Name	Dr. rer. nat. Claudia Theresia Martina Hartl
Date of birth	13th May 1984
Place of birth	Nabburg, Germany
Email	info@claudia-hartl.com
Web	https://www.claudia-hartl.com/

QUALIFICATIONS & EDUCATION

Apr 2022 – Jun 2022	**Research Fellow** | Panel on Planetary Thinking, Justus-Liebig-University Giessen, Germany
Jun 2021 –	**Independent Researcher** | Nature Rings – Environmental Research and Education, Mainz, Germany
Sep 2013 / Apr 2015 – May 2021	**Research Associate / Postdoc** | Institute of Geography, Johannes Gutenberg-University Mainz, Germany
May 2020	Shortlisted for **Lectureship in Physical Geography** | University of Cambridge, UK
Mar 2015	**PhD thesis** | Department of Forest Nutrition and Water Resources, Technical University Munich, Germany *Original thesis title:* "Dendroökologische Untersuchungen zum Einfluss der Klimaänderung auf Bergwälder der Nördlichen Kalkalpen" *Translated thesis title:* "Influence of climate change on mountain forests in the Northern Limestone Alps – a dendroecological approach" Supervisors: Prof. Axel Göttlein and Prof. Andreas Rothe
Mar 2010 – Mar 2015	**PhD student** | Department of Forest Nutrition and Water Resources, Technical University Munich, Germany
Mar 2010 – Aug 2013	**Research Assistant** | Department of Forestry, University of Applied Sciences Weihenstephan-Triesdorf, Germany
Sept – Oct 2011	**Visiting Scientist** | Research Unit Landscape Dynamics, Group Dendroclimatology, Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Switzerland
Nov – Dec 2010	**Visiting Scientist** | Research Unit Landscape Dynamics, Group Dendroclimatology, Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Switzerland
Oct 2009	**Diploma in Geography** | University of Regensburg, Germany *Original thesis title:* "Untersuchungen zum Zusammenhang zwischen Humifizierungsgrad und Pflanzenzusammensetzung von Torfen am Beispiel des Kalkniedermoores am Islinger Mühlbach (Regensburg-Burgweinting)" *Translated thesis title:* "Studies on the relationship between peat humification and vegetation composition using a fen at the Islinger Mühlbach (Regensburg-Burgweinting) as an example"
Oct 2003 – Oct 2009	**Studies of Geography, Botany and Soil Science** | University of Regensburg, Germany
Jun 2003	**General Qualification for University Entrance (Abitur)** | Gymnasium Freyung, Germany
Mar 2003	**Participation "Jugend forscht"** | Passau, Germany

LIST OF FUNDED PROJECTS

2020 – 2021 | *3,600 €* **Imprints of volcanic degassing in tree rings – stable isotope extension** | Rhineland-Palatinate Research Initiative: Terrestrial Magmatic Systems (TeMaS) | Co-PI

2020 – 2021 | *9,925 €* **Imprints of volcanic degassing in tree rings** | Rhineland-Palatinate Research Initiative: Terrestrial Magmatic Systems (TeMaS) | PI

2019 – 2021 | *227,964 € (+ 50,160 €)* **Producing an enhanced millennium-length temperature reconstruction from tree-ring density for the European Alps** | German Research Foundation | PI

2016 – 2017 | *14,900 €* **Climate signals in tree-ring maximum late wood density from the 'Sierras de Cazorla', Spain** | Internal University Research Funding, JGU Mainz | PI

2013 | *28,000 €* **Dendrochronological studies on the response of sycamore to climatic changes in the Northern Limestone Alps** | Bavarian State Forestry Administration | PI

AWARD & FELLOWSHIP

Apr – Jun 2022 | *15,000 €* **'Tree-Ring Reports on Forest Dieback' | Planetary Scholars & Artists in Residence Program** | Panel on Planetary Thinking, Justus-Liebig-University Giessen, Germany

May 2012 | *150 €* **ATR-AWARD – BEST ORAL PRESENTATION** | TRACE conference, Potsdam, Germany

MEDIA CONTRIBUTIONS

Feb 2020 **National Geographic** | 'Geheimnisse der Meere – Hitlers Kampfschiffe' Season 2, Episode 12

Sep 2019 **National Geographic, USA** | 'Drain the Oceans – Hitler's Killer Warships' Season 2, Episode 12

May 2018 **SWR Aktuell Rheinland-Pfalz** | 'Im Tarnnebel versteckt – Bäume führen Mainzer Forscher zu Kriegsschiff'

