Call for Proposals: the AAL Supercomputer Time Allocation Committee (ASTAC) Large Program

Applications close on Friday 31 July 2020, 5 PM AWST. Late applications will not be accepted. Apply online here.

Background, Minimum Request and Eligibility

Astronomy Australia Limited (AAL) has purchased 20 million service units (MSU) per year (over the next two years) on Gadi, the new Fujitsu system at the National Computational Infrastructure (NCI). This time is available to the Australian astronomical community via a competitive review process, to be overseen by the AAL Supercomputer Time Allocation Committee (ASTAC). **Please note**: This is the first of two calls for supercomputing time proposals (AAL will issue the second in 2021).

This first call will include the 20 MSU on NCI Gadi, with resources available from 1 October 2020 to 30 June 2021. Specifically, the time is intended to be awarded in relatively large allocations running large-scale parallel computations. This is to support projects that could not be carried out using the smaller amounts of time available via previous ASTAC calls. Hence, the **minimum request for this call will be 4 MSU**, and all projects that are awarded time are **expected to be able to use at least 240 cores (5 Gadi nodes)** in parallel. Applicants may request either purely CPU-based or mixed CPU-GPU calculations. Details on the SU charge for various queues, including pure-CPU queues and GPU-accelerated queues, may be found here.

Researchers affiliated with an institute in Australia are eligible to apply. Early Career Researchers, including postdocs and students, are especially encouraged to apply.

Online Submission, Proposal Elements and Selection Criteria

The online proposal submission URL is: **https://tac.adacs.org.au/calls/23/**
The proposal should be submitted no later than **5pm AWST on Friday 31 July 2020**.

Note: *Users will need to login to the system using existing AAF credentials or by creating a login for the system. Upon logging in, users will see their dashboard and may click on the green "Open Call for Proposals" button, selecting "View Proposals" from the ASTAC Large Program entry, and then click-on the "Add Proposal" button. Alternatively, users can go directly to the main page for the current call at* https://tac.adacs.org.au/calls/23/ *– then to "Manage", located in the menu at the top-right corner of the screen, and select "Add Proposal". Users can then enter a proposal name and select "LP-NCI" as the proposal type. Users can also access the manual via the "Help" link in the header menu at any point in this process. Draft applications can be saved online or downloaded as a PDF at any stage.*

In addition to administrative data, applicants will be requested to submit a **science justification** and a **technical justification**. Both are to be submitted in a **single PDF document**, with each of these two sections limited to a **maximum of five pages**. Please note, figures in the proposal will count toward the page limit, however references will not.

The proposal must contain the following elements:

1. **Science justification**: this document should clearly explain the science goals of the project, and how the proposed computations are necessary to achieve those goals. Note that the minimum request is 4 MSU. The proposal should explain clearly why an allocation of >= 4 MSU hours is required and how the results are expected to be of high impact.
2. **Technical justification**: this document should provide the following technical information on the proposed computations:
    - **Explain the computational paradigm** (e.g., computational fluid dynamics, N-body dynamics, Monte Carlo calculations, etc.) and workflow (e.g., what is the typical CPU count and wall clock time per job? Does the code write checkpoints?) for the calculations to be carried out.
    - **Justify the resources requested**: estimate the number of CPU-hours required to carry out the proposed calculations. This justification should be directly related to the science goals outlined in the science justification. If the calculations also require additional resources (e.g., extra long-term storage), please state that as well.
    - **Scalability**: demonstrate that the proposed calculations can be carried out efficiently in parallel on Gadi. Where applicable, provide a scaling study demonstrating the efficiency of the calculations as a function of CPU count.
    - **Specialised hardware (optional)**: if the computations can take advantage of GPU acceleration or other specialised hardware (e.g., high-throughput file systems), explain how they would do so, and provide evidence for the improvement likely provided by the specialised hardware.
    - **Data management**: explain the plan for storing, managing, and curating the data produced by the computations.

Timetable

The following timetable is envisaged:

Activity	Date
ASTAC Call for HPC Proposal opens	27 May, 2020
ASTAC Call for HPC Proposal closes	31 July, 2020
Evaluation panel reviews and makes final recommendations for allocations to the AAL Board	15 August, 2020
Intended formal notification of successful tender(s)	August, 2020

Enquiries

If you have any enquiries regarding this Call for Proposals, please contact:

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