

# ACENET Embedded Technical Support Call

## 1. Introduction

The Embedded Technical Support program is designed to assist researchers in any discipline at Atlantic Canadian post-secondary institutions to adopt or improve their use of advanced computing techniques and resources in their research.

Call opens: **1 May, 2023**

Application deadline: **12 June, 2023**

**Resources available:** dedicated technical research consulting time on a research project for a period of two to four months, based on researcher needs and available ACENET resources.

## 2. The Challenge

Advanced research computing (ARC) refers to the use of high-performance computing (HPC), cloud, data management, and other leading-edge digital technologies to accelerate research and innovation. Combining the power of these resources with the analytical capabilities of data science helps to solve complex problems more quickly and enables the discovery of previously unseen patterns, the handling and processing of vast amounts of data, and the deployment of modern tools and techniques such as machine learning.

These tools have the potential to accelerate discovery in almost any discipline. However, the necessary expertise to optimize code, successfully migrate workflows from the desktop to an HPC cluster, build a cloud platform, or simply explore the capabilities and benefits of ARC, especially in a smaller project may not be readily available.

## 3. How this Program Can Help

ACENET provides ARC infrastructure, support and training to Atlantic Canadian researchers and their teams. We connect users in our region to CPU, GPU, cloud and storage resources from across the country through the Digital Research Alliance of Canada (Alliance) - the national organization responsible for digital research infrastructure.

Our team of experts have backgrounds in a wide range of research areas, including molecular dynamics, computational fluid dynamics, chemistry, bioinformatics and digital humanities. In addition to a comprehensive understanding of ARC, coding and workflow optimization, they share a passion for novel

research, solving challenging problems, and helping to bring research and innovation to fruition. More information on the ACENET team, their backgrounds and expertise can be found on our [team page](#).

While we strive to provide the level of technical service needed by each of our clients, we recognize that some projects could benefit from more in-depth consulting. We have therefore launched the Embedded Technical Support program to enable a planned approach to providing additional help where it's needed most and will have the greatest impact.

The program pairs our technical experts with innovative projects that have high potential for success and impact, and that require advanced computing resources, programming support and/or in-depth technical expertise. Some examples of areas we can help are:

- Code parallelization, profiling and optimization for HPC systems
- Scientific or data visualization
- Data analytics
- Workflow migration from the desktop to a cluster
- Research portal creation on a cloud platform
- Incorporation of ARC into research programs

Successful projects under this program are able to access focused and dedicated support from one of ACENET's research consultants for a period of two to four months. During this period, the ACENET staff member will spend *up to* 50% of their time working on the project. Depending on project needs and expertise, ACENET may provide additional staff members – however, the combined time will not exceed 50% of one FTE. Successful projects are able to make use of our regional compute cluster [Siku](#), or any of the [national systems](#). To ensure technical sustainability, tailored training is provided that reflects the project team's needs and level of computational expertise.

## 4. Eligibility

Applicants must be eligible to hold an Alliance [Principal Investigator](#) account and be employed at an Atlantic Canadian post-secondary institution.

## 5. Applying

**The deadline to apply is 12 June, 2023.** Proposals, three to five pages in length, are to be submitted electronically using the form available on our [consulting & support](#) web page, and sent to [applications@ace-net.ca](mailto:applications@ace-net.ca).

PIs are strongly encouraged to discuss their proposals with one of our technical consultants prior to submitting. To do so, you can contact your local ACENET Research Consultant, or reach the team at [applications@ace-net.ca](mailto:applications@ace-net.ca).

## 5.1 Terms and Conditions

1. Only one submission per PI will be accepted per call.
2. Journal publications resulting from the research that include significant contributions from a research consultant should list the consultant as a co-author.
3. ACENET is able to provide successful projects with access to our regional system, Siku. However, we are unable to allocate resources on Alliance Federation systems beyond established default levels.
4. We require a brief progress report approximately halfway through the project.
5. PIs will be required to have an active Alliance account.
6. All PIs are required to submit a final report that:
  - a. Details the technical and/or consulting work carried out;
  - b. Outlines the progress in meeting the project's objectives; and
  - c. Lists the outcomes from the project, as well as the impact on their research and research group.
7. Unless otherwise agreed, ACENET can use completed projects as case studies in its outreach materials and activities.

## 6. Evaluation

Technical reviews of submissions will be conducted by members of ACENET's technical team. During this review process, a research consultant will contact the PI to discuss project scope, timing, level of commitment and any recommended revisions. Submissions will then be forwarded to ACENET's [Research Directorate](#) for evaluation and approval.

The number of proposals selected in each call depends on the volume and scope of proposed projects. We anticipate selecting 2 or 3 projects per call.

Approval of projects is based on:

- Overall fit with the technical team's areas of expertise;
- The scale, scope and likelihood that the project can be completed in two to four months;
- Availability of the requested technical support and resources;
- Novelty, likelihood of success, and potential impact (including impact on the research group); and
- Expected outcomes, including the research group's future use of advanced computing.

If you have any questions, please contact [applications@ace-net.ca](mailto:applications@ace-net.ca).