Apr 2018 **EGU General Assembly Press Conference**: 'From droughts to war: forests under pressure', Vienna, Austria

BBC NEWS, UK | 'Tirpitz engagement recorded in trees'

BBC NEWS, UK | 'Nazi legacy found in Norwegian trees'

EOS | 'Tree Rings Tell a Tale of Wartime Privations'

phys.org | 'Whispering pines: Trees tell story of WWII battleship'

FURTHER EDUCATION

Nov 2020 **Female Leadership** | hfp consulting, Germany

Dec 2017 **Schneiden von Brennholz mit der Motorsäge** | DEULA GmbH, Germany

Jul 2012 **Spontan reagieren, verbale Schlagfertigkeit lernen** | Team Dr. Rosenkranz, Germany

Jan 2012 **Konfliktmanagement** | Team Dr. Rosenkranz, Germany

Nov 2011 **11th International Winter School on Wood Anatomy of Tree Rings** | Dr. H. Gärtner & Prof. Dr. F. H. Schweingruber, Switzerland

Apr 2011 **R Anfängerkurs** | Institute for Statistics, Ludwig-Maximilians-University Munich, Germany

Jun 2010 **Multivariate Statistik mit R** | Institute for Statistics, Ludwig-Maximilians-University Munich, Germany

INSTITUTIONAL RESPONSIBILITIES

2013 – 2019 **Public Relations Work** (webhosting, contact person) | Institute of Geography, Johannes Gutenberg-University Mainz, Germany

2011 – 2013 **Member of the Faculty Council, Member of an Appointment Committee, Public Relations Work** (representation of tree-ring research at 'Tag der Offenen Tür', '40 Jahre HSWT') | Department of Forestry, University of Applied Sciences Weihenstephan-Triesdorf, Germany

TALKS & CONFERENCE PARTICIPATIONS

Oct 2021 | Invited	**Wald in Not - Klimageschichte, Klimawandel und Auswirkungen der aktuellen Entwicklungen auf unsere Wälder** | Q+ Program, Johannes Gutenberg University Mainz, Germany | Talk
Jul 2021 | Invited	**Climate, ecology & trees – Tree-rings as environmental archive** | Hengstenberger Symposium. Beyond Palaeoclimate Ping Pong. Heidelberg, Germany | Talk
Apr 2021 | Invited	**Stories from tree-rings** | Wolfson College Science Society, University of Cambridge, UK (remotely) | Talk
May 2020 | Invited	**Presentation for Lectureship** | University of Cambridge, UK (remotely) | Talk
Oct 2019	**Towards a robust millennium-length temperature reconstruction from tree rings in the European Alps** | AK Klima, Jesteburg, Germany | Talk
Nov 2019	**Imprints of volcanic degassing in tree rings** | TeMaS 1st Workshop, Bad Kreuznach, Germany | Talk
Jun 2019	**Tree rings & Volcanos** | TeMaS Kickoff meeting, Mainz, Germany | Talk
May 2019	**Warfare dendrochronology – Trees as witnesses of the Tirpitz attacks** | TRACE conference, San Leucio - Caserta, Italy | Talk
Apr 2018 | Invited	**Warfare dendrochronology – Trees as witnesses of the Tirpitz attacks** | EGU General Assembly Press Conference: "*From droughts to war: forests under pressure*", Vienna, Austria | Talk
Apr 2018	**Warfare dendrochronology – Trees as witnesses of the Tirpitz attacks** | EGU General Assembly, Vienna, Austria | Talk
	Mountain forest growth response to climate change in the Northern Limestone Alps | EGU General Assembly, Vienna, Austria | Poster
	Micro-site specific growth deviations and climate sensitivity of a Fennoscandian pine tree-ring network | EGU General Assembly, Vienna, Austria | Poster
	Producing an enhanced millennium-length temperature reconstruction from tree-ring density for the European Alps | EGU General Assembly, Vienna, Austria | Poster
Oct 2017	**Temperature covariance in tree-ring reconstructions and model simulations over the past millennium** | AK Klima, Rauischholzhausen, Germany | Talk
Sep 2017	**Mountain forest growth response to climate change in the Northern Limestone Alps** | DKG 2017, Tübingen, Germany | Invited Talk
Apr 2017	**Exploring tree age-related trends in $\delta^{13}C$ and $\delta^{18}O$ data from North Scandinavia over the last millennium** | EGU General Assembly, Vienna, Austria | Talk
May 2016	**Millennial-scale temperature coherence in proxy reconstructions and climate models** | TRACE conference, Białowieża, Poland | Talk
Jun 2015 | Invited	**How is drought affecting forest growth and how can stable isotopes contribute to answer this question?** | InterDrought SummerSchool, Mikulov, Czechia | Talk
May 2015	**On the importance of forest composition for regular larch budmoth outbreaks** | TRACE conference, Sevilla, Spain | Talk
Apr 2015	**Uniform climate sensitivity in tree-ring stable isotopes across species and sites in a mid-latitude temperate forest** | EGU General Assembly, Vienna, Austria | Poster
Jan 2015 | Invited	**Uniform climate sensitivity in tree-ring stable isotopes across species and sites in a mid-latitude temperate forest** | Birmensdorfer Tree-Ring Lectures, WSL, Birmensdorf, Switzerland | Talk
May 2014	**Climate signals in stable isotopes from temperate forests: Species and site effects** | TRACE conference, Aviemore, UK | Talk

