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 To: "drd_cells_workshops@sympa.sun.ac.za"
 Subject: CALL: BRICS pre-proposal
 Date: Monday, 13 September 2021 16:30:19
 Attachments: [2021 BRICS STI Framework Document.pdf](#)
[2021 BRICS Call FAQ.pdf](#)
[NRF 2021 BRICS Guideline.pdf](#)
Visit [applications from BRICS story](#)

Let asb daarop dat hierdie inligting aan 'n verspreidingslys van alle US-navorsers gestuur word. Dit mag dus wees dat hierdie spesifieke oproep nie van toepassing is op u studeveld nie. Ons vertrou dat toekomstige oproepe wel relevant mag wees./ Please note that this information is sent to a distribution list of all SU researchers. It may, therefore, be possible that this specific call is not applicable to your specific research field. We trust that future calls will be relevant.



Partner countries	Focus areas	Activities to be funded by the NRF	Funding by the NRF	Eligibility	Envisaged number of collaborative projects (full applications) to be funded by the NRF	Application portal	Pre-proposal deadline
BRICS Pre-proposals (Brazil, Russia, India, China, South Africa)	<p>Funded by the NRF:</p> <ul style="list-style-type: none"> - Transient astronomical events and deep survey science. - HPC and big data for sustainable development: solving large scale ecological, climate and pollution problems. - Materials science and nanotechnology for addressing environmental, climate change, agricultural, food and energy issues. - Renewable energy, including smart grid integration. - Ocean and polar science and technology. <p>Funded by the DSI, SAMRC, TIA or WRC:</p> <p>Information to be requested directly from these organisations (see p 10 in the attached Framework document)</p>	<ul style="list-style-type: none"> - Research-related costs (eg. travel, field work, conducting interviews, surveys, laboratory experiments, research-related trips, small equipment, consumables) - Reciprocal research visits/ mini sabbaticals by young researchers - One postdoc fellowship (max 2-years) - Joint workshops & other joint meetings - Local and regional dissemination of results to relevant stakeholders. <p>Not funded:</p> <ul style="list-style-type: none"> • Consultant's fees • Large equipment • Project management fees • Overheads • Salaries and temporary staff fees • Educational expenses • Attendance of international conferences that are not jointly organised by the consortium partners 	<p>On South African side, for three years:</p> <p>R1.5 million</p> <p>(R15 000 p.a. institutional contribution towards Postdoc fellowship compulsory)</p>	<ul style="list-style-type: none"> • At least three BRICS countries should be involved in a joint project. • South African PI should be employed and have a PhD. • A Project Coordinator should be appointed from among one of the BRICS PIs. • At Pre-proposal stage, a Joint Application Form (JAF – see attached) must be submitted by the Project Coordinator. • If successful at Pre-Proposal stage, the consortium members will be invited to submit full applications in their respective countries. • It is mandatory for Stellenbosch University PI to include, as part of the consortium, a research partner from a historically disadvantaged university in SA (see list below) 	6	<p>Pre-proposal:</p> <p>BRICS STI Framework Programme Application Management System (BRICS AMS) at http://ams.dtr.nu/BRICS</p>	<p>15:00 (Moscow Time) on 14 October 2021.</p>
<p>HISTORICALLY DISADVANTAGED UNIVERSITIES</p> <ul style="list-style-type: none"> • University of Fort Hare • University of Limpopo • Mangosuthu University of Technology • University of Venda • University of the Western Cape • Walter Sisulu University • University of Zululand 							
<p>PLEASE CAREFULLY READ THE Framework Document, the BRICS Call FAQ and the BRICS Guidelines TO ENSURE THAT YOU MEET ALL THE REQUIREMENTS</p> <p>Contact persons at SU for matters NOT addressed in the above documents :</p> <p>General proposal guidance : Riana Coetsee : mjc@sun.ac.za</p> <p>Budget assistance : Dominique Meyer – dominiquem@sun.ac.za</p>							



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Ministry of Science & Technology
Government of India



science & innovation
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REPUBLIC OF SOUTH AFRICA



जेव प्रौद्योगिकी विभाग
Department of Biotechnology
Ministry of Science & Technology
Government of India



BRICS STI Framework Programme 5th coordinated call for BRICS multilateral projects 2021

Call is open until 14th October 2021, 15:00 Moscow Time (UTC+3)

I. General Description

I-1. Joint Funding of Multilateral Research Cooperation

The BRICS STI Framework Programme aims to support excellent research on priority areas which can best be addressed by a multinational approach. The initiative should facilitate cooperation among the researchers and institutions in the consortia which consist of partners from at least three of the BRICS countries.

As part of the initiative the following research funding organizations from the BRICS countries have agreed to jointly establish a new scheme for funding multilateral cooperative activities:

Brazil:

National Council for Scientific and Technological Development (CNPq)

Russia:

Foundation for Assistance to Small Innovative Enterprises (FASIE)

Ministry of Science and Higher Education (MSHE)

India:

Department of Biotechnology (DBT)

Department of Science and Technology (DST)

China:

Ministry of Science and Technology (MOST)
National Natural Science Foundation of China (NSFC)

South Africa:

Department of Science and Innovation (DSI)
National Research Foundation (NRF)
South African Medical Research Council (SAMRC)
Technology Innovation Agency (TIA)
Water Research Commission (WRC)

I-2. Aim of the Joint Call and Thematic areas

Collaborative multilateral basic, applied or innovation research projects in the following thematic areas can be submitted in response to the call:

1. Transient astronomical events and deep survey science

As emerging economies, the BRICS countries face a specific set of challenges, but are also uniquely placed to act on the opportunities that the fourth industrial revolution presents. This proposed astronomy programme is a collaborative scientific enterprise, drawing on the strengths of all five BRICS partners, while at the same time seeking to address in-country socioeconomic development challenges. Framing development imperatives in the context of the United Nations Sustainable Development Agenda, this programme will clearly impact Goals 4 (Quality Education), 9 (Industry, Innovation & Infrastructure) and 17 (Partnerships) and has the potential to advance others. It will also have a strong component of Capacity Development, particularly building for the 4th Industrial Revolution, through the training of students and young researchers. The scientific programme will develop a network of astronomical telescopes, some already existing, and an associated intelligent data network which is the enabler for the science programme. This will leverage existing and planned new telescope and cyber facilities within the BRICS countries and will also draw on the opportunities presented by other multi-wavelength space- and ground-based facilities within, or accessed by, the BRICS group.

