FRAMEWORK

Funding Instrument: National Research Foundation (NRF) / International Centre for Theoretical Physics (ICTP) Joint Collaboration for Science Advancement

Functional Domain: Human and Infrastructure Capacity Development

Date: February 2020
## Endorsements

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended by:</strong> Professional Officer – Human and Infrastructure Capacity Development (HICD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms Queen Mohohoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Recommended by:</strong> Professional Officer – Human and Infrastructure Capacity Development (HICD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms Sphumelele Duma</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supported by:</strong> Executive Director – HICD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Romilla Maharaj</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Noted by:</strong> Acting Executive Director – Grants Management and Systems Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mrs Anthipi Pouris</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Noted by:</strong> Executive Director – Reviews and Evaluation (RE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Rocky Skeef</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Noted by:</strong> Director – GMSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Raven Jimmy</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Noted by:</strong> Director – RE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ms Nosisa Dube</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approved by:</strong> Deputy CEO – RISA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Dorsamy Gansen Pillay</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Contact Details

For any queries related to this funding instrument please use the following contact details.

### For NRF Online Application and Grants Management

Ms Mpai Motsei  
Professional Officer: Grants Management and Systems Administration (GMSA)  
Tel: +27 12 481 4078  
Email: mpai.motsei@nrf.ac.za

Ms Queen Mohohoma  
Professional Officer: Human and Infrastructure Capacity Development (HICD)  
Tel: +27 12 481 4392  
Email: queen.mohohoma@nrf.ac.za

### For ICTP related inquiries

George Thompson  
Research Scientist and Head, Office of Strategic Planning and Education  
Tel: +39 040 2240 381  
Email: thompson@ictp.it
# Table of Contents

1. Contextual Background .................................................................................................5
2. Scope ...............................................................................................................................5
   2.1. Mobility Support .......................................................................................................6
       2.1.1 Mobility Support for South African Researchers ..................................................6
       2.1.2 Mobility Support for Doctoral Students .................................................................6
   2.2. Hosting ICTP Experts .................................................................................................7
3. Areas of Support .............................................................................................................7
4. Eligibility Criteria ...........................................................................................................7
   4.1 Eligibility Criteria: Mobility Support for Researchers ...............................................7
   4.2 Eligibility Criteria: Mobility Support for Doctoral Students ......................................8
   4.3 Eligibility Criteria: Hosting ICTP Expert ....................................................................8
5. Application Requirements ..............................................................................................8
   5.1. Budget Guidelines: Maximum NRF Investment per Activity .....................................8
   5.2 Application Requirements for ICTP grants ................................................................10
6. Evaluation Process ........................................................................................................11
7. Evaluation of the Funding Instrument ...........................................................................13
1. Contextual Background
Research infrastructure is a key enabler for advancing research and postgraduate training. The Department of Science and Innovation (DSI) has identified five categories for research infrastructure investment in South Africa. These are research equipment, cyber infrastructure, specialised laboratories, large high-end infrastructure and global infrastructure.

The DSI and the National Research Foundation (NRF) seek to improve the competitiveness of South African research by advancing the national research agenda as defined in the National R&D Strategy, the DSI Ten-Year Innovation Plan; and the strategic objectives of the NRF. Collectively, these seek to promote and support research through human resource development and facilitate access to state-of-the-art research equipment that is available nationally and internationally. In support of the latter, the NRF signed a Memorandum of Understanding with the International Centre for Theoretical Physics (ICTP) in December 2015 with the objective of supporting: (i) human capital development; (ii) research capacity development; (iii) access to research infrastructure; and (iv) participation in specialised courses.

The NRF-ICTP research collaborative agreement aims to provide a platform for undertaking world-class research and human capacity development by facilitating access to state-of-the-art research equipment and expertise that are not available in the country but are available at the ICTP in Italy. The objectives of the NRF-ICTP research collaborative agreement is two-fold and aims to: (i) facilitate the access, through mobility grants, of South African researchers and doctoral students to ICTP research infrastructure, programmes and short courses; and (ii) provide support for South African researchers to host ICTP researchers in South Africa.

This document provides a framework for the implementation of grants geared towards addressing the aforementioned activities.

2. Scope
The rationale of this funding instrument is to make funds available to support the broader science community to access state-of-the-art research equipment and expertise that are not available in the country but are available at the ICTP in Italy, or
at other facilities supported by the ICTP, as per the ICTP event calendar which may be found at https://www.ictp.it/scientific-calendar.aspx.

Specifically, the NRF-ICTP research collaborative agreement focuses on:

- Mobility support: South African researchers and doctoral students may apply for funding, for a period spanning up to six months, to access ICTP infrastructure, programmes and short courses as described in the ICTP event calendar which is accessible at the following URL: https://www.ictp.it/scientific-calendar.aspx.