May 2013	**Evaluating the species- and site-specific differences in the physiological response of Picea abies, Fagus sylvatica and Larix decidua to drought** | TRACE conference, Viterbo, Italy | Poster
Apr 2013	**Evaluating the species- and site-specific differences in the physiological response of Picea abies, Fagus sylvatica and Larix decidua to drought**| EGU General Assembly, Vienna, Austria | Poster
Sep 2012	**Bergwälder im Klimawandel – Lebende Archive: Die Jahrbücher von mehr als 1000 Bäumen dendroökologisch aufbereitet** | FowiTa, Freising, Germany | Talk
May 2012	**Long-term growth pattern of Norway spruce in the Northern Limestone Alps** | TRACE conference, Potsdam, Germany | Talk
Sep 2011	**Growth response of Alpine mountain forest species to climate change along an altitudinal gradient** | EURODENDRO conference, Engelberg, Switzerland | Poster
May 2011	**Growth response of Alpine mountain forest species to climate change along an altitudinal gradient** | TRACE conference, Orléans, France | Poster

SUPERVISION

2013 – 2022	**9 PhD Students (Co-supervision), 23 Master Students, 16 Bachelor Students** Institute of Geography, Johannes Gutenberg-University Mainz, Germany
2011 – 2013	**1 Diploma Student, 5 Bachelor Students** Department of Forestry, University of Applied Sciences Weihenstephan-Triesdorf, Germany

TEACHING

2013 – 2021	**Lectures, Seminars, Field and Lab Classes, Excursions** Topics: *Climate Geography, Dendroclimatology, Dendroecology, Physical Geography, Regional Geography 'North-Scandinavia' and 'South-Eastern Germany'* Institute of Geography, Johannes Gutenberg-University Mainz, Germany
2011 – 2013	**Lectures, Field and Lab Classes** Topic: *Dendroecology* Department of Forestry, University of Applied Sciences Weihenstephan-Triesdorf, Germany

MEMBERSHIPS

2020 –	International Tree Mortality Network (ITMN)
2019 –	Deutscher Hochschulverband (DHV)
2017 –	European Geoscience Union (EGU)
2016 –	Arbeitskreis Klima der Deutschen Gesellschaft für Geographie (AK Klima)
2016 –	European Beech Tree-Ring Network (EBTRN)
2011 –	Association for Tree-Ring Research (ATR)

REVIEW WORK

Climate Dynamics, Dendrochronologia, International Journal of Biometeorology, Nature Communications, Science of the Total Environment, Tree Physiology, Trees – Structure and Function

OTHER INFORMATION

Languages	German (native), English (fluent), French (basic)
Software	MS Office, Adobe Photoshop, Illustrator, InDesign, R, ArcGIS, QGIS, Jimdo, WordPress
Private Interests	Tree Godmother, Yoga, Plants, Puzzle, Hiking

THESIS SUPERVISIONS

PHD THESIS

Ongoing

Lorenz Harr Co-supervision	"Effects of pollution on forests and urban areas" (working title)
Eileen Kuhl Co-supervision	"Tree growth and temperature reconstructions" (working title)
Marcel Kunz Co-supervision	"Reducing disturbance patterns in tree-ring series" (working title)
Philipp Römer Co-supervision	"Dendroclimatology in the Mediterranean" (working title)
Zhou Wang Co-supervision	"Disturbance derived from tree-rings" (working title)

2019

Lara Klippel Co-supervision	"Millennial-length tree-ring records: A basis for climate reconstruction and assessment of climate extremes and trends at local to global scales"