The programme focuses on two key areas:

- 1) the scientific advance, within the BRICS partners, of the rapidly expanding domain of wide-field multi-wavelength imaging sky surveys and the detection and study of transient and time-variable phenomena in the Universe, one of the pillars of modern astrophysics, and
- 2) technical solutions to the associated enormous Big Data and Big Compute challenges arising from such worldwide networks of transient detectors and imaging surveys, including

the Square Kilometre Array (SKA) and the Rubin Observatory's Legacy Survey of Space and Time (LSST), leading global projects in which many BRICS countries are actively involved.

Thanks to their unique, worldwide geographical distribution, BRICS countries are well placed to take the global lead in this quickly evolving and compelling research area, utilizing both existing and future telescopes within BRICS. The latter includes an ambitious plan for a global network of optical telescopes with the unprecedented ability to observe the entire sky continuously on a timescale of less than an hour, greatly increasing our ability to monitor the changing cosmos. New science would not happen without innovation in both instruments and big data science methods and systems, and this project will therefore bring together teams within BRICS to lead programmes in data innovation in each partner country. The collaboration will include academia and industry from partner countries and will focus on developing technologies of the 4th industrial revolution. An essential human capital development programme is designed to create a new generation of data-savvy scientists and engineers within BRICS, strengthening the scientific community in the global South. Cross disciplinary and links with industry will be a key focus of this project, accelerating technological spin offs and working actively to promote science for development. The depth and breadth of this network, embedded through this project, will benefit the BRICS participants beyond what we could achieve as individual countries. The nature of this thematic area is such that it creates the potential to stimulate conversations across disciplines to tackle current global challenges such as COVID-19, using data skills, training and infrastructure.

2. Antimicrobial resistance: technologies for diagnosis and treatment

The World Health Organisation (WHO) has declared Antimicrobial Resistance (AMR) as one of the top 10 global public health threats facing humanity (www.who.int). BRICS countries have acknowledged that this health issue could undermine decades of progress in combating infectious diseases and emphasized the need to implement the WHO's Global Action Plan on AMR addressing issues of equity, affordability and sustainable access to medicines. The Global Plan calls for greater innovation and investment in operational research, and in R&D of new antimicrobial medicines, vaccines, and diagnostic tools especially in accordance with what was pointed out by WHO in "Prioritization of Pathogens to Guide Discovery, Research and Development of New Antibiotics for Drug-resistant Bacterial Infections, including Tuberculosis".

a. Diagnostic tools: Design, development and validation of rapid and early diagnostic tests, including point-of-care tests for the treatment and prevention of infections, particularly those caused by antibiotic resistant organisms in humans.

b. Therapeutics: To improve existing antimicrobial treatment by augmenting discovery of novel drugs, treatment strategies and alternative therapeutics and optimizing drug use, dose and delivery. This would include:

- Development of new novel antimicrobial drugs (involving synthetic biology/chemistry or alternatives to antibiotics) or investigation on new potential targets for the development of antimicrobial drugs (bacteria, parasites, viruses and fungi).
- Develop treatment protocols based on combination therapy using existing and new antibiotics
- Address gap in our understanding of the molecular and cellular biology of bacteria, parasites, viruses and fungi resistance, especially how they evolve, acquire and transmit antibiotic resistance and how they adapt to life in humans.

c. Vaccines: Develop vaccines to be used prophylactically, decreasing the number of infectious disease cases, and thus antibiotic use and the emergence and spread of AMR.

3. Simulation and big data analytics for advanced precision medicine and public healthcare

Big Data are radically changing biomedical research. The unprecedented advances in automated collection of large-scale molecular and clinical data pose major challenges to data analysis and interpretation, calling for the development of new computational approaches. The creation of powerful High Performance Computing (HPC) systems for the effective use of biomedical Big Data in Personalized Medicine (a.k.a. Precision Medicine) will require significant scientific and technical developments, including infrastructure, engineering, project and financial management. We review here how the evolution of data-driven methods offers the possibility to address many of these problems, guiding the formulation of hypotheses on systems functioning and the generation of mechanistic models, and facilitating the design of clinical procedures in Personalized Medicine. Some of the areas include HPC, wearable device technologies, computational genomics, AI, modelling, simulation and big data analytics for advanced precision medicine and public healthcare, with applications including Genomics and epidemiological surveillance, drug design, vaccine design.

4. High Performance Computing (HPC) and big data for sustainable development: solving large scale ecological, climate and pollution problems

Numerical weather prediction (NWP) and Earth System modelling (ESM) have been for decades among the most challenging tasks for high-performance computing owing to the

dramatic range of temporal and spatial scales to be resolved and complexity of processes being simulated. Currently, the progress of weather, climate and ecological services as well as related academic studies critically depend on their performance on existing and prospective HPC systems. The newly developed numerical methods as well as elaboration of existing code have to target the usage of hybrid HPC architectures. New approaches to environmental prediction based on artificial intelligence (highly efficient on modern GPUs) and novel methods to tackle Big Data processing demonstrate excellent results in a number of environmental problems. The latter includes AI spatio-temporal models for natural phenomenon prediction, as well as the promising fusion of AI models with more conventional hydrodynamic models of atmosphere and ocean dynamics.

The objective of this call is to support advances in development of cutting-edge applications of HPC code for the solution of ecological, climate and pollution problems, important for BRICS countries, covering a wide range of aspects from mathematical basis of HPC algorithms, and new AI-based approaches leveraging weather forecast, to efficient use of HPC and Big Data in particular weather and environmental prediction tasks and estimating related socio-economic impacts. The proposals covering both fundamental research topics and real-life applications are highly encouraged. The prioritized topics include:

- Development of prospective numerical methods, algorithms, parameterizations and tools for solution of large-scale direct and inverse problems of environmental prediction on hybrid HPC systems.
- Advances in high-resolution Earth System modelling and implications for socio-economic strategies.
- Diagnostics and prediction of extreme weather phenomena and flooding/drought events using HPC and AI.
- HPC, Big Data and AI for sustainable development of urban environment: solving ecological, climate and pollution problems of megacities.
- HPC and geospatial data processing for environmental applications.

