



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



**National
Research
Foundation**

STRATEGIC FRAMEWORK

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Functional Domain:	Human and Infrastructure Capacity Development
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Table of Contents

1. Contextual Background	3
2. Scope	4
2.1 SA-JINR Research Grant.....	5
3. Eligibility Criteria	7
4. Application Process and Requirements	8
4.1 Phase 1 Concept Note	8
4.2 Phase 2 Full Proposal.....	8
5. Evaluation Process	8
5.1 Phase 1 Concept Note	8
5.2 Phase 2 Full Proposal.....	9
6. Budget and Funding	10
7. Evaluation of the Funding Instrument	10
8. Contact Persons	10

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; White Paper on Science, Technology and Innovation, 2019 (WP-STI), National Development Plan (NDP): Vision 2030 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 Republic of South Africa signed a Memorandum of Agreement (MoA) with the Russian Federation in 2005 which led to South Africa becoming an associate member of the Joint Institute for Nuclear Research (JINR) through a Memorandum of Understanding (MoU) signed between JINR and the DSI.

JINR is an independent, multinational research agency located in Dubna, Russian Federation. The JINR conducts both theoretical and experimental research, mainly in the fields of elementary particle physics, nuclear physics and condensed matter physics. The purpose of the MoU between the DSI and JINR is to establish a framework for mutual co-operation between the DSI and JINR with regard to their efforts in scientific and technological research and development. Co-operation includes but is not limited to:

- Visits of individual scientists, postgraduate students, experts or research groups from South Africa to the JINR for skills development purposes;
- Attendance by individual scientists, postgraduate students, experts or research groups from South Africa at courses offered by the JINR;
- Participation in scientific research undertaken by the JINR by individual scientists, postgraduate students, experts or research groups from South Africa; and
- Transfer of technology between the South African research institutions and JINR.

The DSI has designated the NRF as the South African implementing agency of the MoU. For more information on the SA-JINR partnership, refer to the following site: <http://www.nrf.ac.za/joint-institute-nuclear-research-jinr>.

This document provides a framework for the implementation of a support mechanism e.g. grants geared towards enabling the aforementioned activities and giving practical expression to the objectives of cooperation.

2. Scope

The associate membership to JINR provides the South African research community with access to world-class research facilities at the JINR, and networking opportunities with the global JINR scientific community. As part of this agreement, three-year research and innovation grants are awarded to South African researchers in collaboration with researchers at JINR laboratories. Funding is also made available to researchers in South Africa to host JINR research experts for short periods of up to three weeks per annum, in order to enrich local expertise in their field. South African researchers are eligible to apply in the following research areas hosted by and associated with the indicated JINR laboratories:

Research Area	JINR Laboratory
Theoretical Physics	<ul style="list-style-type: none"> • Bogoliubov Laboratory of Theoretical Physics (BLTP)
Elemental Particle Physics	<ul style="list-style-type: none"> • Veksler and Baldin Laboratory of High Energy Physics (VBLHEP)
Nuclear Physics	<ul style="list-style-type: none"> • Frank Laboratory of Neutron Physics (FLNP) • Flerov Laboratory of Nuclear Reactions (FLNR) • Dzhelapov Laboratory of Nuclear Problems (DLNP)
Condensed Matter Physics	<ul style="list-style-type: none"> • Frank Laboratory of Neutron Physics (FLNP) • Laboratory of Radiation Biology (LRB)
Networks, Computing and Accelerator Technology	<ul style="list-style-type: none"> • Laboratory of Information Technologies (LIT) • Flerov Laboratory of Nuclear Reactions (FLNR)
Applied Research	<ul style="list-style-type: none"> • Flerov Laboratory of Nuclear Reactions (FLNR) • Laboratory of Radiation Biology (LRB) • Laboratory of Information Technologies (LIT)
New facilities under construction	
Information and Computing	<ul style="list-style-type: none"> • Multifunctional Information and Computing Complex
Heavy ion accelerator	<ul style="list-style-type: none"> • Nuclotron-based Ion Collider Facility (NICA)

The application process for the SA-JINR three-year **Research and Innovation** grants will have a two-stage approach as outlined below, to ensure better alignment and integration of the research and innovation projects and researcher mobility.

Phase 1 involves the submission of a **Concept Note** to the NRF by the South African principal investigator indicating an interest in collaborating with the JINR and highlighting the envisaged research and/or technology development activities to be undertaken at the JINR as well as the research infrastructure to be utilised. There must be clear justification of why the proposed research work cannot be undertaken using existing research infrastructure in the Republic of South Africa and/or the justification for the technology development to be undertaken. The Concept Note will be reviewed by the NRF and JINR to evaluate the feasibility of the project and alignment with priorities. In addition, the JINR will link the South African principal investigator with a JINR counterpart, in cases where a JINR collaborator has not been identified at the time of submission of the Concept Note. Projects that are selected to proceed to Phase 2 will be jointly approved by the NRF and the JINR.

