



THE UNIVERSITY OF
SYDNEY
—
Sydney
Informatics Hub

National Compute Merit Allocation Scheme 2021

*Expressions of Interest for Sydney
Informatics Hub Support*

informatics.sydney.edu.au

National Compute Merit Allocation Scheme 2021

What is the scheme about?

The National Compute Merit Allocation Scheme (NCMAS) enables researchers to access National High Performance Computer (HPC) facilities for free including:

- **Gadi** (National Compute Infrastructure)
- **Magnus** (Pawsey)
- **MASSIVE** (Monash)
- **FlashLite** (University of Queensland)

Eligibility criteria and application requirements are strict. Competitive applications present preliminary results generated on National HPC facilities and demonstrate scalable, benchmarked workflows.

Support from the Sydney Informatics Hub

The Sydney Informatics Hub are calling for **expressions of interest** from individuals and groups that would like direct support from the Sydney Informatics Hub (SIH) in applying to NCMAS 2021. SIH are offering direct support by:

- Enabling scalability and parallelisation of your workflows
- Obtaining preliminary results and benchmarking on National HPC facilities
- Transition analysis and data processing workflows from Artemis HPC to National HPC facilities
- Preparing applications

Due to popular demand, we will be **limiting direct support to:**

- **10 bioinformatics projects**
- **10 modelling, simulation and visualisation projects**

Success for Sydney Informatics Hub supported NCMAS 2020 applications

In 2020, SIH supported 16 applications to access National HPC facilities. **100%** were successful and obtained **12 MSUs** (12 million CPU hours) for University of Sydney researchers! Most were first-time applicants for the NCMAS scheme.

How do I submit my expression of interest?

If you would like support from the Sydney Informatics Hub for your NCMAS 2021 application, please:

1. Fill in the **request for project support** form
2. In “What assistance do you require”, please include:
 - Grants supporting the project
 - Overview of the software used
 - HPC facilities you have used (e.g. Artemis HPC)
3. In “Give this request a title”, include: NCMAS 2021



About the National HPC facilities

The National HPC facilities are similar to the University of Sydney's Artemis HPC. Table 1 shows a comparison between the Artemis HPC and NCI's Gadi HPC. Each National HPC has their own unique set of hardware, job scheduling and workload management systems, software, levels of support and data/storage policies. Access to a suitable HPC can mean that workflows are able to be executed quickly and in a scalable manner.

Table 1. Comparison of the University of Sydney's Artemis HPC and NCI Gadi's HPC.

| Artemis HPC | NCI Gadi |
|--|---|
| 7,636 cores | >140,000 cores |
| 108 NVIDIA V100 GPUs | 160 nodes containing 640 Nvidia V100 GPUs |
| 3 high memory nodes with 6 Tb of RAM per node | 50 high-memory nodes with 1.5 Tb of RAM per node |
| 56 Gbps FDR Infiniband networking | 200 Gbps HDR InfiniBand technology in a Dragonfly+ topology |
| PBSPRO software for job scheduling and workload management | PBSPRO software for job scheduling and workload management |
| CentOS 6 | CentOS 8 |
| 495 TB scratch space, frequently > 90% capacity | >8 PB operational disc storage |