2018

Viorica Nagavciuc Co-supervision	"Transfer of the climatic signal in physical and geochemical parameters in annual tree rings. Support for paleoclimatic reconstructions"

2017

Lea Schneider Co-supervision	"Climatic impact of volcanic eruptions over the past millennium"

2015

Elisabeth Düthorn Co-supervision	"Influence of micro-site conditions and environmental gradients on tree-ring based climate reconstructions"

DIPLOMA/MASTER THESIS

Ongoing

Sarah Beisman, MSc First supervision	"Imprints of volcanic degassing in tree-rings of oak and beech at the Laacher See, Germany"

2021

Christian Gnaneswaran, MEd First supervision	"Drought induced tree mortality – A comparison of species specific growth resilience to drought in southwestern Germany"
Marcel Kunz, MSc First supervision	"Site-specific variation of larch budmoth mass outbreaks in the Matter valley, Switzerland"
Bianca Müller, MSc First supervision	"Climate change effects on larch growth along an elevational gradient in the Swiss Alps"

2020

Marc Ehnes, MEd Second supervision	"Untersuchung des standortabhängigen Wachstums der Baumarten Ahorn und Platane in Mainz"
Lisa Glaser, MEd Second supervision	"Exposition und Wasserverfügbarkeit als Faktoren für das Klimasignal im Wachstumsmuster von Pinus sylvestris in Nordfinnland"
Eileen Kuhl, MSc First supervision	"Towards a millennium length temperature reconstruction from historical buildings in Swiss Alpine valleys"
Ben Lehmann, MSc First supervision	"Forest dieback 2.0 in the Lennebergwald – Connection between growth reactions and the life status of Scots pine (Pinus sylvestris L.) after the drought years 2018 and 2019"
Lara Meurer, MSc First supervision	"Effect of elevation on larch MXD data from Switzerland"

2019

Klemens Pfaff, MEd
First supervision
"Koblenz im Zweiten Weltkrieg: Eine dendrochronologische Untersuchung des Einsatzes militärischer Kampfstoffe"

Sebastian Olszanski, MSc
First supervision
"Potentielle Klimasignale in der maximalen Spätholzdichte der Schwarzkiefer in Cazorla, Südspanien"

Philipp Römer, MEd
First supervision
"Standortspezifische Klimasignale in Jahrringparametern von Pinus nigra auf Korsika (Frankreich)"

2018

Lorenz Harr, MSc
First supervision
"Ecological disturbance factor Tirpitz? Impact of smoke screens on the growth of trees at the Kåfjord (Norway)"

2017

Viola Christmann, MSc
Second supervision
"Klimageographische Kennzeichen und ausgewählte, regionale Auswirkungen des extrem starken El Nino-Ereignisses 2015/2016 und mögliche Zusammenhänge mit dem Klimawandel"

Johannes Neumann, MEd
First supervision
"Micro-site effects in dendroclimatology – Influence of radiation and soil moisture conditions on growth and climate signals of Scots pine in Fennoscandia"

2016

Elena Hübner, MEd
First supervision
"A comparative study of climate signals in tree-rings of Scots pine (Pinus sylvestris) at five coastal sites in northern Norway"

Lara Klippel, MEd
Second supervision
"High-elevation inter-site differences in Mount Smolikas tree-ring width data"

Jessica Wolff, MEd
First supervision
"Höhenspezifische Wachstumsmuster von Pinus nigra in der ‚Sierra de Cazorla', Spanien"

2015

Tineke Rook, MEd
Second supervision
"Der hydrologische Einfluss auf die Zuwachsreaktion der Jahrringbreite von Waldkiefern im Bereich der nördlichen Skanden"

Diana Rösch, MEd
Second supervision
"Jahrringchronologien als Zeiger für mikro- und makroklimatische Veränderungen in Finnland"

Sarah Schwebler, MEd
Second supervision
"Zuwachsraten und Klimasignale von Waldkieferjahrringen für eine dendroklimatologische Rekonstruktion an Luv- und Lee-Standorten in Nordnorwegen"

2014

Judith Gellesch, MEd
Second supervision
"Physisch geographische Analyse und Bewertung der Hochwassersituation der Nahe und ausgewählter Nebenflüsse"

Viktoria Kaiser, MEd
Second supervision
"Temporal and spatial variation in temperature in two small scale urban settlements: Geisenheim and Haparanda"

2010

Johannes Riepl, Dipl-Ing
Second supervision
"Reaktion der Fichte (Picea abies (L.) Karst.) auf Klimaveränderungen entlang eines Höhengradienten im Nationalpark Berchtesgaden"