Phase 2 will be a closed call for **full proposals** of projects with Concept Notes that have been approved by the NRF and JINR. The South African principal investigator will be invited to submit a full proposal for a three-year research and/or technology development grant on the NRF Connect System. The full proposal must be developed jointly by the South African applicant and the collaborating researcher at the JINR. Submitted applications will undergo a merit review through a virtual peer review process by a panel of experts working in conjunction with the NRF and JINR. Reviewers will be selected by the JINR and the NRF, and reviewers suggested by the applicants may be used in the review process. Proposals selected for funding will be based on the recommendations of the review and will be ratified by the Joint Coordination Committee (JCC), comprised of representatives from the NRF, DSI and the JINR.

2.1 SA-JINR Research Grant

The research and innovation grant will provide funding, for a period of three years, for South African researchers, postdoctoral fellows, masters and doctoral students to access world-class research facilities and research networking opportunities with the JINR scientific community. Funding for the **Research and Innovation** grants will cover the following:

- Running expenses at the JINR for the approved three-year project;
- Short-term stays of up to three (3) months per annum at JINR for South African researchers, collaborators, postdoctoral fellows and masters and doctoral students undertaking research on the approved three-year project;

- Long-term stays of up to 12 months at JINR for South African researchers, collaborators, postdoctoral fellows and masters and doctoral students undertaking research on the approved three-year project;
- Return economy airfare to Russia for South African researchers, collaborators, postdoctoral fellows and masters and doctoral students undertaking research on the approved three-year project at the JINR; and
- Hosting of JINR experts in South Africa collaborating on the approved Research and Innovation projects.

2.1.1 Running expenses at the JINR for the approved projects

The main objective of this component is to provide support towards the running expenses incurred by the South African researchers, collaborators, postdoctoral fellows and students undertaking research and/or technology development at JINR laboratories for the approved projects. These costs are covered by the membership fees paid to JINR and will be determined by the JINR collaborator for inclusion in the application submitted. This will include any running costs incurred during the short- and long-term stays at the JINR.

2.1.2 Short-term stays at the JINR for South African researchers, collaborators, postdoctoral fellows and postgraduate students

This component of the grant enables individual South African researchers that are employed at public research institutions and their postdoctoral fellows, masters and doctoral students, to travel to the JINR laboratories for stays of up to **three months** with the objective of accessing research infrastructures available at the JINR to undertake research and/or technology development on the approved collaborative three-year project. These costs are covered by the membership fees paid to JINR and will be determined by the JINR collaborator for inclusion in the application submitted.

2.1.3 Long term stays at the JINR for South African researchers, collaborators, postdoctoral fellows and postgraduate students

This component of the grant enables individual South African researchers that are employed at public research institutions and their postdoctoral fellows, masters and doctoral students, to travel to the JINR laboratories for stays of **three to twelve months** with the objectives of:

- Accessing research infrastructures available at the JINR to undertake research and/or technology development on the approved collaborative three-year project;
- Providing postdoctoral fellows with the opportunity to gain further research training by working in JINR research laboratories;
- Providing South African masters and doctoral students access to the JINR research infrastructures to undertake research for their postgraduate degree; and
- Providing South African masters and doctoral students with an opportunity for co-supervision by JINR researchers for their postgraduate studies.

These costs are covered by the membership fees paid to JINR and will be determined by the JINR collaborator for inclusion in the application submitted.

2.1.4 Travel costs covering return airfares to Russia for South African researchers, collaborators, postdoctoral fellows and postgraduate students

The main objective of this component is to provide for return economy airfare costs for the South African researchers, collaborators, postdoctoral fellows and postgraduate students for their travel to JINR laboratories for undertaking research and technology development on the approved projects. This includes travel for all short- and long-term stays. These costs will be covered by the NRF as an annual grant to the grantholder. This cost must be included in the application with a budget motivation.

2.1.5 Hosting of JINR experts in SA relating to three-year approved projects

The objective of this component is to enable South African researchers to invite JINR expert(s) for a period spanning **up to three weeks** in order to enrich local expertise in a specific research field relating to the approved project as well as to promote collaborations and/or strengthen existing collaborations. These costs are covered by the membership fees paid to JINR and will be determined by the JINR collaborator for inclusion in the application submitted.

3. Eligibility Criteria

- All applicants must have current full-time employment at an NRF Recognised Research Institution, such as:
 - South African Public Universities; or

- South African Public Research entities, viz., Science Councils, National Facilities, Museums or other NRF recognised research institutions as declared by the DSI.
- The employment contract of the applicant must extend for at least the full three-year period of the grant.
- All applicants must have a proven research track record in one of the JINR research areas detailed in section 2 of this document.
- The proposed project must be aligned to one of the JINR research areas indicated in section 2 of this document.
- The primary applicant must preferably be a South African citizen or permanent resident.

