Curriculum Vitae

Marius Winkler
Max-Planck-Institut für Meteorologie
Bundesstraße 53, D-20146 Hamburg, Deutschland
marius.winkler@mpimet.mpg.de
`https://mariuswinkler.github.io/`

Education

Ph.D. Earth System Sciences, 2021–2025,
Max-Planck-Institut für Meteorologie and
Universität Hamburg, Germany

Dissertation: "Boundary Layer Wind Balances and their Influence on Equatorial Sea-Surface Temperatures"
Advisors: Bjorn Stevens (MPI-M), Juan Pedro Mellado González (UHH)
Emphases: Air-Sea Interaction, Surface Winds, Momentum Analysis, Equatorial Cold Tongue, Climate Physics

M.Sc. M.Sc. Theoretical Physics, 2018–2020,
École Normale Supérieure de Paris, France and
Technische Universität Berlin, Germany

Thesis: "Phase Response Approaches to Neural Activity Models with Delay"
Advisors: Boris Gutkin (ENS Paris), Eckehard Schöll (TU Berlin)
Emphases: Neuroscience, Nonlinear Dynamics and Control, Colloidal Systems: Theory and Simulation, Advanced Quantum Mechanics

B.Sc. B.Sc. Physics, 2014–2018,
Technische Universität Berlin, Germany

Thesis: "Synchronization of chimera states in multiplex networks of logistic maps"
Advisor: Eckehard Schöll (TU Berlin)
Emphases: Theoretical and Experimental Physics

Apprenticeship as Journeyman Bespoke Shoemaker, 2012–2014, Schuhmacherei Hans-Joachim Vauk, Neumünster, Germany

Professional Experience

Postdoc Max-Planck-Institut für Meteorologie, Hamburg
02/2025–present

Field Scientist Barbados Cloud Observatory, Deebles Point, Barbados
September 2024
Coordinated atmospheric observations and led the radiosonde launch team during the international ORCESTRA campaign on Barbados. Responsibilities included mission planning, team coordination, radiosonde preparation and launches, and postprocessing of collected data to ensure high data quality and scientific usability.

Science Communicator
Social Media Team, Max-Planck-Institut für Meteorologie, Hamburg
08/2021–present
Voluntary member of the institute's social media team within the communications department. Responsibilities include writing and editing posts, developing the editorial plan, coordinating with scientists and external partners, and curating visual content. Temporarily led the team and managed editorial meetings during periods of absence. Ensured content adhered to the institute's communication goals, corporate design, and copyright standards.

Teaching Assistant
Experimental physics lecture given by Prof. Dr. Dähne
01/2018–09/2019

Journeyman Schuhmacherei Hans-Joachim Vauk,
09/2012–08/2014

Scientific Contributions

Published

- **Marius Winkler** (2025a): *Uncovering the Drivers of the Equatorial Ocean Surface Winds*, *Reports on Earth System Science*, ISSN 1614-1199

- Cathy Hohenegger, Peter Korn, Leonidas Linardakis, René Redler, Reiner Schnur, Panagiotis Adamidis, Jiawei Bao, Swantje Bastin, Milad Behravesh, Martin Bergemann, Joachim Biercamp, Hendryk Bockelmann, Renate Brokopf, Nils Brüggemann, Lucas Casaroli, Fatemeh Chegini, George Datseris, Monika Esch, Geet George, Marco Giorgetta, Oliver Gutjahr, Helmuth Haak, Moritz Hanke, Tatiana Ilyina, Thomas Jahns, Johann Jungclaus, Marcel Kern,