BACHELOR THESIS

2019

Yannik Esser, BSc
First supervision
"Threatened forest?- Searching for causes inducing unusually high missing ring occurrence in Corsican Pines"

Charlotte Fischer, BSc
First supervision
"Variability of accumulation rates in East Antarctica: dielectric profiling of five 200m long ice cores"

Philipp Gau, BSc
First supervision
"Lebenszyklus und Verbreitung des Pinienprozessionsspinners unter Berücksichtigung der klimatischen Bedingungen"

Helena Rollmann, BSc Second supervision	"Der große Vulkanausbruch der 1450er Jahre: Analyse großräumiger Abkühlungseffekte mithilfe ausgewählter Jahrring–Chronologien der Südhemisphäre"
2018	
Philip Bergforth, BSc First supervision	"Zuwachsreaktion der Waldkiefer (Pinus sylvestris L.) auf im 2. Weltkrieg erzeugten Tarnnebel in Nordskandinavien"
Bianca Müller, BSc First supervision	"Schädigung von Waldkiefernbeständen am Kåfjord durch im Zweiten Weltkrieg von der Tirpitz eingesetzten Tarnnebel in Abhängigkeit von der Distanz zum Ankerplatz des Kriegsschiffes"
Marcus Schwarz, BSc Second supervision	"Standortbedingte Unterschiede des Wachstums von Waldkiefern (Pinus sylvestris L.) in der Region Alta, Norwegen"
Marcel Wilhelm, BSc First supervision	"Waldbrände auf Korsika: GIS-basierter Vergleich verschiedener Waldbranddatenbanken mit Vegetations- und Klimadaten"
2017	
Lucas Gehard, BSc First supervision	"Eine Fallstudie zum Einfluss von Durchforstungsmaßnahmen auf die Klima-Zuwachs-Beziehungen der Fichte in Bayern"
Nicolas Griesang, BSc Second supervision	"Douglasie, Fichte und Kiefer im Trockenstress? Ein artenspezifischer Vergleich von annuellen Zuwachsdaten aus dem Forstrevier Hohe Loog"
Benjamin Lehmann, BSc Second supervision	"Baumwachstum im Tarnnebelschatten der Tirpitz"
Lea Thielmann, BSc First supervision	"Analyse von Jahrringdaten eines Tannenbestandes im hessischen Odenwald unter Berücksichtigung von Schwefeldioxid-Immissionen und Klimadaten"
2016	
Heike Schimmel, BSc First supervision	"Durchforstungsmaßnahmen – Der Schlüssel zu mehr Wachstum und höherer Trockentoleranz? "
2015	
Lara Klippel, BSc First supervision	"Hourly resolved drought response of Norway spruce beyond its natural distribution range"
Jan Scheffler, BSc Second supervision	"Nordhemisphärische Temperaturanomalien in Folge explosiver Vulkaneruptionen der letzten 150 Jahre"
2012	
Markus Hartmann, BEng Second supervision	"Dendroökologische Untersuchungen von Bergahorn (Acer pseudoplatanus L.) im Nationalpark Berchtesgaden"
Robert Haufe, BEng Second supervision	"Klima-Wachstums-Beziehungen von Früh- und Spätholz bei Larix decidua Mill. in der Region Berchtesgaden"
Matthäus Holleschovsky, BEng First supervision	"Reaktion des Bergahorns auf die sich ändernden Klimabedingungen mit der Untersuchung von Methoden zur Präparation der verwendeten Bohrkernproben aus dem Höllengebirge"
Sarah Mitze, BEng Second supervision	"Zuwachsreaktion von Pappeln an von Bibern überstauten Flächen der mittleren Isar"
2011	
Florian Forstner, BEng Second supervision	"Jahrringwachstum von Lärchen (Larix decidua Mill.) entlang eines Höhengradienten im Nationalpark Berchtesgaden"

PUBLICATIONS

Bibliometric field indicators

Google Scholar: Citations: **927** | h-index: **15** | i10-index: **18**

ResearchGate: Citations: **881** | h-index: **14** | excluding self-citations: **14**

Please also see my ResearchGate, Google Scholar, Publons or Scopus profile as well as my personal website.

Counts: [total count/ISI listed]

In Review

[43/33] Bodesheim P, Babst F, Frank D, **Hartl C**, Zang C, Jung M, Reichstein M, and Mahecha M (in review) Predicting spatiotemporal variability in radial tree growth at continental scales with machine learning. *Environmental Data Science*.