- Hosting an ICTP expert in South Africa: South African researchers may invite ICTP experts to South Africa in order to enrich local expertise in a specific research field; promote collaborations; and/or strengthen existing collaborations. These visits can span a period of up to three weeks. **Mobility Support**

  Mobility support aims to provide funding, for a period spanning up to six months, for South African researchers and doctoral students to access ICTP infrastructure, programmes and short courses as described in the ICTP event calendar.

**2.1.1 Mobility Support for South African Researchers**

This intervention enables individual South African researchers that are employed at public universities and research institutions as declared by the Department of Science and Innovation (DSI), to travel to the ICTP laboratories, or to other facilities supported by the ICTP, with the objectives of:

- Training South African researchers in theoretical astrophysics; quantum physics; material sciences; renewable energy; computational physics; chemistry; biology; mathematics; big data; high performance computing; and collaboration on any other fields of the ICTP; and

- Providing South African researchers access to the research infrastructures available at the ICTP.

**2.1.2 Mobility Support for Doctoral Students**

This intervention enables registered doctoral students at NRF recognised research institutions to travel and access the ICTP infrastructure in order to advance their research in the specific research fields, which include: renewable
energy, quantitative biology, high performance computing, astronomy, and mathematical sciences.

2.2. Hosting ICTP Experts
The main objective of this intervention is to enable South African researchers to invite ICTP expert(s) for a period spanning up to three weeks, in order to enrich local expertise in a specific research field; promote collaborations; and/or strengthen existing collaborations.

3. Areas of Support
All applicants must be pursuing research in one or more of the following disciplines:

- Theoretical astrophysics (with a focus on pulsars and other compact objects);
- Renewable energy;
- Computational physics, chemistry, biology and mathematics;
- High performance computing;
- Big data research;
- Theoretical physics;
- Quantum physics;
- Material sciences; and
- Any other related research field that aligns to the ICTP’s thematic areas.

4. Eligibility Criteria
All applicants must either be currently registered for a doctoral degree or employed at an NRF recognised research institution, such as:

- South African Public Universities; or
- South African Public Research Entities namely Science Councils, National Facilities, Museums or other NRF Recognised Research Institutions as declared by the DSI.

4.1 Eligibility Criteria: Mobility Support for Researchers
- The applicant must be in possession of a doctoral degree or registered for doctoral studies.
• The applicant must clearly indicate their preferred ICTP activity/event that they would like to attend.
• The applicant’s research must align to the disciplines defined in section 3, above.

4.2 Eligibility Criteria: Mobility Support for Doctoral Students

• Applications should be for registered doctoral students at any of the above NRF Recognised Research Institutions.
• Students should be South African citizens or permanent residents and not hold any visa for temporary residency in South Africa.

4.3 Eligibility Criteria: Hosting ICTP Expert

• The invited expert must be a leader in their field of research and this area must also align to the research area of the applicant.
• NRF funding will only cover costs relating to travel (air and ground transport), accommodation and living expenses of the ICTP expert visiting South Africa.
• The duration of stay in South Africa should not exceed three (3) weeks.

5. Application Requirements

The applicant must clearly demonstrate in his/her application:

• The value to be derived from the visit and the possibility of initiating long-term collaboration(s).
• Scientific and technical merit.
• Potential impact of the research especially in terms of advancing national priorities.

5.1. Budget Guidelines: Maximum NRF Investment per Activity

Table 1: Guidelines for travel and subsistence costs for researchers and students participating in the ICTP grant categories.
## Travel and Subsistence

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility Support for South African Researchers</td>
<td>• Flights</td>
<td>Up to R75 000 for a two-week stay.</td>
</tr>
<tr>
<td></td>
<td>• Visa costs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Accommodation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ground transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Living expenses</td>
<td></td>
</tr>
<tr>
<td>Travel grants for South African doctoral Students</td>
<td>• Flights</td>
<td>Up to R75 000 for a two-week stay.</td>
</tr>
<tr>
<td></td>
<td>• Visa costs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Accommodation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ground transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Living expenses</td>
<td></td>
</tr>
<tr>
<td>Grant for Hosting ICTP Experts</td>
<td>• Flights</td>
<td>Up to R20 000 for a three-week stay.</td>
</tr>
<tr>
<td></td>
<td>• Accommodation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ground transport</td>
<td></td>
</tr>
</tbody>
</table>

The NRF encourages all applicants to utilise their institutional financial policies in developing their budgets especially with regard to S&T allowance and car mileage claims, amongst others. Where there is no institutional policy in place, please utilise the NRF guidelines, which are as follows:
Table 2: Guidelines for travel and subsistence policies for researchers and students participating in the ICTP grant categories.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airfare:</td>
<td>Class of travel is cheapest Economy class unless a recommendation has been approved by the appropriate delegated authority.</td>
</tr>
<tr>
<td>Accommodation:</td>
<td>Four-star grading or equivalent.</td>
</tr>
<tr>
<td>Local Car hire:</td>
<td>Economy/compact 4-5 door, manual vehicle with air-conditioning with the minimum safety requirements of power steering, airbags, and ABS.</td>
</tr>
<tr>
<td>Mileage claims:</td>
<td>R3,55 per kilometre (all engine sizes).</td>
</tr>
<tr>
<td>Local Subsistence and Travel daily allowance:</td>
<td>R300 per day (receipts and quotes required)</td>
</tr>
<tr>
<td>International travel:</td>
<td>120€ per day (receipts and quotes required)</td>
</tr>
</tbody>
</table>

Retrospective funding may be considered in this funding instrument. Applications that do not have all required supporting documents by the time of submission will be disqualified and will not be taken up for evaluation by the NRF.

