

# CV Prof. Jürg Luterbacher, PhD



Swiss Citizen, born 21 April 1968 in Solothurn, Switzerland, married to Dr. Elena Xoplaki (Climate Scientist), two children, 17 and 19

## Formal Education

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|-------------|---|
| 2005        | PD Dr. phil nat. (Habilitation) awarded by the Faculty of Sciences, University of Bern, Switzerland. <i>Habilitation thesis</i> : "North Atlantic European climate variability over the last centuries"   |
| 1999        | Ph.D. degree awarded by the Faculty of Sciences, University of Bern, Switzerland. <i>PhD thesis</i> : "Climate reconstructions and synoptical analysis of the Late Maunder Minimum period"  |
| 1996 – 1999 | Research leading to a Ph.D. within the EU-ADVANCE project (Annual to Decadal Variability in Climate in Europe), University of Bern, Switzerland   |
| 1995        | Diploma in Geography (equivalent Master), University of Bern  |
| 1988 – 1993 | Diploma studies at University of Bern, Major: Geography, Minor: Chemistry, Botany, Economics, Geology<br><i>Major subject</i> : physical geography, climatology and meteorology<br><i>Minor subject</i> : Chemistry, Botany, Geology, Economics |

## Research and Employment History

July 2024 - Full Professor (Chair W3) Department of Geography, Climate Change/Climatology/Climate Dynamics and Centre for International Development and Environmental Research

January 2020 – June 2024 World Meteorological Organization (WMO, specialized UN Organization), Geneva, Switzerland:  
WMO Chief Scientist and Director Science and Innovation Department; Board of Director Member

### **Duties/Responsibilities (a selection): Director Science and Innovation:**

- responsible for the effective and efficient implementation of the strategic plans 2020-2023 and 2024-2027 related to the WMO Long-Term Goal 3 “*Advance Targeted Research*”, advance scientific knowledge of the earth system; enhance the science-for-service value chain ensuring scientific and technological advances; improve predictive capabilities and advance policy-relevant science;
- lead the Science and Innovation Dept. with responsibility for the World Climate Research Programm (WCRP), the World Weather Research Programm (WWRP) and the Global Atmosphere Watch (GAW);
- responsible for human resources management, administration, logistics, financial and budget management;
- responsible for the provision of support to the Research Board and the WMO Scientific Advisory Panel;
- mobilize the research community and contribute to the Earth System approach including international coordination, communication, outreach, capacity development/training;
- build strategic research partnerships through close collaboration with key stakeholders, partners, academia, research institutions and UN organizations;
- leverage and mobilize extrabudgetary resources in particular from competitive research calls;
- secure competitive funding supporting the research programm (achieved through successful acquisition of third-party funds from the European Union as PI and Coordinator, > 1,5 Mio Euro)

- development/training; responsible and in charge of the annual publication of the United in Science report and drafting policy briefs for SBSTA and UNFCCC COP (mainly on topics related to early warnings, global greenhouse gases, adaptation, mitigation, weather and climate extremes and attribution);
- supervision of the departmental scientific staff, Junior Professional Officers, internals, administrative and seconded staff (25).

**- Chief Scientist:**

- representing the WMO in high level scientific/user fora and support internal and external scientific communication, interaction and collaboration;
- representing WMO and its research with high-level stakeholders, governments, funding bodies, organizations and private partners.
- provide high-level guidance and advice on all scientific aspects within the WMO and closer collaboration with other organizations.
- engage as elected member of the Scientific Advisory Board appointed by UN Secretary General Antonio Guterres providing UN leaders with expert scientific advice including policy and programme decisions, harnessing the benefits and mitigating the risks of emerging science (major expertise on Board: Interdisciplinary Science, Meteorology, Climate Change and Climate Modelling)

April 2009 – December 2019

Full Professor (Chair W3) for Physical Geography/Climatology/Climate Dynamics/Climate Change Justus-Liebig-University of Giessen, Germany

**Duties/Responsibilities (a selection):**

- leading the research group climatology, climate dynamics and climate change;
- responsible for budget planning, control, financial reporting, day-to-day operations;
- coordination of overall climate and meteorology activities at the University and serve as focal point for weather/climate issues (internally/externally);

- developing and implementing research strategies;
- resource mobilization, management, capacity building, planning, coordination and implementation of national and international multicultural and interdisciplinary research programmes and activities;
- PI, and scientific leader of interdisciplinary national and international (EU, Belmont) projects;
- teaching (8 hours/week) at Bachelor and Master levels on weather, meteorology, climatology, climate change topics
- lead author in the AR5 assessment report (chapter 5);
- supervision of 20 dept. staff including master and PhD students, postdocs, technical and admin. staff
- Guest Professor Department of Geography, University of Bern
- Guest Professor Institute of Geographic Sciences and Natural Resources Research, CAS, China