5. Innovation and entrepreneurship on photonic, nano-photonics and metamaterials for addressing bio-medicine, agriculture, food industry and energy harvesting issues

This thematic area aims to create, integrate and strengthen International Cooperation projects within the BRICS in the fields of Photonics, Nano-photonics and metamaterials. It seeks to promote the generation of knowledge, guided by the needs of the private sector, for the development of processes, products and instrumentation, as well as stimulating integration, the exchange of knowledge, strategic alliances and the exploitation of synergies

between the BRICS countries for the development of technologies. In addition, it is expected to foster innovation, entrepreneurship, and integration between ecosystems. In order to be considered eligible, projects must address the interfaces between Photonic, Nano-photonics and metamaterials for the areas of bio-medicine, agriculture, food industry and energy harvesting issues.

6. Materials science and nanotechnology for addressing environmental, climate change, agricultural, food and energy issues

At present, one of the dominant trends recognized by the world community is the achievement of sustainable development, including the use of natural resources and the direction of scientific and technological development that would strengthen the current and future capacity to meet human needs and aspirations. At the same time, in many respects we are speaking about ensuring the quality of life of people. The basis for the development of technologies in this direction is research and creation of new advanced materials that could form the basis of a new economy that can fulfill the objectives of sustainable development. Applications in response to the call may be submitted for any types of materials and nanotechnologies, including advanced magnetic and ferroelectric materials, that develop world science and technology in the direction of mitigating climate change and preserving the environment, optimizing the carbon balance, preventing climate disasters, developing safe agricultural products and food, developing carbon-free (low-carbon) energy and transport.

7. Renewable energy, including smart grid integration

The 21st Century human life depends entirely on energy on a day-to-day basis. From waking up to an alarm on a smartphone to sleeping in an air-conditioned room, one cannot live without electricity. The world has not yet found sustainable ways to conserve this energy for future generations. The conventional ways of producing energy have proved to be exceedingly harmful to the earth and have rapidly aggravated the pace of global warming, leading to climate change and other climate-related problems. It is the need of the hour to decarbonize and conduct research to find adaptable, convenient, sustainable, and cheap means to produce energy. Suggested topics:

Renewable energy

According to IEAS, renewable energy makes up 26 per cent of the world's electricity today. It includes solar, wind, hydel, tidal, geothermal, and biomass. The challenge is to make optimum use of renewable energy, cost effective, storage and efficient distribution. Advanced Hydrogen and Fuel cell promoting and supporting activities related to

indigenous development of new and existing material in large quantities, catalysts, membrane, components for fuel cells, electrolysers, and hydrogen storage materials, materials for type IV cylinders and prototypes for implementation of various applications of hydrogen and fuel cell in the BRICS country.

Battery technologies

The battery technology development has been varying from stagnant periods to significant breakthroughs, in an almost unpredictable fashion. The trend has been consistently directing away from heavy and acid batteries to compact, light and far more efficient nickel/metal (NiMH) accumulators.

Grid technologies

Grids help in facilitating efficient and reliable end-to-end intelligence for a two-way delivery of energy from source to consumers through the integration of renewable sources. *Smart grid* technologies empowered by digital twin concepts bring predictability, efficiency and sustainability which entail the growth of electricity demand which further helps in monitoring and control of electric power systems, power quality management, security and privacy, digitalization and smart home energy system.

8. Ocean and polar science and technology

With ever increasing importance of the ocean and Polar Regions, BRICS countries, which are washed by every ocean of the World, are deeply engaged in developing ocean and polar science and technology. Nowadays, the ocean and polar systems are subject to climate change effects and increasing anthropogenic pressures. The latter include not only emissions of greenhouse gases, but also pollution of different kinds. These stressors as mediated through complex ocean-atmosphere exchanges, sea ice-air interactions, and land-sea interactions are particularly active in high-latitude regions and coastal areas worldwide. Moreover, transitional marine systems (e.g. mangroves and marshes) are known for high primary productivity and carbon storage. The predictability of the changes to come in the next decades depends strongly on availability and quality of observational data (including those collected from the abyssal depths) and capacities of prognostic numerical models to assimilate them. Furthermore, the United Nations' Decade of Ocean Science for Sustainable Development and the UN SDG 14 (Life below water) represents a great opportunity for a deepening cooperation among BRICS in these fields.

Based on the aforementioned general considerations, the applicants are invited to address the following topics:

- i. Operational oceanography including observations, model forecasts, and data assimilation in numerical models.
- ii. Marine pollution, disaster prevention, mitigation, restoration and blue carbon.
- iii. Deep-sea research including cold and thermal seeps, hydrothermal vents and seamounts.
- iv. Extreme environment research – permafrost, anoxia, hypersaline water bodies, etc.
- v. Impacts of climate variability and climate change on polar environment and the teleconnections with tropical areas.
- vi. Coastal and shelf processes and ocean-land interactions.
- vii. Structure and physical properties of sea ice in observations and models.
- viii. Polar research, including palaeoceanography, sea ice dynamics and ecosystem evolution.
- ix. Marine biotechnology.

9. Water treatment technology

Water resources are necessary for sustaining human life and life of other living organisms, assuring manufacturing and agriculture. However, anthropogenic factors, natural geochemical and biological processes, climate change processes lead to disruptions of water ecosystems, worsening water quality and decreasing volumes of fresh water.

Access to fresh water is limited for certain categories of users, and, this represents one of the major global challenges due to increasing water consumption, low levels of water resources replenishment and the impact of external factors. High quality water reserves are shrinking, and this limits opportunities for preserving public health, biodiversity, nature's aesthetic and recreational potential. Water scarcity directly affects over 40% of the world population in water stressed regions of every continent. It also has severe repercussions for the neighboring countries and represent a growing global problem for humanity. The United Nations project that by 2050 one in four people or more will be affected by repeated water shortages. BRICS countries already face this problem either in a national or regional perspective.

Integrated (sustainable) water resources management and pollution treatment should be applied in order to address the global water challenges. This priority (thematic) area addresses research applications in two thematic fields: water resources management and water pollution treatment. The topics of the call are based on the United Nations Sustainable Development Goals, specifically the targets of the Goal 6: Clean water and sanitation.

Integrated water resources management: sustainable water resources management and

governance, including efficient water use, water conservation, transboundary water relations and water diplomacy; assuring access to clean water for all; assuring access to adequate and equitable sanitation and hygiene for all; evaporation control technologies; new approaches, methods and instruments for analysis of existing knowledge on temporary and spatial changes in flood patterns in various regions; monitoring and prevention of water-related disasters; sustainable management of water ecosystems; ICT and big data tools for water resource management and governance; testing and distribution of cheap water desalination technologies; promoting efficient food-water-energy nexus technologies; improving water and sanitation management at local level.

