UNIVERSITY OF COLOGNE


Photo: Thomas Obsek

Faculty of Mathematics and Natural Sciences

PhD position (f/m/x) in modeling of convection in a warming Arctic

Institute for Geophysics and Meteorology

We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

The position is funded within the Collaborative Research Center TR172 Arctic Amplification (AC)3 (www.ac3-tr.de), with its third phase starting in January 2024.
The overall goal of this position is to investigate atmospheric convection and its role in the rapidly changing Arctic climate system, using large-eddy simulation and conceptual modeling (for more information about the project see www.geomet.uni-koeln.de).

YOUR TASKS

- Perform large-eddy simulations of cold air outbreaks based on COMBLE and HALO-(AC)3 field campaign data
- Analyze the development of spatial patterns in convective organization in the simulations
- Use these data to train a conceptual model for convective organization based on thermal population dynamics
- Test the applicability of the conceptual model as a scale-adaptive subgrid scheme for next-generation circulation models
- Active participation in research communication (seminars, conferences, publication in international journals)

YOUR PROFILE

- An M.Sc. in Meteorology or a related field
- Convincing and demonstrable knowledge of geophysical fluid dynamics, preferably including boundary-layer meteorology
- Advanced experience in scientific programming, high-performance supercomputing, and the UNIX / LINUX operating system
- Willingness to collaborate with scientists in- and outside of TR172 and to establish new scientific cooperations
- Ability to work in teams as well as independently
- Excellent communication skills in written and spoken English

WE OFFER

- Working in an internationally well-established research group, the opportunity to obtain a Ph. D. degree
- A diverse working environment with equal opportunities
- Support in balancing work and family life
- Extensive advanced training opportunities
- Occupational health management offers
- Flexible working time models
- Opportunity to work remotely

The University of Cologne is committed to equal opportunities and diversity. Women are especially encouraged to apply and will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from people with disabilities / special needs or of equal status.

The position is available immedialtely on a part-time basis (29,87 hours per week). It is limited for 3 years. If the applicant meets the relevant wage requirements and personal qualifications, the salary will be based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the required qualifications without a photo under: https://jobportal.uni-koeln.de. The reference number is Wiss2401-05. The application deadline is 31.01.2024. For further information, please contact Mr Roel Neggers (rneggers@uni-koeln.de).

UNIVERSITY OF COLOGNE


Photo: Thomas Obek

Faculty of Mathematics and Natural Sciences

Postdoc position (f/m/x) in Arctic amplification

Institute for Geophysics and Meteorology

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The position is funded within the Collaborative Research Center TR172 Arctic Amplification (AC)3 (www.ac3-tr.de), whose third phase will start in January 2024. The overall goal of this position is to analyze Arctic cloud and precipitation properties from ground-based remote sensing observations particularly for the site Ny-Ålesund (for more information about the project www.geomet.uni-koeln.de).

YOUR TASKS

- Operation of microwave radiometer, cloud radar and precipitation sensors and application of suited retrieval algorithms
- Synergetic analysis of remote sensing measurements, also in combination with results from high-resolution modeling, to better understand clouds and precipitation in the Arctic
- Comparison of the measurements at Ny-Ålesund with campaign data and analysis of spatio-temporal variability of clouds and precipitation in the Arctic
- Active participation in research communication (seminars, conferences, publication in international journals)

YOUR PROFILE

- PhD in Meteorology or a related field
- Strongly experienced in atmospheric remote sensing
- Advanced state of the art programming experience, UNIX or LINUX operating system
- High willingness to collaborate with scientists in- and outside of TR172 and to establish new scientific cooperations
- Ability to work in a team as well as independently
- Very good communication skills in written and spoken English

WE OFFER

- Working in an internationally well-established working group
- A diverse working environment with equal opportunities
- Support in balancing work and family life
- Extensive advanced training opportunities
- Occupational health management offers
- Flexible working time models
- Opportunity to work remotely

The University of Cologne is committed to equal opportunities and diversity. Women are especially encouraged to apply and will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from people with disabilities / special needs or of equal status.

The position is available immediately on a full-time basis (39,83 hours per week). The position is to be filled for a fixed term until 31.12.2027. If the applicant meets the relevant wage requirements and personal qualifications, the salary is based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the requiered qualifications without a photo under: https://jobportal.uni-koeln.de. The reference number is Wiss2401-06. The application deadline is 31.01.2024. For further inquiries, please contact Kerstin Ebell (kerstin.ebell@uni-koeln.de).

UNIVERSITY OF COLOGNE


Photo: Thomas Obsek

Faculty of Mathematics and Natural Sciences

Postdoc / Research software engineer (f/m/x) in Arctic Amplification

Institute for Geophysics and Meteorology

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The position is funded within the Collaborative Research Center TR172 Arctic Amplification (AC)3 (www.ac3-tr.de) whose 3rd phase will start in January 2024. The main goal of this position is to perform consistent model simulations and support the project scientists during setup and analysis of simulations.

YOUR TASKS

- Development and coordination of hectometer (cloud-resolving) simulations with ICON tailored to various activities related to improved understanding of Arctic Amplification
- Improvement and professionalization of ICON-LEM testbed setup for an Arctic location
- Development of new products to evaluate cloud parameterizations based on remote sensing observations and simulations
- Processing and data management of existing and upcoming simulations
- Community support for setup and analysis of simulations and existing output as well as implementation of training courses

YOUR PROFILE

- PhD in meteorology, mathematics, computer science or related fields
- Strong experience in atmospheric modelling
- Knowledge of arctic meteorology
- Advanced state-of-the-art programming knowledge (fortran, unix system, HPC)
- Ability to work in a team as well as independently
- High interest to support project scientists with simulation handling and to participate in project meetings
- Very good communication skills in written and spoken english

WE OFFER

- Working in an inspiring and collaborative german-wide research project
- A diverse working environment with equal opportunities
- Support in balancing work and family life
- Extensive advanced training opportunities
- Occupational health management offers
- Flexible working time models, full-time positions suitable for job sharing
- Opportunity to work remotely

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Please apply online with proof of the required qualifications without a photo under: https://jobportal.uni-koeln.de. The reference number is Wiss2401-07. The application deadline is 31.01.2024. For further inquiries, please contact Vera Schemann (vera.schemann@uni-koeln.de).