

# Dr. Claas Teichmann

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Helmholtz-Zentrum Geesthacht  
Fischertwiete 1, 20095 Hamburg, Germany

## PROFESSIONAL EXPERIENCE

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Since 2015	<b>Climate Service Center Germany (GERICS)</b> Postdoctoral researcher <i>selected projects:</i> Vulnerability Impact, Adaptation and Climate Service Advisory Board (VIACS AB) <ul style="list-style-type: none"><li>• co-coordination of VIACS AB</li></ul> EURO-CORDEX: <ul style="list-style-type: none"><li>• running and analysing high-resolution climate projections for Europe</li><li>• organization of the EURO-CORDEX initiative community</li></ul> <i>selected internal projects:</i> Coordinated Regional Downscaling Experiment (CORDEX): <ul style="list-style-type: none"><li>• coordinating the CORDEX-research in our group</li></ul> PyRemo: <ul style="list-style-type: none"><li>• co-coordinating the development of a framework for simulations and climate data analysis</li></ul> REMO: <ul style="list-style-type: none"><li>• developing the regional climate model REMO</li></ul>	Hamburg
2009-2014	<b>Max Planck Institute for Meteorology</b> Postdoc in the Regional climate modelling group of Dr. Daniela Jacob working as scientist in national and international projects <i>selected projects:</i> EURO-CORDEX: <ul style="list-style-type: none"><li>• running and analysing high-resolution climate projections for Europe</li><li>• organization of the EURO-CORDEX initiative community</li></ul> IMPACT2C: <ul style="list-style-type: none"><li>• running and analysing high-resolution climate projections</li></ul> KLIWAS: <ul style="list-style-type: none"><li>• analysing and providing information on climate change scenarios</li></ul> ACQWA: <ul style="list-style-type: none"><li>• analysing the impacts of climate change on glaciers in the European Alps</li></ul> <i>selected internal projects:</i> CORDEX: <ul style="list-style-type: none"><li>• coordinating the CORDEX-research in our group</li></ul> PyRemo: <ul style="list-style-type: none"><li>• co-coordinating the development of a framework for simulations and climate data analysis</li></ul> REMO: <ul style="list-style-type: none"><li>• developing the regional climate model REMO</li></ul>	Hamburg
2002	<b>University of Bremen</b> <i>Tutor for Experimental Physics IV: Quantum mechanics</i> <ul style="list-style-type: none"><li>• Supervision and conceptual design of a tutorial</li><li>• Correction of practical sheets</li></ul>	Bremen

2002	<b>University of Bremen</b> <i>Scientific programming for satellite data analysis</i> <ul style="list-style-type: none"> <li>Graphical presentation of satellite data</li> <li>Analysis of retrieved brightness temperatures</li> </ul>	Bremen
2001	<b>software design &amp; management AG</b> <i>Programmer in a software project</i> <ul style="list-style-type: none"> <li>Conception and programming of a test-framework</li> <li>Evaluation of a profiling tool</li> </ul>	München
2001	<b>University Claude Bernard, Lyon 1</b> <i>Tutorial for lessons in German language</i> <ul style="list-style-type: none"> <li>Individual coaching</li> <li>Supervision and guidance of a conversation group</li> </ul>	Lyon, France
1999	<b>Gesellschaft für wissenschaftliche Datenverarbeitung Göttingen</b> <i>Internship in the frame of the project „Multimedia-Lexicon“</i> <ul style="list-style-type: none"> <li>Database-design</li> <li>Design of a webbased application for a multimedia-lexicon using Java-Servlets</li> </ul>	Göttingen

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#### SCIENTIFIC INTERESTS

- Regional climate modelling
- Ensemble analysis, extreme events and extreme value theory
- Model chain and the related uncertainty extending from the climate change signal to the regional and local impact
- Analysis and understanding of meteorological and chemical process in the atmosphere and their interaction with focus on the hydrological cycle in Europe