Water pollution treatment: comprehensive assessing negative impact on water quality in natural water bodies; industrial and agricultural wastewater pollution treatment, providing adequate water quality and quantity; innovative technologies of domestic (household) water and wastewater treatment, storm and urban runoff treatment; economically viable use of chlorine-free water treatment technologies and nanotechnology for pollution control and desalination; drinking water treatment for emerging pollutants; multi-purpose water reuse and recycle technologies; control of marine pollution including oil-spills, marine litter, ballast water treatment and seaport waste treatment systems.

10. Research in aeronautics and aerospace

Aeronautics has always been at the forefront of the development of science and technology. Its technologies are catalysts for innovation and promote the development of other economic and technological sectors, contributing to the growth of national economy as a whole. BRICS countries have good cooperation foundation. Jointly innovative research can accelerate technology development, promoting the all-round development of regional aeronautical cooperation among BRICS countries and achieving mutual benefit and win-win results. The objective of this call is to support advances in aeronautical technology research and development. The prioritized topics include:

- Modern aviation aircraft research to establish highly-accurate numerical method and wind tunnel test verification technology, to develop aerodynamic design technology for modern aviation aircraft, such as short take-off and landing transport aircraft with powered lift system.
- Composite damage behaviour research to establish a high-resolution ultrasonic detecting method and device for defect and damaging behaviour of composites, to get mechanical behaviour and failure mechanism, material development and process optimization, structural safety and life evaluation of composites in aviation and other fields.

Please note that the thematic areas and type of supported research vary depending on the particular participating funding organization. More details can be found in respecting National Annex document (available on <http://brics-sti.org/index.php?p=new/30>) or from national contact points. However, the general information on thematic areas supported by each of the participating funding organization is presented below:

	<i>Thematic areas</i>	Brazil	Russia		India		China		South Africa
		CNPq	FASIE	MSHE	DBT	DST	MOST	NSFC	V
1	Transient astronomical events and Deep Survey science	V	V	V		V		V	NRF
2	Antimicrobial resistance: technologies for diagnosis and treatment	V	V	V	V	V	V		SAMRC
3	Simulation and big data analytics for advanced precision medicine and public healthcare	V	V	V	V	V		V	SAMRC
4	HPC and BigData for Sustainable Development: Solving Large Scale Ecological, Climate and Pollution problems	V	V	V	V	V	V		NRF
5	Innovation and entrepreneurship on Photonic, Nanophotonics and metamaterials for addressing bio-medicine, agriculture, food industry and energy harvesting issues	V	V	V		V	V		TIA
6	Materials science and nanotechnology for addressing environmental, climate change, agricultural, food and energy issues	V	V	V	V	V		V	NRF
7	Renewable energy, including smart grid integration	V	V	V		V		V	NRF
8	Ocean and polar science and technology	V	V	V		V	V		NRF
9	Water treatment technology	V	V	V		V		V	WRC

10	Research in aeronautics and aerospace	V	V	V		V	V		DSI
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I-2. Invitation for Proposals and Prospective Applicants

The BRICS STI FP participating funding organizations shall invite applicants from their countries to identify potential partners in at least two other BRICS countries and to jointly prepare proposals for collaborative R&D projects in the ten thematic areas of the call. All applicants must fulfil their respective national eligibility rules for research grant applications (please refer to the National Annex document and consult with national research funding organization participating in the call).

I-3. Financial Support

The participating funding organizations plan to support collaborative activities including exchange of researchers from the participating counterpart countries. Conditions of support will vary by country and respective national funding organizations' approaches with a common rule that each participating funding organization funds its national researchers or institutions.

The duration of a collaborative research project will be two or three years with expected start date of projects around the middle of 2022.

II. Application

A joint project will comprise of at least one Principal Investigator (PI) from each of the participating countries (please also refer to national annexes for additional requirements), with one of the project participants also acting as a Project Coordinator (or lead PI). Project consortia should consist of applying for funding partners from at least three of the BRICS countries.

The application submission is a two stage process:

Stage 1: Pre-proposal

A **Joint Application Form (JAF)** (link for download: http://brics-sti.org/files/JAF_BRICS_Call_2021.docx) shall first be submitted by the Project Coordinator to the Call Secretariat through the online **BRICS STI Framework Programme Application Management System (BRICS AMS)** at <http://ams.rfbr.ru/BRICS>. JAF must be completed in

English.

The Joint Application Form solicits information on:

- 1) Thematic area;
- 2) Title and acronym of collaborative research project;
- 3) Proposed period of collaborative research project;
- 4) Project summary;
- 5) Project objectives;
- 5) Research teams;
- 6) Budget requested.

Stage 2: Full Proposal

Invited projects' consortia shall submit national components serving as a Full Proposal to their respective national funding organizations. Each national team of a project **shall submit a national component** (i.e. proposal) to the relevant national participating funding organization in accordance with all required procedures of each particular participating funding organization.

The national component to be submitted varies in form, terms and information provided depending on the particular participating funding organization. More details can be found in the National Annex document (can be downloaded from <http://brics-sti.org/index.php?p=new/30> page) and on the websites of participating funding organizations.

A project consortia which does not submit by due date a fully completed Joint Application Form to the Call Secretariat through the Application Management System (www.ams.rfbr.ru) or national components to all respecting national funding organizations will automatically be considered as ineligible.

II-2. Preparation of Application Forms

Applicants should agree on the aims, research strategy and management, the title of the project, and agree on the project coordinator. Based on these arrangements the applicants should complete the Joint Application Form (JAF) and national components.

II-3. Submission of Application Forms by Applicants

The application process consists of two stages: Pre-proposal submission stage and Full proposal submission stage.

Stage 1: Submission of Pre-proposal (Joint Application Form).

Applicants must submit the Joint Application Form (JAF) to the Call Secretariat via the online application submission tool until **15:00 (Moscow Time, UTC+3) on 14th October 2021.**

To submit the JAF, an online-submission form must be completed via the BRICS STI Framework Programme Application Management System (BRICS AMS) at <http://ams.rfbr.ru/BRICS>. The project coordinator should register in BRICS AMS, log in and create a proposal for the BRICS STI FP Call 2021. The Project Coordinator must fill in all the required fields and submit an application. The online submission form fields are identical to the information provided in the JAF, however the completed JAF as a file attachment to the online form is encouraged and uploaded in the “upload file” section of online submission form. Please note that online submission form fields do not provide opportunity to upload images, so they can only be provided in the attached JAF file (PDF format is preferable).

