



The Max Planck Institute for Meteorology (MPI-M) is a multidisciplinary center for climate and Earth system research located in Hamburg, Germany. It is one of the premier climate science research institutes in the world. Located in the heart of one of Europe's most livable and vibrant cities it provides a highly international and interdisciplinary environment for conducting scientific research as well as access to state-of-the-art scientific facilities.

The MPI-M is now opening a (18 month) position for a

Postdoctoral Scientist (f/m/d; W097)

as part of the BMBF funded JPI Climate/Ocean project [EUREC4A-OA](#) (2020 - 2023). Within EUREC4A-OA the "Observations, Analysis and Synthesis group" embedded at MPI will use high resolution observations of the partial pressure of CO₂ to accurately quantify the air-sea CO₂ exchange.

The objective of this position is to use and adapt a 2-step neural network technique (SOM-FFN method) alongside high resolution measurements to provide a novel estimate of the sea surface partial pressure of CO₂ and subsequently air-sea CO₂ exchange.

The researcher recruited for this position will:

- Adopt and expand an established machine learning technique (SOM-FFN) to better constrain the air-sea CO₂ exchange.
- Use high resolution ocean CO₂ measurements collected during the EUREC4A campaign and collected from sailboats in combination with measurements from the Surface Ocean CO₂ Atlas (SOCAT) database to better quantify the marine CO₂ sink and its uncertainty, further supplying the annual Global Carbon Budget.
- Study high frequency variations to help improve the next generation of high-resolution Earth System Models.
- Help reduce the present-day uncertainties linked to air-sea CO₂ flux variability.
- Disseminate the results through publications in peer-reviewed journals and presentations at conferences or through social media, video-blogs, etc.

Requirements:

- A PhD in Meteorology, Oceanography, Physics, or Mathematics.
- Very good knowledge in ocean biogeochemistry, the global carbon cycle or oceanic processes.
- Excellent data-analysis skills.
- Experience in machine learning or numerical ocean modeling.
- Ability to coordinate cross-institutional research work and reporting tasks.

Selection criteria

The selection criteria will value the qualifications, the experience and the ability of the candidates to fulfill the responsibilities as outlined above. A selection panel will be established for this purpose. In light of the institute and the funded projects commitment to support the career development of young scientists, preference in the selection will be given to candidates within a few years of their PhD.

The Max Planck Institute for Meteorology seeks to increase the number of female scientist and encourages them to apply. Handicapped persons with comparable qualifications receive preferential status.

Employment conditions

- The position is available from November 2021 for 18 months.
- Payment will be in accordance with German public service positions (TVöeD E14), including extensive social security plans. The conditions of employment, including upgrades and duration, follow the rules of the Max Planck Society for the Advancement of Sciences and those of the German civil service.

Deadline for application

This vacancy has been opened on 18.08.2021. A first cut-off date for the collection of the applications is foreseen on **17.09.2021**.

How to submit your application for this post

Please submit:

- A cover letter
- A detailed curriculum vitae
- The names, addresses, and telephone numbers of two references

Please upload the documents as **pdf files** (word or other file formats will not be processed) in our online web tool:

https://s-lotus.gwdg.de/mpg/mhmt/perso/mpim_w097.nsf/application

For further information, please contact Dr. Peter Landschützer at (peter.landschuetzer(at)mpimet.mpg.de).

Please do not forward your application to this email address. The application is requested to be submitted through the online web tool (see link above).

