

# CV Prof. Jürg Luterbacher, PhD



Swiss Citizen, born 21 April 1968 in Solothurn, Switzerland

## Formal Education

- |             |   |
|-------------|---|
| 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" (Supervisors: Proff. Heinz Wanner, Christian Pfister) |
| 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" (Supervisor: Prof. Heinz Wanner)                                   |
| 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, University of Bern  |
| 1988 – 1993 | Diploma studies at University of Bern, Major: Geography, Minor: Chemistry, Botany, Geology<br><i>Major subject</i> : physical geography, climatology and meteorology<br><i>Minor subject</i> : Chemistry, Botany, Geology                                     |

## Research and Employment History

- July 2024 - Full Professor (Chair W3) Department of Geography, Climatology/ Climate Dynamics/Climatology
- Coordinator Horizon Europe Project MedEWSa (*Mediterranean and pan-European forecast and Early Warning System against natural hazards*, [www.medewsa.eu](http://www.medewsa.eu))
- January 2020 – June 2024 World Meteorological Organization (WMO, specialized UN Organization), Geneva, Switzerland:  
Director Science and Innovation and WMO Chief Scientist and Board of Directors 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);
  - mobilize the research community and contribute to the Earth System approach including international coordination, communication, outreach, capacity development/training and organization of dedicated meetings;
  - responsible for the provision of support to the WMO Research Board and the WMO Scientific Advisory Panel;
  - build strategic research partnerships through collaboration with national meteorological and hydrological services, UN organizations, academia, research institutions;
  - mobilize extra budgetary resources and secure competitive funding supporting the research programmes (achieved through successful acquisition from the European Union as PI and Coordinator, > 1,5 Mio Euro)
  - publishing peer-reviewed scientific papers
  - responsible and in charge for 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)
- responsible for human resources management, administration, logistics, financial and budget management;
- supervision and management of the departmental scientific staff, Junior professional officers, internals, administrative and seconded staff (25).

**- Duties/Responsibilities (a selection) as 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 interdisciplinary science, meteorology, climate change and Climate Modelling
- Responsible (together with UNEP Chief Scientist) to plan, coordinate and lead the *One Atmosphere report: An Independent Expert Review on Solar Radiation Modification Research and Deployment* (2022)

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; liaising and collaborating with research groups
- 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 (see special section below on third party funding)
- responsible for development of new curricula of Bachelor and Master programmes
- co-responsible for successful organization, management and implementation of the MSc program Global Change: Ecosystem Science and Policy, together with the University of Dublin, Ireland
- teaching (8 hours/week) at Bachelor and Master level on weather, meteorology, climatology, climate change topics
- teaching regular block courses at Institute of Geography and Graduate School of Climate Sciences, University of Bern
- lead author in the AR5 assessment report (chapter 5)
- participating and contributing in academic services (akademische Selbstverwaltung)
- supervision of 20 dept. staff including master and PhD students, postdocs, technical and admin. Staff
- Guest Professor Institute of Geographic Sciences and Natural Resources Research, CAS, China

June 2017

Full Professor in Climate Science, University of East Anglia, Climatic Research Unit (successor Prof. Phil. D. Jones)

Decline of the offer

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 department;
- 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 - regular teaching at Institute of Geography and Graduate School of Climate Sciences, University of Bern
2002 – March 2009	Postdoc and later deputy head of the Climatology and Meteorology group, Institute of Geography, University of Bern, Switzerland Scientific work in the NCCR Climate interdisciplinary projects PALVAREX <sub>1</sub> and PALVAREX <sub>2</sub> („PALEoclimate VARIability and EXtreme events“) and Co-PI of an integrated climate project on South America - regular teaching at Institute of Geography and Graduate School of Climate Sciences, University of Bern
2000 – 2001	Post-doctoral fellow Institute of Geography, University of Bern, Switzerland, international Project “FLOODRISK”
January 1994 – June 1999	Chief Operational Meteorologist (part time during PhD studies), Meteotest, Bern, Switzerland (private sector)

## 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.

## Professional roles, Expert, Editor, Organizer, Awards/Recognition

### Professional roles

- 2025-2028: Scientific Advisory Board Member of the large Horizon Europe infrastructure project *Digital Twin of Earth system for Cryosphere, Land surface and related interactions* (TerraDT)
- 2025-: Board of Directors Member of the Climate and Water Initiative (Non-Profit Organisation, [www.climate-water.org](http://www.climate-water.org))
- 2024-: Member of the *Nature* Commission on Environment, Brain and Mental health and Work Package Leader Climate Change and Environment
- 2024-: Co-Chair of the Working group on proof-of-concept of the ITU Global Initiative RESOLUTION (Resilience to natural hazards through AI solutions)
- 2024-: Co-Chair of the Association for Trans-Eurasia Exchange and Silk Road Civilization Development (ATES)
- 2023-: Scientific Panel Member and Evaluation Expert of the United Arab Emirates Research Program for Rain Enhancement Science
- 2023-2026: Coordinator of the Horizon EU project MedEWSa (Mediterranean and pan-European forecast and Early Warning System against natural hazards)
- 2023-: Task Team member of the European Central Bank (ECB) on physical risk, climate change/ extremes / economy /financial stability / green investments / adaptation
- 2021-: Member of the Climate Change and History Research Initiative, Princeton University, USA
- 2021-: High-Level Advisory Member on Community Activities Earth Observations for Climate Change Impacts on World Heritage Cities, UN Flexible Mechanism
- 2020-: Scientific Advisory Board Member, Centre for Climate change Research, Nicolaus Copernicus University Torun, Poland