Additional partner(s) to the minimum eligible number of required participants is allowed to join a project at their own costs. If any additional partner is joining the project on own costs, requested funding amount should be stated as “0” (zero) in the corresponding proposal box item.

Applications submitted to the Call Secretariat by any method other than through online submission form at <http://ams.rfbr.ru/BRICS>, such as post or e-mail, will be rejected.

All Pre-proposals will be a subject of review (please see section “III. Evaluation of Project Proposals” below for more details) and based on the review outcomes selected projects consortia will be invited to submit Full proposals.

Following Pre-proposal review, applicants will be notified of the outcomes of the review by Call Secretariat. The results of the review for each Pre-proposals will be communicated via BRICS AMS system by changing the status of the respective Pre-proposal to “invited” or “not invited”. Upon changing the status of Pre-proposal in the BRICS AMS system an additional e-mail notification may be sent to the respective project coordinator, however, applicants are obliged to monitor the status of the project by themselves and e-mail notification should be

treated only as an additional action (failure of e-mail receipt may not serve as excuse for not being notified).

It is expected that Pre-proposals review outcomes will be communicated to applicants in late December 2021.

Stage 2: Submission of Full Proposals (national components).

Each national team of a project invited to Full proposal stage should submit a national component to the respective national funding organization according to its own rules and procedures. If any of the PI of the particular project consortia fails to submit a national component to respective national funding organization, the Full proposal will be considered as not submitted. The national component to be submitted varies in form, terms and information provided depending on the particular participating funding organization. More details can be found in the National Annex document (can be downloaded from <http://brics-sti.org/index.php?p=new/30> page) and on the websites of participating funding organizations.

Please note that some participating funding agencies may start the process of national component submission prior to the Pre-proposal review completion. In this case certain national teams applying for funding to their respective national funding organizations may need to enter the Full Proposals submission stage (submit national component) prior to receiving information on results for respective Pre-proposal review.

II-4. Receipt of Application Forms by Call Secretariat

Following the online submission of the Joint Application Form, the confirmation message with Pre-proposal registration number will be shown in confirmation message. On “my projects” page in BRICS AMS the proposal status thereafter will be shown with assigned registration number BRICS2021-XXX (where XXX stands for unique number) and stage “Registered”.

II-5. Retraction of submitted Pre-proposal application

At any time after online submission of a Pre-proposal application before the deadline, an applicant can retract the application for modification on “my projects” page in BRICS AMS. Following retraction action an application is considered as “not submitted”. Re-submission of the application is only possible until the call deadline (15:00 (Moscow Time, UTC+3) on 14th October 2021). Upon completion of re-submission a new registration number will be assigned to the application.

III. Evaluation of Project Proposals

III-1. Evaluation Procedure

The evaluation procedure is a two stage process: Pre-proposal evaluation and Full proposal evaluation.

Pre-proposal evaluation.

A group of independent reviewers will evaluate Pre-proposals and provide recommendations on whether to invite project consortia to proceed to the Full Proposals stage or not. Based on the recommendations of the independent reviewers, a joint decision by the participating funding organizations will be made regarding the selected proposals to be invited.

Full Proposal evaluation.

Each participating funding organization evaluates all proposals where researchers from its own country request funding from their respective funding organization. Based on the results of the evaluation, a joint decision by the participating funding organizations will be made regarding the selected proposals to be co-funded.

III-2. Evaluation Criteria

Pre-proposals:

The following evaluation criteria will be considered for the review of Pre-proposals:

- Check that the project addresses one of the topics of the Call
- Scientific quality and innovativeness of the goals and objectives of the joint research project
- Added value to be expected from the international research collaboration

Full-Proposals:

The following general evaluation criteria will be considered (please also refer to national call announcements information on national component):

- Scientific quality and innovation of the joint research plan
- Sound project management, methodological approach, feasibility and appropriateness of the joint research plan
- Added value to be expected from the research collaboration
- Balanced cooperation

- Competence and expertise of teams and complementarities of consortium (interdisciplinary / all necessary expertise)
- Appropriateness of resources and funding requested
- Expected impacts: e.g. scientific, technological, economic, societal
- Opportunities for early career researchers
- To encourage the participation and joint research by the business sector.

III-3. Announcement of Decision

Applicants will be notified of the final decision in the second quarter of 2022 regarding the approved joint projects for funding.

IV. Responsibilities of the PI following approval of projects

After the proposals have been approved, the PI and his/her own affiliated institution are required to adhere to the following when carrying out the collaborative research and utilising funding:

IV-1. Progress Report

Progress Report to each participating funding organization

All researchers must follow their own funding organizations' rules and procedures.

IV-2. Final Report

IV-2.1 Final Report to the BRICS STI Framework Programme Secretariat

After completion of the period of joint research, the project coordinator shall complete and submit within three months an integrated final report to the BRICS STI FP Secretariat on the results of the joint research. The report will be reviewed by the BRICS STI Funding Working Group.

IV-2.2 Final Report to each participating funding organization

All researchers must follow their own funding organizations' rules and procedures.



BRICS STI Framework Programme – Joint Call Secretariat

<http://brics-sti.org/>

Contact person:

Mr Yaroslav Sorokotyaga

Russian Foundation for Basic Research

E-mail: brics@rfbr.ru

Tel.: +7 499 941 0196

V. National Contact Points

Applicants should contact the following national contact points for information on each Party's national eligibility rules or support conditions:

Brazil:

National Council for Scientific and Technological Development (CNPq)



Lelio Fellows Filho

General Coordinator of International Cooperation

National Council for Scientific and Technological

Development - CNPq

Tel: +55-61-3211-9247

E-mail: leliof@cnpq.br

Russia:

Foundation for Assistance to Small Innovative Enterprises (FASIE)



Mrs. Olga Levchenko

Foundation for Assistance to Small Innovative
Enterprises

Phone: +7 495 231 38 51

Email: levchenko@fasie.ru

Ministry of Science and Higher Education (MSHE)



Ms. Albina Kutuzova
Phone: +7 495 629 73 32
Email: kutuzovaaa@minobrnauki.gov.ru

Ms. Anastasia Zadorina (ICISTE)
Phone: +7 495 660 34 29
Email: zadorina@mniop.ru

India:

