Platforms EOI: A Full Data Life Cycle Management Platform for the Physical Sciences and beyond

**Project title**

A Full Data Life Cycle Management Platform for the Physical Sciences and beyond

**Field of Research code(s)**

- 01 MATHEMATICAL SCIENCES
- 02 PHYSICAL SCIENCES
- 03 CHEMICAL SCIENCES
- 08 INFORMATION AND COMPUTING SCIENCES
- 09 ENGINEERING
- 10 TECHNOLOGY

**EOI Lead Name**

Simon O'Toole

**EOI lead Research Group**

AAO – Macquarie University

**EOI lead Organisation**

Macquarie University

**EOI lead Email**

**Collaborator details**

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<th>Research Group</th>
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**Project description**

The AAO-Macquarie Data Central science research platform currently provides the international astronomical community access to distributed, queryable heterogenous data sets. The web-based tools and archive functionality enable data exploration, collaboration and science discoveries.

Data Central provides a stable, long-term storage solution alongside the query tools that provide an intuitive, accessible and feature-rich interface to science teams with diverse user bases (novice or expert users; general public; teaching).

The proposed project will take the key components of the Data Central platform and adapt them for (1) remote sensing physical data and (2) molecular science data. This will allow full data life cycle management of research projects across the physical sciences in the first instance.
### Existing technology

**Adopt**

This project will adopt the existing AAO-MQ Data Central science platform infrastructure and optimise it to form a Data Central Research Science Platform. The platform will enable the ingestion (or storage) and querying capabilities of heterogeneous research data. The underlying technologies will enable the data to be findable, accessible, interoperable and reusable. The platform includes a suite of tools that allow storage, processing, analysis and sharing of data, as well as team management and collaboration tools, and finally to publication.

**Adapt**

This project will adapt the existing infrastructure and technologies of the Data Central platform to the physical science community initially and then potentially the molecular science communities. This will involve engaging with subject matter experts in those disciplines.

**Build**

This project does not require new platform development. The current platform will be translated to met the requirements of different research communities.

### Anticipated requirements

**Annual funding**

$200,000 - $299,000

**Proposed length**

3 years

### Other information

**Other information you wish to provide**

We are currently discussing the use of the Data Central platform with other research groups including Molecular Sciences and the Macquarie Analysis Facility. After the expansion of Data Central to other research areas we will make the service available broadly to the national research community with a focus on data from the physical sciences.

The national research infrastructure roadmap adopted nine focus areas and this proposal aims to address the following two areas: (1) Digital Data and eResearch Platforms and (2) Advanced Physics and Astronomy.

### Terms

**I agree to the terms**

Yes