## Expert

- 2023-2024: Elected member and Expert of the Scientific Advisory Board appointed by UN Secretary General A Guterres
- 2020-2024: Co-Chair of the ITU/WMO/UNEP Focus Group on AI for Natural Disaster Management
- 2022-2024: Scientific Advisory Board member of the EU/H2020 project CLINT: Climate Intelligence
- 2021-2022: High-Level Advisory OECD on Losses and Damages from Climate Change
- 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 EU proposals
  - 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
  - 2026: Editor Springer Nature book *The Great Wall of China as a Climate Frontier: Environmental, Climatic and Historical Perspectives on the Ordos Region*
- Co-Editor special issue of Climate of the Past (2019, 2020), Ad 2012)

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

- 2025: Workshops on „Risk Transfer Solutions for Climate Disasters“, Brussels, Belgium
- 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

- 2026: Meritorious Member of the International Community (Koinon) of Academies, elected by the Board of Directors and the Academy of Athens, Greece
- 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: Visiting Professor Lanzhou University, China
- 2022: Elected member of the Academy of Sciences and Literature / Mainz, Germany
- 2014 and 2015: Thompson Reuters Highly Cited Researcher, Geosciences
- 2015: Gordon Manley Memorial lecture 2015, Royal Meteorological Royal Society, UK
- 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 and from July 2024 onwards covers the Professor post at Justus Liebig University of Giessen, Germany.

The period 2020-June 2024 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 DFG-funded project ("*Attribution of forced and internal Chinese climate variability in the common eras*"). PI  
Deutsche Forschungsgemeinschaft (DFG, German Science Foundation), 250k Euro
- 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 Co-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), 44,8k 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**.  
European Commission, 5 Mio Euro
- 2025-2026 ClimXtreme II, Modul C "Impacts" - CROP4Europe: Compound Events und ihre Auswirkungen auf die Nutzpflanzen Europas (Compound Events and their Effects on Crops in Europe), PI; Federal Ministry of Education and Research (BMBF): 240'300 Euro
- 2025-2026 NUKLEUS2: Verbundprojekt RegIKlim: Nutzbare Lokale Klimainformationen für Deutschland (Actionable Local Climate Information for Germany; NUKLEUS2), Teilprojekt 6: KI-gestützte Aufarbeitung der Klimadaten für die Wirkmodelle (AI-based processing of climate data for the impact models); PI; Federal Ministry of Education and Research (BMBF). 215'000 Euro

## Supervision of PhD theses (since 2009)

2027: **Lorine Behr** (University of Giessen): title of thesis pending

2026: **Niklas Luther** (University of Giessen): title of thesis pending

2025: **Eva Hartmann** (University of Giessen): title of thesis pending

2024: **Mingyue Zhang** (University of Giessen): Regional Paleo Climate Simulation Over Eastern Mediterranean and the Nile River Basin with COSMO-CLM

2019: **Wolfgang Obermeier** (University of Marburg): Future ecosystem services of temperate grasslands: bridging scales towards high-resolution spatio-temporal monitoring

2017: **Johanna Untenecker** (University of Giessen): Developing methods for tracking land-use changes from heterogeneous data sources – examples from north-east Germany

2016: **Styliani Dafka** (University of Giessen): The Etesian wind system: dynamics, variability and extremes, insights from observations, reanalysis and regional climate models

2013: **Anne Schindler** (University of Giessen): The annual cycle of British extreme precipitation

2013: **Steven Engler** (University of Giessen): Food (in)security and famine - Understanding the interconnection of vulnerability, perception of affected populations, and their adaptation capacities in times of food scarcity

2009: **Simone Russo** (University of Pisa, Italy): High-resolution geochemical data in coral skeleton and proxy for paleoclimate reconstruction in the Mediterranean Sea

## Supervision of Habilitation theses (post doctoral qualification)

2018: **Dr. Heike Hübener** (University of Giessen): Grenzflächen im Klimasystem – Problemzonen der Klima- und Klimafolgenforschung

2011: **Dr. Douglas Maraun** (University of Giessen): The variability of precipitation extremes and their synoptic scale drivers; A United Kingdom case study discussed from a downscaling perspective