

CSIR – DST Inter-Programme Postgraduate Bursary Support

General Guidelines

The Department of Science and Technology (DST) has recently launched its inter-programme postgraduate bursary support scheme, aimed at supporting capacity development in strategic and priority areas identified in key departmental strategies. The Council for Scientific and Industrial Research (CSIR) is supporting the DST in the development of skills in these areas. In this regard, post-graduate students are invited to submit applications for bursary support.

1. Who qualifies?

Students approved for or registered for fulltime studies for **Master's** or **PhD** degrees at any South African public university may apply. Students who intend to register for **Honours/4th year Engineering/BTech** will also be considered. The CSIR-DST Inter-Bursary Programme applications are restricted to those students whose degrees are aligned to the research areas and technology streams indicated below. Supervisor endorsement and motivation will be required with each bursary application.

Preference will be given to applicants from previously disadvantaged backgrounds and people living with disabilities.

2. What is the value of the bursary award per annum?

| | |
|---------|----------|
| Honours | R54 000 |
| Masters | R84 000 |
| PhD | R120 000 |

The full bursary amount is to be allocated to the student. This funding cannot supplement existing bursaries from other government sources (e.g. NRF or other DST-derived bursaries).

Funding allocated for each bursary is for the specific academic year in which it was awarded. For first time registration, an Honours/4th year Engineering/BTech award will be limited to one year, Master's award to two years and PhD award to three years. The period of the award is calculated from the first year of registration of the study or research regardless of the Inter-Programme Bursary funding. For example, a Master's student who obtains support in their second year of registration will only be funded for 1 year.

3. Reporting Requirements

Students are required to submit mid-year progress reports, which are to be signed by the supervisor. At the end of the academic year, students must submit an annual progress report (APR). An official template for the APR will be provided. The purpose is to ensure that stated objectives are met within the stipulated timeframes.

4. Feedback

All successful applicants will be informed by email and are required to accept the allocated funds by signing an **Award Letter**. The funds will be processed by the CSIR. Details on the process to be followed to enable the transfer of funds will be communicated to the students once the signed Award Letter is received by the CSIR.

5. Any work-back requirements?

Students are not subject to any work-back agreement with the CSIR upon acceptance of the bursary.

6. Priority Research Focus Areas

Research areas of interest that will be prioritized for bursary support are summarised below:

6.1 Aerospace

Students proposing to do post graduate studies in areas relating to Aerospace, specifically within the Technology Streams prescribed from the Aerospace Sector Development Plan will be considered. Proposed projects must be directed towards one of the following technology streams:

- Aerostructures;
- Propulsion;
- Avionics;
- Sensors;
- Information Technology.

Preference will be given to projects within the above mentioned technology streams but other streams may also be considered.

6.2 Composites

Students proposing to do post graduate studies in areas relating to Composites (natural fibre or bio-composites) may focus on any area of composites that contributes towards the improvement of one of the following streams:

- Transportation (including but not limited to general aviation, automotive and rail);
- Structural Applications (including but not limited to building and construction);
- Marine Applications (including but not limited to boat building).

6.3 Modelling and Digital Sciences

Prospective physics, mathematics, computer science and engineering postgraduate students intending to pursue topics in the following streams of information security are considered:

- Biometrics (including but not limited to fingerprint, iris, facial and gait recognition)
- Token-based authentication (including but not limited to smart card systems)
- Cybersecurity
- Data science

6.4 Microsystems Technology

Students proposing to do post graduate studies in areas relating to microfluidics and micro-electro mechanical systems (MEMS), broadly referred to as Microsystems Technology, may

focus on any area which will contribute towards the improvement of one of the following streams:

- Microfluidics
- MEMS
- Printed functionality
- Sensors

Preference will be given to projects within the above mentioned areas. It is critical that chosen areas will align with the ability to build a pipeline of expertise in the area of Microsystems.

6.5 Titanium (Manufacturing Elements)

Students proposing to do post graduate studies in areas that are in support of the Titanium Centre of Competence (TiCoC), a program in support of a sustainable South African Titanium Industry that will contribute to future growth of the economy, will be considered. Preference will be given to projects that are aligned with research and development within the following streams:

- Primary (Ti) Metal Production
- Ti Powder Consolidation
- High Speed Additive Manufacturing
- Investment Casting
- Hi Performance Machining
- Friction Welding
- Sheet Forming

Cross-cutting aspects such as Physical Metallurgy and Characterisation, Design, Simulation and Modelling will also be considered.

Please note that students that are already funded under TiCoC will not be considered for funding in this program.

6.6 Photonics

Students proposing to do post graduate studies in the following streams will be considered:

- Free-space and Fibre Optics
- Optical tweezing
- Biophotonics
- Quantum optics
- Laser research
- Quantum control with photonic systems
- Laser cooled atomic systems research
- Laser welding
- Free-space and fibre optical communication systems

Preference will be given to projects within the above mentioned areas.

6.7 Bio-technology

- Biopharming
- Bioprocessing
- Biocatalysis

6.8 Information and Communications Technology

- Information Systems

- Computer Science
- Information Technology
- Electrical & Computer Engineering
- Electronic Engineering
- Information Systems Management
- Statistics
- Data Science
- Mathematical Statistics
- Applied Mathematics
- Epidemiology and Biostatistics

Honours/4th year Engineering/BTech level students should state clearly which research focus area they are applying for, so that it is clear that they can form part of the future pipeline development. It will be an added advantage to show whether their final year project is aligned with the research focus area.

7. Continuation support

Although the award is for 2017 academic year, continuation of the award will be based on the annual progress report which will have to be completed by the applicant, with input from the supervisor of the proposed research. Students will be notified about the outcome of their renewal via direct correspondence.

The applicant and supervisor must indicate when they submit their APR whether continuation support is requested.

8. What are the contact details?

The CSIR may be contacted (attention - Dr Paul Motalane) by email at HCD-INTERBURSARY@csir.co.za.