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#### EDUCATION

2005-2009	<b>Max Planck Institute for Meteorology</b> PhD study in the International Max Planck Research School on Earth System Modelling Title of the PhD thesis: <i>Climate and Air Pollution Modelling in South America with Focus on Megacities</i> Supervisors: Prof. Dr. Guy P. Brasseur and Dr. Daniela Jacob	Hamburg
2001-2005	<b>University of Bremen</b> Study of Physics, specialization: Environmental Physics Diploma thesis: <i>Polarization Effects in Microwave Radiation due to Cirrus Clouds</i> Supervisors: Assoc. Prof. Stefan A. Buehler, Prof. Dr. Justus Notholt and Prof. Dr. Jörn Bleck-Neuhaus	Bremen
2000-2001	<b>University Claude Bernard, Lyon 1</b> Integrated year abroad, Erasmus scholarship	Lyon, France
1998-2000	<b>University of Göttingen</b> Study of Physics <i>minor subject: Computer Science</i>	Göttingen

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#### STIPENDS/AWARDS

2005	OHB-Preis 2005 (best Physics diploma)
2001-2009	E-fellows.net-stipend

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#### LANGUAGES

German:	native language
English:	fluent
French:	fluent
Spanish:	very good (diploma in Spanish as a foreign language, high-intermediate level)

## COMPUTER SKILLS

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OS:	Linux, Unix, Windows
Programming:	Python, Fortran, R, Java
Data processing:	cdo, shell-scripting
Visualization:	Ncl(PyNGL), matplotlib, scipy, numpy

## SELECTED PUBLICATIONS

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### Journal articles

#### 2015:

Prein, A.; Gobiet, A.; Truhetz, H.; Keuler, K.; Goergen, K.; **Teichmann, C.**; Fox Maule, C.; van Meijgaard, E.; Déqué, M.; Nikulin, G.; Vautard, R.; Colette, A.; Kjellström, E. & Jacob, D.; *Precipitation in the EURO-CORDEX 0.11° and 0.44° simulations: high resolution, high benefits?* Climate Dynamics, Springer Berlin Heidelberg, 2015, 1-30

Casanueva, A.; Kotlarski, S.; Herrera, S.; Fernández, J.; Gutiérrez, J.; Boberg, F.; Colette, A.; Christensen, O.; Goergen, K.; Jacob, D.; Keuler, K.; Nikulin, G.; **Teichmann, C.** & Vautard, R.; *Daily precipitation statistics in a EURO-CORDEX RCM ensemble: added value of raw and bias-corrected high-resolution simulations* Climate Dynamics, Springer Berlin Heidelberg, 2015, 1-19

Pfeifer, S.; Bülow, K.; Gobiet, A.; Hänsler, A.; Mudelsee, M.; Otto, J.; Rechid, D.; **Teichmann, C.** & Jacob, D. *Robustness of Ensemble Climate Projections Analyzed with Climate Signal Maps: Seasonal and Extreme Precipitation for Germany*, Atmosphere, 2015, 6, 677-698

#### 2014:

Kotlarski, S.; Keuler, K.; Christensen, O. B.; Colette, A.; Déqué, M.; Gobiet, A.; Goergen, K.; Jacob, D.; Lüthi, D.; van Meijgaard, E.; Nikulin, G.; Schär, C.; **Teichmann, C.**; Vautard, R.; Warrach-Sagi, K. & Wulfmeyer, V. *Regional climate modeling on European scales: a joint standard evaluation of the EURO-CORDEX RCM ensemble* Geoscientific Model Development, 2014, 7, 1297-1333

Vautard, R.; Gobiet, A.; Sobolowski, S.; Kjellström, E.; Stegehuis, A.; Watkiss, P.; Mendlik, T.; Landgren, O.; Nikulin, G.; **Teichmann, C.** & Jacob, D. *The European climate under a 2 °C global warming*, Environmental Research Letters, 2014, 9, 034006

#### 2013:

Gálos, B.; Hagemann, S.; Hänsler, A.; Kindermann, G.; Rechid, D.; Sieck, K.; **Teichmann, C.** & Jacob, D. *Case study for the assessment of the biogeophysical effects of a potential afforestation in Europe*, Carbon Balance and Management, BioMed Central, 2013, 8, 1-12