April 2015-March 2017

Director, Department of Geography, Justus Liebig University of Giessen, Germany

**Duties/Responsibilities (a selection):**

- responsible for budget planning, control and financial reporting of the Department of Geography;
- responsible for research strategies and development at dept. level;
- responsible for capacity-building programmes of the dept;
- responsible for development of new curricula of Bachelor and Master programmes;
- responsible person to interact with university leadership;
- departmental representative at the faculty management level;
- implement the financial and budgetarial aspects;
- responsible for outreach activities of dept.;
- responsible for education/research aspects in national and international surveys and rankings;
- management and supervision of the dept. staff (Prof, Postdocs, admin and technical staff), approximately 90 staff

2008 – March 2009	Oeschger Centre of Climate Change Research; Workpackage leader Paleoclimatology, University of Bern
2001 – 2009	Deputy head of Climatology and Meteorology group, Institute of Geography, University of Bern, Switzerland Co-PI of the Swiss interdisciplinary projects and Co-PI of an integrated climate project on South America
2000 – 2001	Post-doctoral fellow Institute of Geography, University of Bern, Switzerland
January 1994 – June 1999	Chief Operational Meteorologist (part time during PhD studies), Meteotest, Bern, Switzerland (private sector)  <b>Duties/Responsibilities (a selection):</b> <ul style="list-style-type: none"> <li>-analysis of weather maps and develop weather forecasts for Switzerland, Europe and other parts of the world;</li> <li>-develop tools to improve weather forecasts at the regional scale;</li> <li>-interviews with newspapers, radio and tv stations;</li> <li>-initiatives related to the production, availability and use of weather and climate information for various sectors;</li> <li>-write contributions on weather related topics for newspapers;</li> <li>-educate students on the job (5)</li> </ul>

## Scientific Stays abroad

August 2016	Chinese Academy of Science (CAS), Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China. Visiting Professor, working together with Prof. Zixin Hao and Prof. Quansheng Ge.
July/August 2013	Chinese Academy of Science (CAS), Institute of Geographic Sciences and Natural Resources Research, Beijing, China Visiting Professor, working together with Prof. Quansheng Ge and collaborators on paleoclimatic research questions and impacts in China.

February - April 2011	Chinese Academy of Science (CAS), Institute of Geographic Sciences and Natural Resources Research, Beijing, China Visiting Professor, working together with Prof. Quansheng Ge and collaborators on paleoclimatic research questions and impacts in China.
February - April 2006	University of Arizona, Tucson, Lab. of Tree-ring Research Scientific collaborator in US National Science Foundation Project " <i>Climate Variability from North African Tree Rings</i> " (Project coordinators: Prof. M. Hughes and Prof. R. Touchan). Analysis of northern African tree rings, climatic signal and seasonality of natural proxy data, precipitation and drought reconstructions for the last Millennium, connection to the large scale atmospheric circulation using multivariate methods, stability of proxy-reconstructions-synoptic relation, publication.
April - June 2004	University of Arizona, Tucson, Lab. of Tree-ring Research Scientific collaborator in US National Science Foundation Project " <i>Middle East climate variability from tree ring</i> " (Project coordinators: Prof. M. Hughes and Prof. R. Touchan). Statistical and synoptic analyses, drought and precipitation reconstructions for the last Millennium, publication.

## Profession Service, Editor, Awards/Recognition

<b>Professional roles</b>	2024-: Vice-Chair of the ITU Global Initiative RESOLUTION (Resilience to natural hazards through AI solutions)
	2024-: Co-Chair of ATES (Association for Trans-Eurasia Exchange and Silk Road Civilization Development)
	2024-: Member of the <i>Nature</i> Commission on environment, brain and mental health (Earth Brain Health Commission)
	2023-: Elected member and Expert of the Scientific Advisory Board appointed by UN Secretary General A Guterres
	2023-: Panel member and Evaluation Expert UAEREP cycles for the Research Program for Rain Enhancement Science; setting the research areas and directions for proposal applications including the following topics: Optimized Seeding Materials, Novel Cloud Formation, Rainfall Enhancement, Autonomous Unmanned Aerial Systems Tech and Hardware, Geo-engineering and Landform Modification Adv. Models, software/data

- 2023-: Task Team member of the European Central Bank (ECB) concerning physical risks of a changing climate / extremes / economy / transitional risks / financial stability / green investments / adaptation
- 2022-2025: Scientific Advisory Board member of the EU/H2020 project CLINT: Climate Intelligence
- 2021-2024: Co-Chair of the ITU/WMO/UNEP Focus Group on AI for Natural Disaster Management
- 2021-: Member of the Climate Change and History Research Initiative, Princeton University, USA
- 2021-2022: High-Level Advisory within the OECD Group on Losses and Damages from Climate Change supported by the German Federal Ministry for Economic Cooperation and Development
- 2021-: High-Level Advisory on Community Activity Earth Observations for Climate Change Impacts on World Heritage Cities as well as UN Flexible Mechanism