5.2 Application Requirements for ICTP grants

The following information is required for ICTP grants:

Table 3: Application requirements for the ICTP grant categories

<table>
<thead>
<tr>
<th>Category of grant</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| Mobility Support for South Africa-based Researchers | • Adequate motivation must be provided for the need of the visit, which must have either regional and/or national impact;  
• Confirmation of the activity/event details, including duration of the visit, from the ICTP calendar of scientific events should be attached to the application;  
• Applications must be supported by the Designated Authority (DA) at the research institution; and  
• A copy of quotation proof of flights, accommodation, and cost of subsistence and travel allowance must be included in the application.  
Where the cost of a trip exceeds the NRF contribution, the applicant must clearly demonstrate that additional |
Travel grants for South African PhD Students

- Applications for students must be submitted by the supervisor who will be accountable for the **Conditions of Grant** if the proposal is recommended for funding;
- Postgraduate students should provide proof of registration for doctoral studies in renewable energy, quantitative biology, high performance computing, astronomy, or mathematical sciences;
- The application should be of scientific and technical merit and aligned to the student’s doctoral project and the ICTP areas of expertise;
- Priority will be given to South African black and female students and students from historically disadvantaged institutions (HDIs);
- A letter of confirmation from the ICTP group to host the student during their stay must be submitted;
- Applications must be supported by the DA at the research institution; and
- A copy of Quotation/proof of flights, accommodation, and cost of subsistence and travel allowance must be submitted.

Where the cost of a trip exceeds the NRF contribution, the applicant must clearly demonstrate that additional funding has been secured to cover the full cost of travel.

*See budget guidelines in Section 5.1 above*

Grant for Hosting ICTP Experts

- Motivation letter from the DVC: Research indicating need for hosting the visiting scientist, and confirmation of the scientist’s duration of stay;
- A letter of acceptance from the visiting scientist must be attached to the application;
- **Curriculum Vitae** of visiting Scientist must be attached to the application;
- Applications must be supported by the DA at the research institution; and
- Copy of Quotation/proof of flights, accommodation, and cost of subsistence and travel allowance.

Where the cost of a trip exceeds the NRF contribution, the applicant must clearly demonstrate that additional funding has been secured to cover the full cost of travel.

*See budget guidelines in Section 5.1 above*
6. Evaluation Process

Proposals that meet the eligibility criteria and application requirements, following institutional and NRF screening, will be subjected to a merit review by peers to assess substantive issues such as scientific merit and other criteria. Panel members are selected from the NRF database, which is updated on a continuous basis, as well as other sources. In making the selection, the expertise and experience of individuals in funding proposal adjudication are taken into account.

In assessing the proposals, the agreed assessment criteria are applied in the form of a scorecard that follows.

Table 4: Scorecard for the evaluation of ICTP grant applications

<table>
<thead>
<tr>
<th>Evaluation Dimension</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific Motivation</td>
<td>Assessment of the alignment between the applicant’s research project/student’s doctoral project (focusing on the applicant’s research project objectives, scientific relevance, and national significance) and the ICTP event to be attended.</td>
<td>30%</td>
</tr>
</tbody>
</table>
| Impact/Transformation| Potential impact of the project in line with national priority areas and specifically with regard to advancement of the;  
  - Transformation through Human Capital development; and  
  - Science and Society interface such as practical plans to communicate/disseminate results for public consumption. | 20%    |
| Expected Outputs     | The description of the proposed research visit includes clear, feasible and realistic objectives and research outputs; and demonstrates a clear benefit or collaboration to South Africa (SA) and/or the doctoral research project.   | 40%    |
| Financials           | Feasibility of proposed budget. Detailed and motivated budget. Co-investment and other sources of funding to be indicated.                                                                                       | 10%    |
The panel provides recommendations to the NRF and the final funding decision is made by the NRF. When awarding ICTP grants, the NRF takes into account the recommendations of the peer review panels, budget motivations by the applicant, the objectives and equity targets of the Instrument, as well as the availability of funds.

In line with the NRF’s endeavour for a fair and objective granting process, all applications are subjected to the following:

- Applicants will not be supported for two consecutive calls, unless under exceptional conditions;
- Applications will be considered for support for travel taking place between the dates of the award of grant; and
- Priority will be given to black and female researchers and applicants based at historically disadvantaged institutions (HDIs).

7. Evaluation of the Funding Instrument

At the end of the contracting period, or as agreed between the DSI and the NRF, the funding instrument will undergo an independent evaluation.