Jacob, D.; Petersen, J.; Eggert, B.; Alias, A.; Christensen, O. B.; Bouwer, L. M.; Braun, A.; Colette, A.; Déqué, M.; Georgievski, G.; Georgopoulou, E.; Gobiet, A.; Menut, L.; Nikulin, G.; Haensler, A.; Hempelmann, N.; Jones, C.; Keuler, K.; Kovats, S.; Kröner, N.; Kotlarski, S.; Kriegsmann, A.; Martin, E.; van Meijgaard, E.; Moseley, C.; Pfeifer, S.; Preuschmann, S.; Radermacher, C.; Radtke, K.; Rechid, D.; Rounsevell, M.; Samuelsson, P.; Somot, S.; Soussana, J.-F.; **Teichmann, C.**; Valentini, R.; Vautard, R.; Weber, B. & Yiou, P. *EURO-CORDEX: new high-resolution climate change projections for European impact research*, Regional Environmental Change, Springer Berlin Heidelberg, 2013, 1-16

**Teichmann, C.**; Eggert, B.; Elizalde, A.; Haensler, A.; Jacob, D.; Kumar, P.; Moseley, C.; Pfeifer, S.; Rechid, D.; Remedio, A. R.; Ries, H.; Petersen, J.; Preuschmann, S.; Raub, T.; Saeed, F.; Sieck, K. & Weber, T. *How Does a Regional Climate Model Modify the Projected Climate Change Signal of the Driving GCM: A Study over Different CORDEX Regions Using REMO*, Atmosphere, 2013, 4, 214-236

Vautard, R.; Gobiet, A.; Jacob, D.; Belda, M.; Colette, A.; Déqué, M.; Fernández, J.; García-Díez, M.; Goergen, K.; Güttler, I.; Halenka, T.; Karacostas, T.; Katragkou, E.; Keuler, K.; Kotlarski, S.; Mayer, S.; Meijgaard, E.; Nikulin, G.; Patarčić, M.; Scinocca, J.; Sobolowski, S.; Suklitsch, M.; **Teichmann, C.**; Warrach-Sagi, K.; Wulfmeyer, V. & Yiou, P. *The simulation of European heat waves from an ensemble of regional climate models within the EURO-CORDEX project*, Climate Dynamics, Springer-Verlag, 2013, 1-21

Swart, R.; Fuss, S.; Obersteiner, M.; Ruti, P.; **Teichmann, C.** & Vautard, R. *Beyond vulnerability assessment*, Nature Climate Change, 2013, 3, 942-943

- 2012:** Jacob, D.; Elizalde, A.; Haensler, A.; Hagemann, S.; Kumar, P.; Podzun, R.; Rechid, D.; Remedio, A. R.; Saeed, F.; Sieck, K.; **Teichmann, C.** & Wilhelm, C. *Assessing the Transferability of the Regional Climate Model REMO to Different COordinated Regional Climate Downscaling EXperiment (CORDEX) Regions*, Atmosphere, 2012, 3, 181-199
- Pietikäinen, J.-P.; O'Donnell, D.; **Teichmann, C.**; Karstens, U.; Pfeifer, S.; Kazil, J.; Podzun, R.; Fiedler, S.; Kokkola, H.; Birmili, W.; O'Dowd, C.; Baltensperger, U.; Weingartner, E.; Gehrig, R.; Spindler, G.; Kulmala, M.; Feichter, J.; Jacob, D. & Laaksonen, A. *The regional aerosol-climate model REMO-HAM*, Geoscientific Model Development, 2012, 5, 1323-1339
- before 2011:** Menéndez, C.; de Castro, M.; Boulanger, J.-P.; D'Onofrio, A.; Sanchez, E.; Sörensson, A.; Blazquez, J.; Elizalde, A.; Jacob, D.; Le Treut, H.; Li, Z.; Núñez, M.; Pessacq, N.; Pfeiffer, S.; Rojas, M.; Rolla, A.; Samuelsson, P.; Solman, S. & **Teichmann, C.** *Downscaling extreme month-long anomalies in southern South America*, Climatic Change, 2010, 98, 379-403
- Silvestri, G.; Vera, C.; Jacob, D.; Pfeifer, S. & **Teichmann, C.** *A high-resolution 43-year atmospheric hindcast for South America generated with the MPI regional model*, Climate Dynamics, 2009, 32, 693-709
- Benko, T.; **Teichmann, C.**; Mizsey, P. & Jacob, D. *Regional effects and efficiency of flue gas desulphurization in the Carpathian Basin* Atmospheric Environment, 2007, 41, 8500-8510
- Teichmann, C.**; Buehler, S. A. & Emde, C. *Understanding the polarization signal of spherical particles for microwave limb radiances*, Journal of Quantitative Spectroscopy & Radiative Transfer, Pergamon-Elsevier Science Ltd, 2006, 101, 179-190
- book contributions:** Kappas, M., ed. (2008), CLIMAderm, ibidem-Verlag.  
Chapter: *Regionale Klimaprojektionen mit REMO*, Jacob, D. and **Teichmann, C.**, 2008

