

## Call for IDIA-supported Data Intensive Research Projects

The Inter-University Institute for Data Intensive Astronomy invites proposals for research projects that make use of the IDIA Data Intensive Research Facility.

### Background

IDIA has established a data-centric computational facility to support data intensive research projects. The facility is housed in a UCT ICTS data centre, and is connected to the South African National Research Network (SANReN) for high speed data transfers and communications between IDIA universities. It also forms a Tier 2 node of the African Research Cloud. The Facility consists of:

- 40 compute nodes with
  - 2.6 GHz Xeon processors
  - 32 cores
  - 256 GB RAM
  - 4 nodes with 2x NVidia P100 GPUs
- a combination of POSIX, Block and Object storage
- 0.5 PB initial storage
- 10Gb/s network access to SANReN

Storage capacity will be expanded in 2018 commensurate with the anticipated timeline for data growth for supported projects. The IDIA Data Intensive Facility will become part of the DIRISA Tier 2 Data Intensive Research Facility during the second half of 2017; this will expand the current computational and storage capacity.

Provisioning of resources to projects will be through the OpenStack African Research Cloud access interface. This allows projects to manage virtual machines and resources and to authorize use by project team members. Use of the system will be supported by system administrators and software development teams at IDIA and the African Research Cloud collaboration.

IDIA also has a limited number of postdoctoral and graduate student bursaries to support research programs.

IDIA supported data intensive research projects may request

1. resources on the facility
2. support from the IDIA software development and system support team.
3. bursaries for IDIA postdoctoral and/or postgraduate fellowships
4. travel funds for IDIA fellows

## Conditions and Eligibility

The principal investigator/project lead must be a researcher at an IDIA partner university. Participation in projects and access to facilities is open to all collaborators regardless of affiliation.

Proposals in any data intensive astronomy project are welcome, however, priority will be given to projects that advance capacity and readiness for MeerKAT Large Survey projects and/or other SKA pathfinder projects. Areas of strategic interest include:

1. visualization and visual analytics for large astronomy datasets
2. multi-wavelength data fusion and analytics
3. data processing pipelines
4. post-processing and data mining
5. machine learning approaches to exploration, classification and knowledge extraction
6. data management and distributed technologies for astronomical data
7. cloud technologies for data intensive astronomy research

## Proposal Format

The proposal should be no more than 4 pages total and address the following:

1. Identification of the project lead and project team members and their roles. (0.5 page max)
2. Description of the science and data intensive research challenge (1 page max)
3. Project Plan (1 page max)
4. Other Resources (0.5 pages max)
  - a. A short summary of other resources allocated to the project.
5. Technical Resources Required (1 page max)
  - a. Storage requirements and what the storage will be used for. Timeline for storage needs in the first year and a projection beyond first year.
  - b. size of computing resources (minimum and ideal)
  - c. any special software requirements and whether code will execute serial or parallel.

IDIA Postdocs and Postgraduate Fellowships:

If your project requests support for postdoctoral or postgraduate bursaries and travel please add an additional page with a brief justification and travel budget, and a description of the projects that the PDF or postgraduate fellows will work on. (1 page max).

Please submit your project proposal in pdf form to [admin@idia.ac.za](mailto:admin@idia.ac.za) by 19 June, 2017. Queries can be addressed to [russ@idia.ac.za](mailto:russ@idia.ac.za). More information on IDIA can be found at [www.idia.ac.za](http://www.idia.ac.za).