Department of Biotechnology (DBT)



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Ministry of Science & Technology
Government of India

सत्यमेव जयते

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Department of Science and Technology (DST)



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National Natural Science Foundation of China (NSFC)



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South Africa:

Department of Science and Innovation (DSI)



Kagiso Moloto
Acting Deputy Director
Tel: +27 12 843 6359
Email: Kagiso.moloto@dst.gov.za

National Research Foundation (NRF)



Ms Nombuso Madonda
Professional Officer
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National Research Foundation
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South African Medical Research Council (SAMRC)



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South African Medical Research Council

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email: niresh.bhagwandin@mrc.ac.za

Website: www.mrc.ac.za

Technology Innovation Agency (TIA)



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Email: Kagiso.moloto@dst.gov.za

Water Research Commission (WRC)



Kagiso Moloto (DSI)

Acting Deputy Director

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Frequently Asked Questions

(ver. 1.0 as of 30.08.2021)

Please note that the following Frequently Asked Questions refer to information on requirements for the projects consortia, application submission procedures as well as provide information on general procedures and rules for the 5th coordinated call for BRICS multilateral projects 2021 launched under BRICS STI FP.

To find out more on particular details related to submission of certain national applications and eligibility criteria set by each particular funding agency, please refer to national annex of that particular funder provided on the Call announcement page at <http://brics-sti.org/?p=new/30>.

Contents:

Q1-Q8: Eligibility of proposals

Q9-Q18: Call procedures

Q19-Q26: Technical questions

Eligibility criteria**Q1: What are the requirements for the minimum size of the project consortium?**

A1: To be eligible for the call the consortium must consist of a minimum of 3 partners (all of them requesting funding) from at least 3 different BRICS countries.

Q2: We have 3 partners from 3 different BRICS countries, but only 2 of them request funding, is such project consortia is eligible?

A2: No, at least 3 partners should request funding and be eligible for funding from respecting national funding agencies. In addition to required number of eligible partners an extra partner can participate in the project on own costs.

Q3: How many partners can participate in one project as maximum?

A3: The project consortia can have partners from all 5 BRICS member states as well as some additional partner from third countries acting on own costs.

Q4: Who is eligible for the call?

A4: Eligibility criteria are set by national funding agencies and may vary from country to country and even from one national funder to another. In general the call is targeting research groups, research institutions, universities, NPOs, SMEs and other research performing bodies. However, please refer to the national annexes of respecting national funders, national call announcements or contact national funders directly to find out more on eligibility criteria.

Q5: Can applicants be involved in more than one project?

A5: The BRICS STI FP does not regulate this clause and it is completely regulated by national funding organizations and their policies. Please refer to national annexes or contact relevant national funding agency.

Q6: Who is project coordinator and how to choose it?

A6: For the Call Secretariat project coordinator is a project partner who submits project application to the Call Secretariat and serves as a communication point for the whole project. So, project consortia should choose between themselves who of the PIs will act as a Project Coordinator. Project coordinator will be obliged to report to the Call Secretariat upon request (including project reports), so it is preferable that project coordinator is a partner who actually coordinates the project activities (if such role exists in the project). However, it is completely up to project partners to decide whom to formally nominate as a formal Project Coordinator and how to structure internal coordination of a project.

Q7: Is it necessary to provide a collaboration agreement with the proposal?

A7: Call Secretariat does not request to provide any drafts or signed collaboration agreements. However, some funding agencies may require some additional documents to be provided in attachment to national application forms. In this case please contact your national funding agency to consult on the type and nature of documents to be provided in addition to certain national applications.

Q8: Does the topic of my project correspond to one of the call themes?

A8: Call Secretariat is not authorized to evaluate if the proposed research topic complies with one of the call themes and therefore does not provide that kind of assessment on request. Compliance of research proposal with selected call theme will be a subject of application evaluation process.

Procedures

Q9: So many applications and deadlines for proposal submission, I'm confused. Who and how should submit applications, can you make it simple and explain once again?

A9: Project Coordinator must submit 1 pre-proposal (Joint Application Form) to the Call Secretariat (via BRICS STI FP AMS at <http://ams.rfbr.ru/BRICS/>). Other project partners do not have to submit any additional proposals to the Call Secretariat, so only one JAF per single project is required. This application will undergo a joint review process and based on the review outcomes project consortia will be invited or not invited to submit a Full Proposal. Each national team (PI) of a project invited to Full Proposal stage must submit a national application to respecting national funding agency (in accordance to the rules of those national funding agencies). In other words, Full Proposal consists of a batch of national applications (on Full Proposal stage there is no submission of any additional proposal to the Call Secretariat). If any of the PI (national team) of the particular project consortia fails to submit a national component to respective national funding organization in due date and time, the Full Proposal will be considered as not submitted.

Q10: There are different deadlines and timelines for submitting applications to Call Secretariat and national funding agencies, which one to follow for our project?

A10: Project coordinator must submit Joint Application Form to Call Secretariat before the deadline set by the Call Secretariat. Each national application must be submitted by project partners to respecting national funding agencies according to the deadlines set for this call by each particular funding agency. The two-stage submission procedure was introduced with the aim to decrease efforts required for proposal preparation and submission from applicants (so only projects invited to Full Proposal stage will have to submit a batch of national applications, unlike it was in earlier BRICS STI FP calls). However, the newly introduced mechanism may lead to greater differences in national application submission deadlines (some participating funding agencies may even start the process of national component submission prior to the Pre-proposals review completion). So it is crucially important that each national PI involved in the project monitors national call announcements and timelines set by particular national funding agencies. The later deadline set by any national funding agency is relevant only for that particular organization and does not provide an opportunity to project partners from other countries to submit applications to other funding organizations or Call Secretariat after respecting deadlines set by them. So basically we are now at the situation when there is a single date and time for submission of Pre-proposals and there are different dates and times for submission of each national component (national application) of Full Proposal.

While participating funding agencies will do their best to co-align the timelines for national application submission during Full Proposal stage, most likely some of the funding agencies will be a bit away from the majority. It can also happen that certain national teams applying for funding to their respective national funding organizations may will be in need to enter the Full Proposals submission stage (submit national component) prior to receiving information on results for respective Pre-proposal review. So in this case, unfortunately, there will be a need to put an effort to prepare a national application prior to knowing the results of pre-proposal review.