#### SELECTED PRESENTATIONS

<b>Selected presentations at scientific conferences</b>	EGU General Assembly 2015 <i>High-resolution climate change simulations within EURO-CORDEX: Projected changes in the RCP2.6 scenario simulations in comparison to RCP4.5 and RCP8.5 scenario simulations</i>	Vienna, Austria
	EMS General Assembly 2014 <i>High-resolution climate change simulations within EURO-CORDEX: Projected changes in the RCP2.6 scenario simulations in comparison to RCP4.5 and RCP8.5 scenario simulations (solicited)</i>	Prag, Czech Republic
	International Conference on Regional Climate – CORDEX 2013 <i>How does a regional climate model modify the projected climate change signal of the driving GCM: A case study over different CORDEX regions using REMO</i>	Brussels, Belgium
	EGU General Assembly 2012 <i>Downscaling the climate change simulations from a global earth system model forced by the new RCP scenarios over Europe</i>	Vienna, Austria
	RheinBlick2050 Final Colloquium 2010 <i>Regional climate modelling within the new IPCC activities: What can we expect from CORDEX?</i>	Bonn, Germany
	EMS General Assembly 2010 <i>Evaluation of the regional climate model REMO over several CORDEX domains throughout the globe</i>	Zurich, Switzerland
	EGU General Assembly 2010 <i>Impact of megacities on the regional air quality: A South American case study</i> <i>Validation of the regional climate model REMO over several CORDEX regions throughout the globe</i>	Vienna, Austria

	2 <sup>nd</sup> Lund Regional-scale Climate Modelling Workshop 2009 Poster on <i>Impact of megacities on the regional air quality: A South American case study</i>	Lund, Sweden
	EGU General Assembly 2008 Poster on <i>Climate and air pollution modelling in South America with emphasis on megacities</i>	Vienna, Austria
	7th EMS Annual Meeting 2007 <i>Climate and air pollution modelling in South America with focus on megacities</i>	Madrid/San Lorenzo de El Escorial, Spain
<b>Selected lectures and presentations for stakeholders and students</b>	Lecture at the Leuphana University Lüneburg WS2014/15, WS2015/16 (joined with Dr. Diana Rechid) <i>Praktische Aspekte der Umwelt- und Klimaphysik</i>	Lüneburg
	Lecture at the Max-Planck-Institut für Meteorologie, WS 2012/2013 (joined with Dr. Dr. Lorenzo Tomassini) <i>Selected topics in climate data analysis: Bayesian statistics, extreme values and pattern classification</i>	Hamburg
	Presentation at secondary school senior classes, 2012 <i>Introduction to Climate Change</i>	Emden
	Lecture at the Hafencity Universität Hamburg, 2010, 2011 (joined with Dr. Susanne Pfeifer, 2010 and Dr. Andreas Hänsler, 2011) Lecture at HAW Hamburg, 2012 <i>Introduction to Climate Change</i>	Hamburg
	Presentation at the Evangelische Akademie Loccum, 2011 <i>Regionale Klimaveränderungen in Deutschland</i>	Loccum
	Presentation at Deutscher Straßen- und Verkehrskongress 2010 <i>Regionale Klimamodellierung</i>	Mannheim