.18 Thomsen-Vorlesung, Deutsches Archäologisches Institut DAI, Berlin, Germany: Jahrringforschung an der Schnittstelle zwischen Archäologie, Klimatologie und Ökologie

26.10.18 Evening Talk at AK-Klima, Bamberg, Germany: Beyond climate reconstructions

18.10.18 Quaternary Science Group, Clare College, Cambridge, UK: Re-thinking the boundaries of our discipline

12.10.18 SustES Annual Meeting, Mikulov, Czech Republic: Re-thinking the boundaries of our discipline

11.10.18 Department of Geography, Masaryk University, Brno, Czech Republic: The Application of Tree Rings in Physical Geography

22.09.18 The Cambridge Alumni Festival, Cambridge, UK: Tree-rings at the interface of archaeology, climatology and ecology

21.09.18 AMS Beyond 2020 – Symposium, ETH-Z, Zurich, Switzerland: Extending our knowledge of tree ring-based radiocarbon archives

15.09.18 69th International Sachsensymposium, Stockholm, Sweden: A tree-ring perspective on the Late Antique Little Ice Age (536 to around 660 CE)

11.04.18 PFE and the Environment Conference 2018, Exeter, UK: Dendroecological Opportunities to Shift and Cross Disciplinary Boundaries

04.04.18 Pathogens and Climates in Motion: Multidisciplinary Perspectives on Disease in Late Antiquity, Georgetown University, Washington DC, USA: Foundations for the Late Antique Little Ice Age

22.03.18 Archaeology in Eurasia – First International Meeting of Young Researchers, University of Bonn, Germany: An Evening Lecture on tree rings at the interface of archaeology, climatology and ecology

09.01.18 Basler Zirkel für Ur- und Frühgeschichte, University of Basel, Switzerland: Jahrringe als Umwelt- und Klimaarchiv

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 Dendrochronlogen 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 Baumpflegetage: 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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Fundraising 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*

ANYUI-1: Volcanoes, Climate and the Peopling of the Americas (Crowdfunding 2018-19; CHF 80'000) – *PI*

ANYUI02: Volcanoes, Climate and the Peopling of the Americas (Czech Science Foundation Grant # 17-22102S; CZK 10'000'000 = Euro 380'000) – *PI*

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-Climate) – *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 months 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*

LSD: Annual Dating of the Laacher See Eruption – LSD (WSL internal call 2018; CHF 56'000) – *PI (together with Paolo Cherubini)*

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 Kirdyanov*

PALEO: 2000 years of **PAL**eoclimatology and **E**cology from **O**ak stable isotopes in the Czech Republic (Czech Science Foundation Grant # 17-22102S; CZK 10'000'000 = Euro 380'000) – *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*

VCH: Volcanoes, Climate and History ZiF Cooperation Group at University of Bielefeld (Euro 100'000 from Nov 2021to Oct 2023) – *PI (together with six co-applicants)*

Review & editorial work

Annals of Forest Science; http://www.afs-journal.org/
Bergen Research Foundation (BSF); http://www.uib.no/bfs/index_eng.htm
Biology Letters; http://rsbl.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
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
IAWA Journal; http://bio.kuleuven.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

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
Quaternary Science Reviews; http://www.elsevier.com/wps/find/journaldescription.cws_home/636/description
Silva Fennica; 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

Research foci

Alpine ibex horn growth: Disentangling biotoc 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

Pascalle 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 Wachstumsanalye 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, University of Mainz, Germany (Master)

Marc Buchs (14-15) Swiss BrainPower: Nationaler Wettbewerb Schweizer Judend 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 (Master 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)

Frederick Reinig (15-19) The Binz Project. University of Mainz, Germany (PhD supervision together with Jan Esper)

Bernhard Muigg (16-20) 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 (17-18) Updating the Lötschental tree-ring width chronology. University of Cambridge, UK (Bachelor)

Leo Lai (18-19) *Zeiraphera dinia* host and non-host chronologies from the Swiss Alps. University of Cambridge, UK (Bachelor)
Hannah Lobo (18-19) Paleoclimatic potential of Blue Rings from the Pyrenees. University of Cambridge, UK (Bachelor)
Tomas Cejka (18-21) From Spanish junipers to Czech truffles – a cross-disciplinary approach to global change ecology. Masaryk University, Brno, Czech Republic (PhD)
Sylvie Hodgson Smith (20-21) Global climate signature of the Samalas eruption in 125/ CE. University of Cambridge, UK (Bachelor)
Tatiana Bebchuk (21-25) Paleoecology of subfossil yew wood in south-east England. University of Cambridge, UK (PhD)
Ciara Greave (21-25) Iceland volcanism, climate and history. University of Cambridge, UK (PhD)

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, Lötschental, 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*