The Call Secretariat will make an additional announcement with more details related to Full Proposal stage once the Pre-proposals selection is completed.

Q11: What will happen if all project partners submit national applications but the Joint Application Form will not be submitted to Call Secretariat in due date?

A11: The project will be considered as not submitted to the call.

Q12: Is it possible to submit Joint Application Form to Call Secretariat after the deadline?

A12: No. You can submit application on any day of submission process so there is no need to wait for the last minute in order to submit a proposal.

Q13: Is it possible to modify JAF or information stated in online forms after proposal has been submitted and assigned with number?

A13: Yes, you can retract submitted application via BRICS AMS, modify needed information and submit application once again. Please note that you can re-submit application only before the deadline set for online application submission. If application is not re-submitted before the deadline the project is considered as not submitted to the Call Secretariat. Also please note that after re-submission of application it would be assigned with new application registration number, so the earlier received number will no longer be valid (please make sure that projects partners transmit final registration number to national funding agencies where required). Please also see **Q26** below.

Q14: Is it possible to change some PIs in the project consortia after Pre-proposal was invited to the Full Proposal stage?

A14: Yes, a project consortia can substitute one PI with another during Full Proposal submission. However, please make sure that the information on substitution of PI is communicated to the Call Secretariat by e-mail, and all national applications submitted by project partners during the Full Proposals stage provide updated information about project PIs.

Q15: What is going to happen if some project partner will not submit national application or will be considered as non-eligible by some national funding agency, while the JAF will be properly submitted to Call Secretariat as well as other national applications to respecting national funding agencies?

A15: During Pre-proposals stage some of the funding agencies will not be in a position to perform full eligibility check for respecting national PIs, what may result in a situation when some PIs may be identified as not eligible only after national application submission is completed (Full Proposals stage). If this is a case and a project will still have 3 eligible partners left (all of them requesting funding, see **Q2** above) the project could be evaluated and supported on condition that the non-eligible partner provides a statement that he is willing to participate in the project on own costs. It is the only option to proceed

and it will not be possible to rewrite/modify project proposal to exclude non-eligible partner and re-allocate the tasks between eligible partners.

Q16: Who and how will fund the project in case it is selected?

A16: Each partner in the project will be funded by respecting national funding agency chosen by each particular partner under project submission procedure (stated in JAF).

Q17: How much funds will I get?

A17: Please refer to national annexes provided or contact respecting national funding agency.

Q18: Could Call Secretariat assist me in finding partners for my project?

A18: No, Call Secretariat does not provide partner-search services. Please use other means to find project partners, including specialized partner-search tools.

Technical questions

Q19: I have problems with registration in BRICS AMS...

A19: The system shows to be working fine so if you have technical problems with registration, they are most probably of a permanent nature and related to specific network configurations. One of the problems that may occur from certain BRICS regional networks is that on new user registration page after user has entered “e-mail” and “password” no further action happens when attempting to continue registration. In this case we suggest to try registration from other PC/network or ask your partner from another country to complete registration process for you (as previous calls practice showed, after account is registered the further work in BRICS AMS is not affected by certain national network configuration restrictions and the problem is common only for registration process, but not other actions, including application submission procedure).

Q20: How do I create an application?

A20: On “My Projects” page click “Create new application” button on the right side of the page and on the next page with list of open calls click on “BRICS”. After the creation of the application process is completed, the draft of application will appear on the “My projects” page.



Q21: I have been previously registered in BRICS AMS but do not remember my password...

A21: Please use "The procedure for password recovery in the BRICS AMS". However, there were reported cases when recovery e-mails were not delivered to @hotmail.com, @yahoo.com, @msn.com and @outlook.com servers. If that is the case, please contact Call Secretariat in advance to the deadline.

Q22: What file should I attach as part of Pre-proposal (JAF) submission process?

A22: We ask to attach completed JAF form (should be downloaded from Call announcement page) in *pdf or *doc format. No other files are required to be attached. Please note that Call Secretariat does not provide collected file attachments to BRICS STI FP participating funders, if not specially requested. Therefore, if your national procedures for application require that an additional document shall be provided (such as CVs, Agreements, papers etc.) together with national application, make sure that you provide these documents while submitting national application, but not the JAF.

Q23: Can I upload additional files such as CVs, images etc?

A23: As part of Pre-proposal submission process we request to attach only completed JAF form (PDF format is preferable). All other supporting documents (CVs, Agreements, Letters of Support etc.) will not be considered. If you need to provide any images as part of your project description, they should be inserted in the respecting fields of attached Joint Application Form.

If any additional documents are required to be provided by a particular funding agency, those documents should be provided on the Full Proposals stage as part of national application.

Q24: While submitting an application I have "Minimum number of participating countries is 3!" error message, while I have three countries in my application.

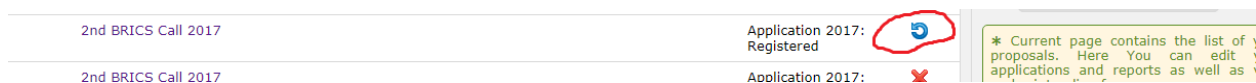
A24: This message appears when at least one of the required fields for some of the project partner is not completed. Please check if you have filled in all the fields for all three selected partners, including "requested funding" field (if a partner participated on own costs – state "0"). Please also see **Q2** above.

Q25: I have submitted an application, how will I get confirmation of submission?

A25: After application submission is completed the status of application on "My projects" page will change to "Registered" and Project number will be changed to "BRICS2021-XXX" (where XXX – your unique number). No notification e-mails or any other type of confirmation will be provided from Call secretariat. Please note that if an application is retracted and re-submitted, it would be assigned with new unique registration number and previously assigned registration number would no longer be valid and appear in the BRICS AMS system (see **Q26** below).

Q26: How can I modify JAF or information stated in online forms after proposal has been submitted and assigned with number?

A26: You can retract application using “retract application” function on “My projects” page. In order to retract an application, please click on “blue round arrow” (as shown below) and confirm your action.



Please note that application may be resubmitted only before the deadline, if no re-submission of retracted application is made before the deadline, application is considered as not submitted (old registration number is also canceled as result of retract action).