[42/32] 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. *Ecological Applications.*

[41/31] Torbenson M, Klippel L, **Hartl C**, Reinig F, Treydte K, Büntgen U, Trnka M, Schöne B, Schneider L, Esper J (in review) Investigation of age trends in tree-ring stable carbon and oxygen isotopes from northern Fennoscandia over the past millennium. *Quaternary International.*

2022

[40/30] Dorado-Liñán I, Ayarzagüena B, Babst F, Xu G, Gil L , Battipaglia G, Buras A, Cada V, Camarero JJ, Cavin L, Claessens H, Drobyshev I, Garamszegi B, Grabner M, Hacket-Pain A, **Hartl C**, Hevia A, Janda P, Jump A, Kazimirovic M, Keren S, Kreyling J ... & Trouet V (in press) Jet stream position explains regional anomalies in European forest productivity. *Nature Communications*.

[39/29] **Hartl C**, Schneider L, Riechelmann D, Kuhl E, Kochbeck M, Büntgen U, Esper J (in press) The temperature sensitivity along elevational gradients is more stable in maximum latewood density than tree-ring width. *Dendrochronologia.*

[38/28] Ljungqvist F, Thejll P, Christiansen B, Seim A, **Hartl C**, Esper J (2022) The significance of climate variability on early modern European grain prices. *Cliometrica* 16, 29–77, doi 10.1007/s11698-021-00224-7.

[37/27] Martínez del Castillo E, Zang C, Buras A, Hacket-Pain A, Esper J, Serrano-Notivoli R, **Hartl C**, Weigel R, Klesse S, Resco de Dios V, Scharnweber T, Dorado-Liñán I, van der Maaten-Theunissen M, van der Maaten E, Jump A, Mikac S, Banzragch B, Beck W, Cavin L, Claessens H, Čada V, Cufar K, Dulamsuren C, Gričar J, Gil-Pelegrín E, Janda P, Kazimirovic M, Kreyling J, Latte N, Leuschner C, Longares L, Menzel A, Merela M, Motta R, Muffler L, Nola P, Petritan A, Petritan I, Prislan P, Rubio-Cuadrado Á, Rydval M, Stajić B, Svoboda M, Toromani E, Trotsiuk V, Wilmking M, Zlatanov T, de Luis M (2022) Climate-change-driven growth decline of European beech forests. *Communications Biology* 5, 163, 10.1038/s42003-022-03107-3.

2021

[36/26] Esper J, **Hartl C**, Konter O, Reinig F, Römer P, Huneau F, Lebre S, Szymczak S, Bräuning A, Büntgen U (2021) Past millennium hydroclimate variability from Corsican pine tree-ring chronologies. *Boreas,* doi 10.1111/bor.12574.

[35/25] Harr L, Esper J, Kirchhefer AJ, Wang Z, **Hartl C** (2021) Growth response of Betula pubescens Ehrh. to varying disturbance factors in northern Norway. *Trees – Structure and Function* 35, 421–431, doi 10.1007/s00468-020-02043-1.

[34/24] **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* 64, 125787, doi 10.1016/j.dendro.2020.125787.

[33/23] Römer P, **Hartl C**, Schneider L, Bräuning A, Szymczak 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(7), 804, doi https://doi.org/10.3390/atmos12070804.

2020

[32/22] Anhäuser T, Sehls B, Thomas W, **Hartl C**, Greule M, Scholz D, Esper J, Keppler F (2020) Tree-ring δ^2H from lignin methoxyl groups indicate sensitivity to European-scale temperature changes. *Palaeogeography, Palaeoclimatology, Palaeoecology* 546, 109665, doi 10.1016/j.palaeo.2020.109665.

[31/21] Esper J, **Hartl C**, Tejedor E, de Luis M, Günther B, Büntgen U (in press) High-resolution temperature variability reconstructed from black pine tree ring densities in southern Spain. *Atmosphere* 11, 748, doi 10.3390/atmos11070748.

[30/21] Nagavciuc V, Kern Z, Ionita M, **Hartl C**, Konter O, Esper J, Popa I (2020) Climate signals in carbon and oxygen isotope ratios of Pinus cembra tree-ring cellulose from Calimani Mountains, Romania. *International Journal of Climatology* 40, 2539–2556, doi 10.1002/joc.6349.

