Patrick Hupe

GERMANY

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Overview

Patrick Hupe, born in 1988, is a post-doctoral researcher at the German Federal Institute for Geosciences and Natural Resources (BGR) in Hannover. He earned his PhD in Atmospheric Physics from Ludwig-Maximilians-Universität Munich in 2019 and holds an M.Sc. in Meteorology from Leibniz University Hannover (2015). Currently, his research focuses on infrasound detectability and data processing, acoustic wave propagation in the atmosphere, the global characterization of coherent ambient infrasound, and seismo-acoustic studies of explosive events. Patrick is the author of 20 peer-reviewed publications (11 as first or second author, two of which were featured by press releases, e.g. from AGU news) and various conference contributions.

History of Employment

03/2022 – present **Researcher** at BGR: Comprehensive Nuclear-Test-Ban Treaty (CTBT) Data Analyses
- Multi-technological studies on treaty-relevant events
- Processing and quality management of CTBT data and products
- Planning and conducting third-party funded projects

11/2018 – 02/2022 **Post-doctoral position** at BGR: Seismoacoustics2 (CTBT project)
- Studies on infrasound sources, infrasound data products
- Discrimination of seismo-acoustic events (verification of the CTBT)

10/2015 – 10/2018 **PhD student position** at BGR: ARISE2 (EU Horizon 2020 infrastructure project)
- Analysis of infrasound and LiDAR data of global CTBT monitoring stations to investigate atmospheric dynamics and estimate detection capabilities
- Work package lead, project reporting, and meeting organization

05/2015 – 09/2015 **Research fellow** at Leibniz University Hannover, Institute of Meteorology and Climatology (IMuK): Aeronautical meteorology (international project)

08/2011 – 03/2015 **Research assistant** at Leibniz University Hannover, IMuK

Education

01/2016 – 02/2019 **PhD in Atmospheric Physics** at Ludwig-Maximilians-Universität (LMU) Munich (magna cum laude): "Global infrasound observations and their relation to atmospheric tides and mountain waves", supervised by Prof. Dr. Markus Rapp (DLR/LMU, Germany) and Dr. Alexis Le Pichon (CEA, France)

10/2009 – 04/2015 **B.Sc. and M.Sc. in Meteorology** at Leibniz University Hannover (LUH): Theses on aeronautical meteorology in the MET4ATM project, supervised by Prof. Dr. Thomas Hauf (LUH, Germany)

Scientific Activities and Awards

Publications and conference contributions: Author or co-author of 20 peer-reviewed publications, 2 book chapters, 6 published data sets, and more than 40 conference and workshop contributions (ORCID record, ResearchGate, Google Scholar

Co-Convener of conference sessions: European Geosciences Union 2022 and 2023 (EGU, "Infrasound, acoustic-gravity waves, and atmospheric dynamics") and European Seismological Commission 2022 (ESC, "Seismo-acoustic and discrimination studies")

Guest editor and peer reviews: Guest editor of Remote Sensing (ISSN 2072-4292) Special Issue "Infrasound, Acoustic-Gravity Waves, and Atmospheric Dynamics" together with Alain Hauchecorne (CNRS/LATMOS) and Constantino Listowski (CEA), Peer Reviews for seven scientific journals

Awards and scholarships: Early Career Scientist Award of the International Union of Geodesy and Geophysics (IUGG) in 2022, Lower Saxony Scholarship ("Niedersachsen-Stipendium") at LUH in 2013

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