## Expert

- Lead author in chapter 5 'Information from Paleoclimate Archives' of the 5th IPCC Assessment Report
- Expert Reviewer of the IPCC Special report on 'Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation'
- Contributing Author in the 4th IPCC Assessment Report of 2007: Chapter 1: Historical Overview of Climate Change Science
- Expert, Reviewer and Evaluator of European Union scientific programs
- Expert and Evaluator of Greek Institutes (Environmental & Water) and Lithuanian Departments of Geography
- Expert and Evaluator of Estonian Institutes and Departments (Earth Science, Geography, Geology)
- Consultant of the Norwegian research council
- Steering committee member of MedCLIVAR
- Chair for PAGES Focus 2k theme: Regional Climate Change for the last 2000 years in Europe and the Mediterranean)
- Co-Chair for PAGES Focus 2k theme: Regional Climate Change for the last 2000 years in Asia

## Editor

- Climate of the Past, Peer J, Editorial Advisory Board Member The Holocene, Co-Editor special issue of Climate of the Past (2019, 2020), Advances in Meteorology (until

2012), Co Editor special issues of Met. Zeitschrift 2009, 2012

**Organizer of large conferences, meetings and workshops (a selection)**

- 2023: Conference Chair and securing funding for the First International Conference on Chemical Weather and Chemical Climate; Science, Risks, Impacts, Health, and Governance Associated with Multi-Scale Environmental Perturbations, Shanghai, China
- 2022: Co-Organizer and securing funding for the workshop "Artificial Intelligence for Natural Disaster Management", General Secretariat of Telecommunications and Posts of the Ministry of Digital Governance, Hellenic Republic
- 2022: Organizer of the annual symposium of the ITU/WMO/ UNEP Focus Group on AI for Natural Disaster Management, Geneva Switzerland
- 2021: AGU: Co-Organizer and securing funding for 2nd WMO COVID-19 Task Team Roundtable: "COVID-19 Seasonality: current understanding and relevance to decision making"
- 2021: AGU: Co-Organizer and securing funding for 1st WMO COVID-19 Task Team Roundtable: "Compound Climate Hazards and COVID-19"
- 2020: AGU: Co-Organizer International Virtual Symposium on "Climatological, Meteorological and Environmental factors in the COVID-19 pandemic"
- 2012-2017: EGU: Organizer of the session "Studying the climate of the last two millennia"
- 2016: Organizer and securing funding of the workshop "Comparing data and model estimates of hydroclimate variability and change over the Common Era", Lamont-Doherty Earth Observatory, New York, USA
- 2016: Co-Organizer and securing funding of the workshops "Consolidation, finalization and publication of the Euro-Med2k database"), Hemmenhofen, Germany



## Awards and Recognition

- 2024: Outstanding Editor Award (in recognition of excellent services as Editor) awarded by the European Geosciences Union
- 2024: Highly ranked scholar, placed in the top 0.05% of all scholars worldwide, ranked 65 in Europe (ScholarGPS)
- 2024: Highly ranked scholar in Environmental Sciences, ranked #250 in the world (Research.com).
- 2024: Leader award in Environmental Sciences in Germany (Research.com)
- 2024: Certificate of Recognition for longstanding role as a member of the Steering Group of MedCLIVAR
- 2023-: Elected member and Expert of the Scientific Advisory Board appointed by UN Secretary General A Guterres
- 2023-: Visiting Professor Lanzhou University, China
- 2022: Elected member of the Academy of Sciences and Literature / Mainz, Germany
- 2020-: Elected member Scientific Advisory Board of the Centre for Climate Change Research, Nicolaus Copernicus University, Torun, Poland
- 2015: Thompson Reuters Highly Cited Researcher, Geosciences
- 2015: Gordon Manley Memorial lecture 2015, provided by the Royal Meteorological Society, UK
- 2014: Thompson Reuters Highly Cited Researcher, Geosciences
- 2013: Medal for outstanding scientific contribution in teaching, University of Brno, Czech Republic
- 2011: Scientific Research Expert of the Academy of Athens
- 2010: Senior Visiting Scientist Award of the CAS, China
- 2008: Credit Suisse Award for Best Teaching, University of Bern, Switzerland
- 2006: Bjerknes Lecture 2006 (Bjerknes Center of Climate Research, Bergen), outstanding researcher in past climate research
- 2003: Editors' Citation for Excellence in Refereeing for Journal of Geophysical Research (JGR) - Atmospheres

## Project Funding sources and third party funds

Funding sources for research projects: European Union; German Research Foundation (DFG); Belmont Forum (a group of the world's major and emerging funders of global environmental change research), Federal Ministry of Education and Research (BMBF; Germany); State of Hesse (Germany); British Met. Office (UK); Copernicus/EU

PI: Principal Investigator; Co-PI: Co-Principal Investigator; The funding sources are mentioned at the bottom of each project including the amount in Euro.

