Call for Applications for the ACCORD Physics Area Leader position

After some 30 years of cooperation, the ALADIN, LACE and HIRLAM Numerical Weather Prediction Consortia decided to reinforce their collaboration. At the end of 2020, twenty-six European and North-African National Meteorological Services thus became Members of a new single Consortium ACCORD, under this **Memorandum of Understanding – MoU - (**http://www.accord-nwp.org/IMG/pdf/mou_alh_for_signature.pdf**)** covering the period 2021-2025.

The Members have adopted an ambitious **2021-2025 Strategy (**http://www.accord-nwp.org/IMG/pdf/strategy.pdf **– Strategy document)** outlining their objectives in meteorological and computer science for this time period. The outcome of this Strategy is reflected in the yearly updated **Rolling Work Plan - Rolling Work Plan - RWP2023** (http://www.accord-nwp.org/IMG/pdf/rwp2023_adopted.pdf) describing the work packages for 2022.

A core activity of ACCORD is the development of common codes in order to support **world-leading operational NWP suites** operated by the Members, **with a priority on high resolution (from kilometric to hectometric grid size) and short-range (including nowcasting suites)**. Another priority of the Strategy is to **further increase the interoperability and portability of the codes**. The codes are currently grouped in three "Canonical System Configurations" (CSC AROME, ALARO and HARMONIE-AROME), and full interoperability is only achieved inside the CSCs. The Consortium is striving to increase interoperability across the CSCs while fostering more and more scientific innovation transversal to the CSC definition, in order to achieve its long term goals. It also works to make the codes portable on various computer architectures, in order to cope with the rapid evolution of HPC systems and encourage maximum competition in procurements of the Members.

To coordinate the work and deliver the objectives of the Strategy, the Consortium has defined a Management Group composed of:

- the Programme Manager (the "PM")
- the 3 CSC Leaders
- the Integration Leader
- 8 Area Leaders ("AL"): the general Terms of Reference of the Area Leader positions in ACCORD are provided in the MoU
- Supporting functions:
    - the Scientific Secretary
    - the Coordinator of Network Activities ("CNA")

The current layout and staffing of the ACCORD Management Group can be found on the consortium website (http://www.accord-nwp.org/?Management).

Job description of the Physics Area Leader position.

The Physics Area Leader will be responsible for the scientific management in the (upper-air) Physics parameterization Area, including the participation to strategic choices discussed with the ACCORD PM and MG, the formulation of innovative ideas especially in relation to very high resolution modeling, the overall organization of the activity across all teams and the fulfilment of management tasks in coordination with the PM, the CSS and the MG. He/she will also be responsible for the implementation of the interoperability roadmap as adopted at the end of 2022

(upon approval by the Assembly). The roadmap document is available at this link [http://www.accord-nwp.org/IMG/pdf/physics_roadmap.pdf]. He/she will lead the physics transversal (across-CSC) topics in close coordination with the RWP work package co-leads and the CSC-Leaders for aspects related to one given CSC configuration. The Area Leader will also liaise where needed with external research communities with whom ACCORD is sharing the codes (ECMWF, Meso-NH, SURFEX).

The Area Leader will work under the leadership of the PM as a member of the ACCORD MG on the implementation of the Strategy and the RWP. The Area Leader will participate in the reporting and presentation tasks, as well as participate in committee or governance meetings when relevant. The Area Leader will participate in the management efforts for the modernization of the code and working methods. The Area Leader will also play an instrumental role in defining mid-to-long term scientific objectives for his/her Area and in implementing the yearly work plan.

A number of specific priority tasks are listed hereafter:

- lead the strategic discussions regarding the future evolution of the (upper-air) physics parameterizations in the ACCORD codes, with a special emphasis on the very high resolution, hectometric-scale model configurations. Among the topics of interest are (this list may not be exhaustive):
    - micro-physics and cloud modeling
    - turbulence and other subgrid processes
    - radiation and interaction with aerosols and other atmospheric constituents
    - development of 3D physics components
    - use of Machine Learning tools
- participate in the strategic discussions regarding:
    - physics at the interface with surface (continental or maritime)
    - physics at the interface with dynamics
    - physics in link with ensemble forecasting or data assimilation
- implement the proposals of the Physics Interoperability roadmap in close coordination with the other Management Group members
- lead the work plans on the across-CSC transversal Physics work packages in close collaboration with the work package co-leads
- organize the work on stochastic aspects in the physics processes, and how to model them, in close coordination with EPS and other Areas (DA, surface etc.)
- perform the management tasks related to the ACCORD Rolling Work Plan (RWP) and Detailed Action Plan (DAP) preparation and realization, in close coordination with the PM, the CSS, the MG. Ensure a high level of coordination and communication with the teams and scientists involved in the plans and tasks of the RWP and the DAP
- maintain a high level of communication and coordination with the CSC Leaders on plans and tasks that may related to one specific CSC
- follow closely the current progress and plans of the code adaptation SPTR Area, in particular:
    - participate in the organization of any relevant action regarding the physics codes (code cleaning, adaptation to the use of source-to-source transformation tools). It is expected that the lead in these tasks will remain at the level of the SPTR AL and the CSC Leaders
    - participate in the organization of tutorials regarding the new code layouts resulting from this adaptation effort
- participate in the elaboration of the future code design related to physics parameterizations