[29/20] Riechelmann DFC, **Hartl C**, Esper J (2020) The effect of provenance of historical timber on tree-ring based temperature reconstructions in the Western Central Alps. *iForest–Biogeosciences and Forestry* 13, 351-359, doi 10.3832/ifor3412-013.

[28/19] Tejedor E, Serrano-Notivoli R, de Luis M, Saz MA, **Hartl C**, St. George S, Büntgen U, Vuille M, Liebhold A, Esper J (2020) A global perspective on the climate-driven growth synchrony of neighbouring trees. *Global Ecology and Biogeography* 29, 1114–1125, doi 10.1111/geb.13090.

2019

[27/18] Björklund J, von Arx G, Nievergelt D, Wilson R, Van den Bulcke J, Günther B, Loader N, Rydval M, Fonti P, Scharnweber T, Andreu-Hayles L, Büntgen U, D'Arrigo R, Davi N, De Mil T, Esper J, Gärtner H, Geary J, Gunnarson B, **Hartl C**, Hevia A, Song H, Janecka K, Kaczka R, Kirdyanov A, Kochbeck M, Liu Y, Meko M, Mundo I, Nicolussi K, Oelkers R, Pichler T, Sánchez-Salguero R, Schneider L, Schweingruber F, Timonen M, Trouet V, Van Acker J, Verstege A, Villalba R, Wilmking M, Frank D (2019) Scientific merits and analytical challenges of tree-ring densitometry. *Reviews of Geophysics* 57, 1224-1264, doi 10.1029/2019RG000642.

[26/17] **Hartl C**, St. George S, Konter O, Harr L, Scholz D, Kirchhefer A, Esper J (2019) Warfare dendrochronology: Trees witness the deployment of the German battleship Tirpitz in Norway. *Anthropocene* 27, 100212, doi 10.1016/j.ancene.2019.100212.

2018

[25/16] Esper J, Holzkämper S, Büntgen U, Schöne B, Keppler F, **Hartl C**, St. George S, Riechelmann DFC, Treydte K (2018) Site-specific climatic signals in stable isotope records from Swedish pine forests. *Trees – Structure and Function* 32, 855–869, doi 10.1007/s00468-018-1678-z.

[24/15] Hacket-Pain A, Ascoli D, Vacchiano G, Biondi F, Cavin L, Conedera M, Drobyshev I, Dorado Liñán I, Friend A, Grabner M, **Hartl C**, Kreyling J, Lebourgeois F, Levanič T, Menzel A, van der Maaten E, van der Maaten-Theunissen M, Muffler L, Motta R, Roibu C, Popa I, Scharnweber T, Weigel R, Wilmking M, Zang C (2018) Climatically controlled reproduction drives inter-annual growth variability in a temperate tree species. *Ecology Letters* 21, 1833–1844, doi 10.1111/ele.13158.

[23/14] Klippel L, Krusic PJ, Brandes R, **Hartl C**, Belmecheri S, Dienst M, Esper J (2018) A 1286-year hydro-climate reconstruction for the Balkan Peninsula. *Boreas* 47, 1218–1229, doi 10.1111/bor. 12320.

[22/13] Trnka M, Hayes M, Jurečka F, Bartošová L, Anderson M, Brázdil R, Bronw J, Camarero J, Cudlín P, Dobrovolný P, Eitzinger J, Feng S, Finnessey T, Gregoric G, Havlik P, Hain C, Holman I, Johnson D, Kersebaum K, Ljungqvist F, Luterbacher J, Micale F, **Hartl 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, Büntgen U, Žalud Z (2018) Priority questions in multidisciplinary drought research. *Climate Research* 75, 241–260, doi 10.3354/cr01509.

2017

[21/12] Esper J, Büntgen U, **Hartl-Meier C**, 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.

[20/11] **Hartl-Meier C**, Büntgen U, Smerdon J, Zorita E, Krusic P, Ljungqvist F, Schneider L, Esper J (2017) Temperature covariance in tree-ring reconstructions and climate model simulations over the past millennium. *Geophysical Research Letters* 44, 9458–9469, doi 10.1002/2017GL073239.

[19/10] **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* 19, 376–387, doi 10.1111/afe.12216.

[18/9] **Hartl-Meier C**, Schneider L, Esper J (2017) Site-specific temperature response to seven major volcanic eruptions over the last Millennium. *TRACE* 15, 46–53.

[17/9] Klippel L, **Hartl-Meier C**, Lindén J, Kochbeck M, Emde K, Esper J (2017) Hourly resolved climate response of Picea abies beyond its natural distribution range. *Baltic Forestry* 23, 556–563, ISSN 2029-9230.