4. Application Process and Requirements

4.1 Phase 1 Concept Note

The Concept Note must be submitted to the NRF using the template provided by the NRF. In addition, applicants must have completed/updated their *Curriculum Vitae* (CV) on the NRF Connect System at URL: <https://nrfconnect.nrf.ac.za/>. The Call for Concept Notes will be open from **11 August 2022 to 30 September 2022**.

4.2 Phase 2 Full Proposal

Applications for full proposals for three-year **Research and Innovation** grants will be requested in a Closed Call for Applications through the NRF Connect System. The Call for full proposals will be open in the academic year 2023 for funding for a three-year period, i.e., year 2024 to 2026. The full proposal call dates will be provided in the 2023/24 NRF General Application Guide. Only applications emanating from approved Concept Notes will be considered for review and possible funding.

5. Evaluation Process

5.1 Phase 1 Concept Note

The Concept Note will be reviewed internally by the NRF and externally by the JINR to evaluate the feasibility of the project and alignment with priorities. In addition, the JINR will link the South African principal investigator indicated in an approved Concept Note with a JINR counterpart, if a JINR collaborator has not been identified at the time of submission of the Concept Note. Projects that are selected to proceed to Phase 2 will be jointly approved by the NRF and the JINR.

5.2 Phase 2 Full Proposal

All applications that have been validated by the Designated Authorities (DAs) from institutions of the applicants and submitted to the NRF, will be screened for compliance with the requirements of the Call and the stipulations set out in this Framework. Applications that fail to comply with the requirements and stipulations of the funding instrument will not proceed to the external peer review process.

All applications that pass the screening process will be subjected to a peer review process. The reviewers will comprise of subject experts in the discipline of the application and will be selected by the JINR and the NRF. Applicants may provide the names of potential reviewers. Proposals will be reviewed against the set evaluation criteria, as described in the table below, and reviewers will provide a quantitative scoring and qualitative written evaluation of the proposal. Virtual reviewers will also provide recommendations to the NRF on whether or not the proposal is fundable. Proposals selected for funding will be approved by the Joint Coordination Committee (JCC) comprised of representatives of the NRF, DSI and the JINR.

In awarding the three-year research and innovation grants, the JCC will take into account the recommendations of the expert reviewers, strategic priorities, equity targets, the budget motivations by the applicant, as well as the availability of funds.

Table 1: Evaluation Dimensions for the SA-JINR Research Grants

EVALUATION DIMENSION	WEIGHTING	DETAILS
Track record of the applicant	10%	<ul style="list-style-type: none"> • Qualification in an appropriate field or domain. • Work and publication record of the applicant in the proposed area.
Scientific Merit - Proposed Research and/or Technology Development	30%	<ul style="list-style-type: none"> • Alignment of the proposed project to SA-JINR priority areas. • Details of proposed research and/or technology development including clear objectives. • Feasibility of project including work plans, outputs and timeframes. • Nature, purpose, timing and value of planned visits and collaborative arrangements.
Human Capital Development	30%	<ul style="list-style-type: none"> • Engagement, involvement and development of emerging / early-career researchers and postgraduate students, particularly black and female students and people with disabilities.

Financial	10%	<ul style="list-style-type: none"> • Feasibility of the proposed budget. • Detailed and motivated budget.
Impact	20%	<ul style="list-style-type: none"> • Potential impact of the project in line with national priority areas and specifically with regard to: <ul style="list-style-type: none"> a) Advancement of the transformation agenda through human capacity development; b) Knowledge advancement; c) Technological innovation; and d) Advancement of the science and society interface e.g. practical plans for communication/dissemination of results for public consumption or benefit.

6. Budget and Funding

The three-year **Research and Innovation** grant will include research costs at JINR, short and long stays at JINR, hosting of JINR experts in South Africa and travel costs for South African researchers and students to Russia. All costs except the return airfare for South Africans travelling to Russia will be covered from the membership fees paid by South Africa to JINR. Return airfare costs for South African researchers to Russia will be covered by and managed by the NRF. All researchers are required to include a costing plan highlighting all the relevant cost drivers and financial support required for the period of three years in the full application, and costs applicable at JINR must be determined in conjunction with the JINR counterpart.

7. Evaluation of the Funding Instrument

Periodic reviews of the SA-JINR three-year research and innovation grant will form part of the review of the SA-JINR Agreement as agreed to by the JCC.

8. Contact Persons

<p>Programme related enquiries:</p> <p>Ms Sphumelele Duma Professional Officer: HICD ST.Duma@risa.nrf.ac.za +27 12 481 4051</p>	<p>Grant related enquiries:</p> <p>Ms Mpai Motsei Professional Officer: GMSA ML.Motsei@risa.nrf.ac.za +27 12 481 4078</p>
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