Job requirements

The candidate for the position should fulfil the following personal skills and expertise:

- State-of-the-art scientific expertise and personal experience, based on past activities, about the challenges of current and future high resolution, extreme weather events oriented Numerical Weather Prediction is required. Recent scientific publications, technical notes or

participation in the coordination of activity in the field of physics parameterization would be an advantage;
- Good knowledge of cross-cutting scientific issues in other fields of activities of R&D addressed in the Consortium would be an advantage;
- An expertise in one or several components of either the IFS (ECMWF) or the ACCORD limited area model codes is required. Good knowledge of code (software) modernization and interoperability aspects, or a firm intention of concern and participation in these aspects is highly desirable;
- Some knowledgeable awareness of the ACCORD teams and scientists is required;
- Awareness about the principles and working methods within the ECMWF/Météo-France/ACCORD code collaboration would be an advantage;
- Good ability for team working, as well as ability for co-management by involving key scientists and code experts in strategic and daily planning is highly desired;
- Good communication in an international context is expected.

The Area Leader function is corresponding to a minimum commitment of 0.5 FTE and is delivered by one Consortium Member[1]. For the case of a single institute candidacy, applications are required to be sent as personal application by one staff (the Applicant), with backing from the Member institute employing the staff. The Area Leader position can be split among the Applicant and one supporting person from the same employer. In the case where the personal manpower commitment of the Applicant remains lower than 0.5 FTE, an explanation about how the function is proposed to be fully occupied must be provided (name of additional staff, total manpower commitment reaching 0.5 FTE, organization of the tasks within the function).
Two candidates from different Member institutes may prepare together a single, joint application explaining how they propose to share the full function: their respective manpower commitment, expected to be in total at least 0.5 FTE; their repartition of tasks and how they intend to organize their own coordination within the function and with the other Management Group members. Backing from both Member institutes which employ each applicant is required.

Applications are invited according to the following calendar:

- Issue Call for Applications: Wednesday 14 December 2022
- Deadline for Applications: Friday 10 February 2023

Conditions to be eligible to these positions are the following:

- You must be already employed by an ACCORD Institute or show a commitment that you will be employed by one if selected.
- Your application must be supported by an ACCORD Institute.
- Good knowledge of English.

How to apply:

Send your application to Patricia Pottier (ACCORD CSS): css@accord-nwp.org .

Your application should consist of:

- a letter of motivation
- a CV
- a letter of support by an ACCORD Institute
- If the function is proposed to be fulfilled with the support of additional staff (from the same institute), then the letter of support should contain information about how the responsibility

[1] following a decision by the ACCORD Assembly on 8 December 2022, for the Physics Area Leader function, two candidates from different Member institutes may apply in a single, joint application

and tasks are proposed to be shared. The names of the additional staff should be listed with CV

- If the function is proposed to be fulfilled as a joint commitment with a staff from a different Member institute, then the letter of motivation should explicitly mention the name of each applicant and contain information on how the responsibility and tasks are proposed to be shared. Each candidate provides his/her CV. The letters of support are expected per institute and should only mention the committed manpower of the institute's own staff.

For any further question, potential applicants are invited to contact Claude Fischer (ACCORD/PM) - pm@accord-nwp.org -

Selection process:

The applicants will be interviewed by a selection panel composed of the PM, the 3 CSC Leaders, the chairs of STAC and PAC. The selection panel will rank the applications, taking into account the way the function is proposed to be fulfilled, the level of expertise, the interpersonal skills of candidates, the coherence of the vision and motivation of the Applicant with respect to the strategic goals and ToRs of the Area Leader function.

The final appointment of the Area Leader position will be done by the Assembly.