[16/8] Klippel L, Krusic PJ, Brandes R, **Hartl-Meier C**, Trouet V, Meko M, Esper J (2017) High-elevation inter-site differences in Mount Smolikas tree-ring width data. *Dendrochronologia* 44, 164–173, doi 10.1016/j.dendro.2017.05.006.

[15/7] Klippel L, Krusic PJ, **Hartl-Meier C**, Trouet V, Esper J (2017) High-elevation inter-site differences in Mount Smolikas tree-ring width data. *TRACE* 15, 81–87.

[14/7] Schneider L, Smerdon JE, Pretis F, **Hartl-Meier C**, Esper J (2017) A new Archive of large volcanic events over the past Millennium derived from reconstructed summer temperatures. *Environmental Research Letters* 12, 094005, doi 10.1088/1748-9326/aa7a1b.

2016

[13/6] Düthorn E, **Hartl-Meier C**, Kirchhefer A, Hader A, Rook T, Rösch D, Schwebler S, Esper J (2016) Identification of macro-scale groups among 17 site chronologies from Fennoscandia. *TRACE* 14, 32–37.

[12/6] Esper J, Krusic PJ, Ljungqvist FC, Luterbacher J, Carrer M, Cook E, Davi NK, **Hartl-Meier C**, Kirdyanov A, Konter O, Myglan V, Timonen M, Treydte K, Trouet V, Villalba R, Yang B, Büntgen U (2016) Ranking of tree-ring based temperature reconstructions of the past millennium. *Quaternary Science Reviews* 145, 134–151. doi 10.1016/j.quascirev.2016.05.009.

[11/5] **Hartl-Meier C**, Büntgen U, Esper J (2016) On the occurrence of cyclic larch budmoth mass outbreaks beyond its hotspot area. *TRACE* 14, 86–92.

[10/5] **Hartl-Meier C**, Rothe A (2016) Zuwachsreaktion der Bergwälder auf den Klimawandel. *AFZ-Der Wald* 22/2016, 46–48.

2015

[9/5] **Hartl-Meier C** (2015) Dendroökologische Untersuchungen zum Einfluss der Klimaänderungen auf Bergwälder der Nördlichen Kalkalpen. Dissertation, Technische Universität München, 173pp.

[8/5] **Hartl-Meier C**, Büntgen U, Esper J (2015) How is drought affecting forest growth and how can stable isotopes contribute to answer this question? In: Trnka M, Hayes MA (eds) Evaluation of drought and drought impacts through interdisciplinary methods. Global Change Research Centre AS CR v.v.i., p 21–25, ISBN 978-80-87902-12-7.

[7/5] **Hartl-Meier C**, Zang C, Büntgen U, Esper J, Rothe A, Göttlein A, Dirnböck T, Treydte K (2015) Uniform climate sensitivity in tree-ring stable isotopes across species and sites in a mid-latitude temperate forest. *Tree Physiology* 35, 4–15, doi 10.1093/treephys/tpu096.

2014

[6/4] **Hartl-Meier C**, Dittmar C, Zang C, Rothe A (2014) Mountain forest growth response to climate change in the Northern Limestone Alps. *Trees – Structure and Function* 28, 819–829, doi 10.1007/s00468-014-0994-1.

[5/3] **Hartl-Meier C**, Rothe A (2014) Zuwachsreaktionen des Bergwaldes auf Klimaänderungen. LWF aktuell 99, 42–44.

[4/3] **Hartl-Meier C**, Zang C, Dittmar C, Esper J, Göttlein A, Rothe A (2014) Vulnerability of Norway spruce to climate change in mountain forests of the European Alps. *Climate Research* 60, 119–132, doi 10.3354/cr01226.

[3/2] Krüger I, Muhr J, **Hartl-Meier C**, Schulz C, Borken W (2014) Age determination of coarse woody debris with radiocarbon analysis and dendrochronological cross-dating. *European Journal of Forest Research* 133, 931–939, doi 10.1007/s10342-014-0810-x.

[2/1] Rothe A, **Hartl-Meier C** (2014) Jahrringuntersuchungen an Bergahorn in Wäldern der Nördlichen Kalkalpen. *LWF aktuell* 100, 55–57.

[1/1] Zang C, **Hartl-Meier C**, Dittmar C, Rothe A, Menzel A (2014) Patterns of drought tolerance in major European temperate forest trees: climatic drivers and variability. *Global Change Biology* 20, 3767–3779, doi 10.1111/gcb.12637.