Daniel Klocke, Lukas Kluft, Tobias Kölling, Luis Kornblueh, Sergey Kosukhin, Clarissa Kroll, Junhong Lee, Thorsten Mauritsen, Carolin Mehlmann, Theresa Mieslinger, Ann Kristin Naumann, Laura Paccini, Angel Peinado, Divya Sri Praturi, Dian Putrasahan, Sebastian Rast, Thomas Riddick, Niklas Roeber, Hauke Schmidt, Uwe Schulzweida, Florian Schütte, Hans Segura, Radomyra Shevchenko, Vikram Singh, Mia Specht, Claudia Christine Stephan, Jin-Song von Storch, Raphaela Vogel, Christian Wengel, **Marius Winkler**, Florian Ziemen, Jochem Marotzke, and Bjorn Stevens (2023): *ICON-Sapphire: simulating the components of the Earth system and their interactions at kilometer and subkilometer scales*, *Geoscientific Model Development*, 16(2), 779–811. doi:10.5194/gmd-16-779-2023

- **Marius Winkler**, Grégory Dumont, Eckehard Schoell, and Boris Gutkin (2021): *Phase response approaches to neural activity models with distributed delay*, *Biological Cybernetics*, December 2021. doi:10.1007/s00422-021-00910-9

- **Marius Winkler**, Jakub Sawicki, Iirna Omelchenko, Anna Zakharova, Vadim Anishchenko, and Eckehard Schöll (2019): *Relay synchronization in multiplex networks of discrete maps*, *Europhysics Letters*, 126(5), July 2019, 50004. doi:10.1209/0295-5075/126/50004

Submitted

- **Marius Winkler**, Tobias Koelling, Juan Pedro Mellado, and Bjorn Stevens (2025b): *Uncovering the Drivers of the Equatorial Ocean Surface Winds*, submitted to *Quarterly Journal of the Royal Meteorological Society*

- Hans Segura, Clara Bayley, Monika Esch, Romain Fiévet, Helene Glöckner, Moritz Guenther, Lukas Kluft, Ann-Kristin Naumann, Sebastian Ortega, Divya-Sri Praturi, Marius Rixen, Hauke Schmidt, **Marius Winkler**, Cathy Hohenegger, and Bjorn Stevens:(2025a): *Global Storm-Resolving Models and the Double ITCZ Bias: Air-Surface Interaction Role for Convection in Light Wind Regimes*, submitted to *Journal of Advances in Modeling Earth Systems*

- Hans Segura, Xabier Pedruzo-Bagazgoitia, Philipp Weiss, Sebastian K. Müller, Thomas Rackow, Junhong Lee, Edgar Dolores-Tesillos, Imme Benedict, Matthias Aengenheyster, Razvan Aguridan, Gabriele Arduini, Alexander J. Baker, Jiawei Bao, Swantje Bastin, Eulàlia Baulenas, Tobias Becker, Sebastian Beyer, Hendryk Bockelmann, Nils Brüggemann, Lukas Brunner, Suvarchal K. Cheedela, Sushant Das, Jasper Denissen, Ian Draguad, Piotr Dziekan, Madeleine Ekblom, Jan Frederik Engels, Monika Esch, Richard Forbes, Claudia Frauen, Lilli Freischem, Diego García-Maroto, Philipp Geier, Paul Gierz, Álvaro González-Cervera, Katherine Grayson, Matthew Griffith, Oliver Gutjahr, Helmuth Haak, Ioan Hadade, Kerstin Haslehner, Shabeh ul Hasson, Jan Hegewald, Lukas Kluft, Aleksei Koldunov, Nikolay Koldunov, Tobias Kölling, Shunya Koseki, Sergey Kosukhin, Josh Kousal, Peter Kuma, Arjun U. Kumar, Rumeng Li, Nicolas Maury, Maximilian Meindl, Sebastian Milinski, Kristian Mogensen, Bimochan Niraula, Jakub Nowak, Divya Sri Praturi, Ulrike Proske, Dian Putrasahan, René Redler, David