The period 2009-2019 covers the Professor post at Justus Liebig University of Giessen, Germany.

The period 2020-today covers the post as Chief Scientist and Director Science and Innovation WMO, Geneva, Switzerland.

2009-2013	<p><i>"Climate Change and extreme weather in Hesse – Analysis of instrumental data and ensemble projections for the 21st century"</i>: PI</p> <p>Hessian Centre on Climate Change and Geology, Germany: 133k Euro</p>
2010-2011	<p>DFG-Schwerpunktprogramm INTERDYNAMIK, project PRIME (<i>"PRecipitation In the past Millennium in Europe"</i>). PI</p> <p>Deutsche Forschungsgemeinschaft (DFG, German Science Foundation): 140k Euro</p>
2010-2013	<p>DFG-funded project <i>"Historical climatology of the Middle East region based on Arabic sources since AD 800"</i>. PI</p> <p>Deutsche Forschungsgemeinschaft (DFG, German Science Foundation): 120k Euro</p>
2012-2014	<p>DFG-funded project (<i>"PRecipitation In past Millennia in Europe-extension back to Roman times"</i>). PI</p> <p>Deutsche Forschungsgemeinschaft (DFG, German Science Foundation): 150k Euro</p>
2013-2016	<p>DFG-funded project (<i>"Attribution of forced and internal Chinese climate variability in the common eras"</i>). PI</p> <p>Deutsche Forschungsgemeinschaft (DFG, German Science Foundation), 250k Euro</p>

- 2014-2017 LOEWE Large Scale Integrated Programm (*Excellency in research for the future of Hesse*), *FACE2FACE – Folgen des Klimawandels, Anpassung an den Klimawandel und Verminderung der Treibhausgas-Emissionen bis 2050*). PI and Coordinator  
Hessian State; 5,3 Million Euro
- 2015-2018 DFG-funded project ("*Ensemble projections of hydro-biogeochemical fluxes under climate change*"). PI  
Deutsche Forschungsgemeinschaft (DFG, German Science Foundation), 160k Euro
- 2016-2019 Climate Science for Service Partnership China project (CSSP): supported by the BEIS UK-China Research Innovation Partnership Fund), bilateral partnership between the Met Office, the China Meteorological Administration (CMA), the Institute of Atmospheric Physics (IAP) at the Chinese Academy of Sciences, and other key institutes within China, the UK and the University of Giessen: *Digitisation and quality control of subdaily meteorological data from Asian stations in the late 19th and early 20th century*. Co-PI  
British Met. Office, 120k Euro
- 2016-2019 DFG-funded project "*The Etesian wind system and energy potential over the Aegean Sea; Past, present, future*". PI  
Deutsche Forschungsgemeinschaft (DFG, German Science Foundation), 211k Euro
- 2017-2019 European Commission via Copernicus Climate Change Service (C3S); *Copernicus Climate Change Service 311a Lot1 for Collection and Processing of In Situ Observations - Data Rescue*. Partner, 37k Euro
- 2017-2019 Belmont Forum and JPI-Climate, Collaborative Research Action "*INTEGRATE, An integrated data-model study of interactions between tropical monsoons and extratropical climate variability and extremes*" (together with the Climatic Research Unit, University of East Anglia und Cold Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, Lanzhou, China), PI  
Federal Ministry of Education and Research (BMBF), 448k Euro

- 2017-2019 Network project with the Aristotle University of Thessaloniki, Greece *The Mediterranean Hot-Spot: Challenges and Responses in a Changing Environment*, Co-PI  
DAAD (German Academic Exchange Service), 150k Euro
- 2023-2026 Horizon Europe Project MedEWSa *Mediterranean and pan-European forecast and Early Warning System against natural hazards*, **Coordinator** and PI  
European Commission, 5 Mio Euro
- 2024-2027 Horizon Europe Project CARMINE *Climate-Resilient Development Pathways in Metropolitan Regions of Europe*, PI  
European Commission, 587500 Euro
- 2024-2027 Horizon Europe Project CROSSEU *Cross-sectoral Framework for Socio-Economic Resilience to Climate Change and Extreme Events in Europe*, PI  
European Commission, 357350 Euro