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.

An integral part of the institute is the Scientific Computing Laboratory SCLab. This group provides consulting and services in the area of scientific computing, see < https://mpimet.mpg.de/en/science/modeling-with-icon/scientific-computing>. The main working tools in the group are the supercomputing systems at the German Climate Computing Center (DKRZ) and other European high-performance computing centers, where the MPI-M Climate Modelling System ICON and its computing environment including its High-Performance Data Analysis (HPDA) components are developed, applied, and maintained. These are the most modern computing architectures, for which off-the-shelf solutions are hardly available, wherefore creativity and innovation skills are necessary requirements. By working for us, you will contribute to increasing the quality, applicability, and practicability of information drawn from climate modeling.

Understanding climate and its change is one of mankind's most important challenges. The advent of exascale-computing in the near future gives new exciting insights from storm-resolving climate modeling on the global scale. The pace at which data are generated by such scientific experiments and large simulations poses new challenges in terms of the capability of efficiently and effectively analyzing the massive datasets generated. To improve the knowledge retrieval process from such analysis poses many demanding tasks for all its components.

The EU Euro-HPC project **ACROSS**[link] (GA 955648) offers unique opportunities for the MPI-M to address these challenges. To support and develop this Big Data streaming project, we are looking to recruit a scientific programmer as

Software Stack Developer (f/m/x)
(W090)
The fixed-term position is limited to 36 months, the starting date will be from October 1, 2021.

The successful applicant will, as part of a team of three scientific programmers, contribute to the HPDA system of ICON, design and perform development of the ACROSS extensions of this system, and prepare it for the pilots planned in ACROSS (for more detail, please see below.). These will interface the ICON data production system with the ECMWF distributed object storage system under development.

Your Mission:
Apply your excellent programming skills in optimizing data-intense software and its connectors for climate model applications on high performance computers. I/O- and post-processing servers and online specialized databases will be connected by streaming methods. Your goal is to develop, optimize, and deploy these key components.

The following qualifications will contribute to your success:
- A PhD in Informatics, Mathematics, Physics, Geosciences, or a related field would be advantageous
- Visualization experience
- In-depth knowledge and experience in developing C / C++ applications
- Expertise in UNIX / Linux, shell scripting, and processing of simulation data
- Experience or a strong interest in high performance computing and data production, streaming and handling
- Experience with simulations on supercomputers
- Good communication and teamwork skills as well as the ability to work autonomously and self-responsible
- English is our working language, so proficiency is a pro

What we offer:

- Participation in a challenging part of science in an international, intellectually stimulating environment established for the benefit of science and society, not of turnover increases
- Complex workflows on the bleeding edge of what is technologically possible
- Excellent opportunities for further (self-)training and development, self-organized or in external courses and events
- Very good opportunities for self-realization, freedom in and influence upon the decisions what to do, and how to do it
- A network of very experienced and innovative colleagues within the lab, the institute, and at project partner institutions with a long-proven tradition of sharing knowledge and information.
- Working for an open source community
- Payment will be in accordance with German public service positions depending on qualification (E 13 / E 14 TVöD), 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

Candidates will be evaluated based on their qualifications and ability to fulfill the responsibilities as outlined for this project.

The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. The Max Planck Society strives to ensure gender equality and diversity and, furthermore, seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply.

Your application:

We are looking forward to receiving your application including the following documents:
  1. A cover letter
  2. A detailed curriculum vitae
  3. The names, addresses, and telephone numbers of two referees

Please submit your application to our online application system at
https://s-lotus.gwdg.de/mpg/mhmt/perso/mpim_w090.nsf/application, preferably by **July 30, 2021**. However, the position will be open until filled.

For further information, please contact Reinhard Budich (reinhard.budich@mpimet.mpg.de). Do not forward your application to this email address; the application needs to be submitted through the online application system.