Santuy, Domokos Sármány, Reiner Schnur, Patrick Scholz, Dmitry Sidorenko, Dorian Späth, Birgit Sützl, Daisuke Takasuka, Adrian Tompkins, Alejandro Uribe, Matteo Valentini, Menno Veerman, Aiko Voigt, Sarah Warnau, Fabian Wachsmann, Marta Waclawczyk, Nils Wedi, Karl-Hermann Wieners, Jonathan Wille, **Marius Winkler**, Yuting Wu, Florian Ziemen, Janos Zimmermann, Frida A.-M. Bender, Dragana Bojovic, Sandrine Bony, Simona Bordoni, Patrice Brehmer, Marcus Dengler, Emanuel Dutari, Saliou Fayé, Erich Fischer, Chiel van Heerwaarden, Cathy Hohenegger, Heikki Järvinen, Markus Jochum, Thomas Jung, Johann H. Jungclaus, Noel S. Keenlyside, Daniel Klocke, Heike Koonin, Martina Klose, Szymon Malinowski, Olivia Martius, Thorsten Mauritsen, Juan Pedro Mellado, Theresa Mieslinger, Elsa Mohino, Hanna Pawłowska, Karsten Peters-von Gehlen, Abubakr Raza, Panja Sobhani, Lauri Tuppi, Pier Luigi Vidale, Irina Sandu, and Bjorn Stevens (2025b): *NextGEMS: Entering the Era of Kilometre-Scale Earth System Modelling*, submitted to *Geoscientific Model Development*

In Preparation

- **Marius Winkler**, et al. (2025c): *Atmospheric Radiosoundings from Ship and Island Platforms during the 2024 ORCESTRA Field Campaign*
- **Marius Winkler**, Juan Pedro Mellado, and Bjorn Stevens (2025d): *On the Role of the Surface Flux Parametrization in Tropical Convection under Low Wind Speed Regimes*
- Segura H., **Marius Winkler**, et al. (2025c): *Precipitation Accelerating Ocean Currents in a km-Scale Earth System Model*

Talks

- Uncovering the Drivers of the Equatorial Ocean Surface Winds, Ocean Sciences Meeting, New Orleans, USA, February 18–23, 2024
- What Drives Equatorial Boundary Layer Winds?, Pan-GASS, Monterey, USA, July 25–29, 2022

Posters

- From Sea Surface Temperature to Equatorial Surface Winds, CFMIP-GASS Conference, Paris, France, July 09–13, 2023
- *Phase Response Approaches to Neural Activity Models with Delay*, Dynamics Days Digital, Berlin (virtual), August 24–27, 2020
- *Relaissynchronisation in Multiplex-Netzwerken unter Einfluss der logistischen Gleichung*, DPG-Frühjahrstagung, Regensburg, March 31–April 05, 2019

- *Synchronization of Chimera States in Multiplex Networks of Logistic Maps*, Bachelor-Symposium, Young German Physical Society, Berlin, November 21, 2018
- *Synchronization of Chimera States in Multiplex Networks of Logistic Maps*, International Conference on Control of Self-Organizing Nonlinear Systems, Rostock, September 09–13, 2018

Hackathons and Workshops

- Hackathon: NextGEMS C4, Hamburg, Germany, March 4–8, 2024
- Hackathon: NextGEMS C3, Madrid, Spain, May 29–June 2, 2023
- Hackathon: NextGEMS C2, Vienna, Austria, June 28–July 3, 2022
- Hackathon: NextGEMS C1, Berlin, Germany, October 19–22, 2021
- Hackathon: DYAMOND, Hamburg, Germany, July 14–16, 2021
- Workshop: Dynamics of Coupled Oscillator Systems, Weierstrass Institute for Applied Analysis and Stochastics, Berlin, November 19–21, 2018

Skills

Programming

- **Proficient:** Python, Xarray, Numpy, Scipy
- **Experienced:** CDO, Linux, Mathematica, LaTeX, MS Office
- **Familiar:** Fortran, Julia, C++/C

Languages

- **German:** C2
- **English, French:** C1
- **Latin:** Proficiency Certificate

Awards

- ERASMUS+ Scholarship, 10/2019–03/2020
- PROMOS Scholarship (DAAD), 04/2020–06/2020

- ERASMUS+ Scholarship, 09/2016–08/2017