For more information please visit <http://brics-sti.org>

Call page <http://brics-sti.org/index.php?p=opportunities/5th+BRICS+Call+2021>

Call Secretariat contacts <http://brics-sti.org/index.php?p=about/Call+Secretariat> (please note that as global COVID-19 pandemic is still in place, e-mail communication is more reliable way to reach Call Secretariat rather than a phone call, as a Call Secretariat member may be hard to reach via the office phone).

National contact points information are provide in the Call announcement text, for general enquiries see <http://brics-sti.org/index.php?p=about/National+Contact+Points>



BRICS Multilateral Joint Science and Technology Research Collaboration National Research Foundation (NRF): 2021 Guidelines

Applicants are advised to consult the NRF General Application Guide 2022

Pre-proposals are submitted directly to the BRICS Call Secretariat. The NRF Online Submission System will only be opened to those researchers who have been approved to submit a full proposal.

Maximum of 6 joint projects will be funded for this call

On 18 March 2015, the BRICS Ministers of Science and Technology signed a Memorandum of Understanding (MoU) to establish a research and development collaborative programme between the BRICS countries. Following the signing of this MoU, the following 12 BRICS Funding Agencies developed a BRICS Science, Technology and Innovation (STI) Framework for supporting collaborative research projects between researchers of the BRICS countries: National Council for Scientific and Technological Development (CNPq, Brazil), Foundation for Assistance to Small Innovative Enterprises (FASIE, Russia), Ministry of Science and Higher Education (MSHE, Russia), Department of Biotechnology (DBT, India), Department of Science and Technology (DST, India), Ministry of Science and Technology (MOST, China), National Natural Science Foundation of China (NSFC, China), Department of Science and Innovation (DSI, South Africa), Medical Research Council of South Africa (SAMRC, South Africa), National Research Foundation (NRF, South Africa), Technology Innovation Agency (TIA, South Africa) and the Water Research Commission (WRC, South Africa). These BRICS funding agencies are hereby pleased to announce the 5th BRICS Multilateral call for 2021, and herewith invite all interested parties to submit their applications, by a date no later than that indicated.

Contained in this document are the NRF national eligibility criteria and funding regulations for South African researchers interested in applying to the NRF for funding.

Aims of the Programme

This Programme aims to:

- support excellent basic and applied research joint projects submitted in specified research fields identified by the BRICS partners through a multinational approach;
- provide an opportunity for emerging researchers (i.e. postdoctoral fellows) within BRICS countries to meet, interact and establish networks for future joint research; and
- contribute meaningfully to research capacity development and research career pathways for young researchers through reciprocal research visits and/or mini sabbaticals (of 3 - 6 months) by doctoral students to the respective partner institutions.

Areas of Cooperation

Joint research proposals should be submitted within the following BRICS designated thematic areas prioritised by the NRF:

1. Transient astronomical events and deep survey science.
2. High performance computing and big data for sustainable development: solving large scale ecological, climate and pollution problems.
3. Materials science and nanotechnology for addressing environmental, climate change, agricultural, food and energy issues.
4. Renewable energy, including smart grid integration.
5. Ocean and polar science and technology.

Please note the attached "**BRICS STI Framework Document**" for a full description on each thematic area mentioned above. South African researchers interested in submitting applications within the other five BRICS themes should apply directly to the other four South African funders, i.e. DSI, SAMRC, TIA and WRC.

Duration of projects

Projects will be supported for a period of three years (2022 to 2024).

Who may apply?

- Working researchers/scientists residing in South Africa and affiliated with a recognised South African public higher education or research institution such as a university, university of technology or science council are eligible to apply. South African Principal Investigators (and HDI based research co-applicants) must be in possession of a PhD. South African researchers are not allowed to serve as Principal Investigators (or research partners) on more than 1 project proposal.
- It is **mandatory** for South African PIs based at historically advantaged institutions (and science councils) to include, as part of the consortium, a research partner from a historically disadvantaged institution. Proposals submitted by an applicant based at a historically advantaged institution without a research partner from a historically disadvantaged institution will be ineligible (and will not be submitted for review). The research collaborator from the historically disadvantaged institution in this case will serve as a co-applicant in the proposal.
- Applicants based at historically disadvantaged institutions including those based at the two new universities, i.e. the Sol Plaatje University (SPU) and the University of Mpumalanga (UMP), can act as PIs and submit proposals without the involvement of and/or partnering with researchers based at historically advantaged institutions if they so wish.
- **Please note** that only the following eight universities are currently recognised as historically disadvantaged in line with the Department of Higher Education and Training November 2019 Ministerial Statement on university funding: University of Limpopo (UL), University of Fort Hare (UFH), University of Venda (Univen), Walter Sisulu University (WSU), University of the Western Cape (UWC), University of Zululand (UniZulu), Mangosuthu University of Technology (MUT), and Sefako Makgatho Health Sciences University (SMU).
- Private higher education institutions are not eligible to apply under this programme. A multi-institutional/ consortia approach will be preferred. Therefore, applicants are allowed to collaborate with other partners such as NGOs or companies. However, the SMEs, private companies, and NGO participants cannot serve as PIs and are expected to meet their participation costs in the joint project.
- Cooperation projects with the potential to be sustained beyond the funding period will be favourably considered.

- Only joint proposals that involve **at least three or more** partners from the BRICS countries will be considered for funding.
- Joint projects that involve young researchers (through reciprocal research visits and mini sabbaticals), postdoctoral fellows and pay attention to government equity targets by ensuring a balanced involvement of female and black researchers will be positively considered and will receive a higher rating.
- In terms of South Africa's transformation agenda applications from previously disadvantaged individuals and the involvement of historically disadvantaged higher education and research institutions will be prioritised.

Which activities may I apply for?

The purpose of this call is to support excellent research on priority areas which can best be addressed by a multi-national approach. The initiative should facilitate cooperation among the researchers and institutions in the consortia which consist of partners from at least three of the BRICS countries. Support will be provided for collaborative multilateral basic and applied research projects. Funds can be used to cover the following costs:

- **Research-related costs** - activities to be supported may include expenses relating to field work such as conducting interviews, surveys, laboratory experiments, research-related trips, small equipment (consumables), etc. Airfare, accommodation, ground transport and subsistence should be calculated using rates as stipulated in institutional travel policies.
- **Reciprocal research visits/ mini sabbaticals by young researchers** - the placements should enable the postgraduate students within the project to learn valuable new skills or techniques; access facilities or resources not readily available at home; build relationships with potential new collaborators; and advance complementary collaborative research. The duration of each placement is expected to be 3-6 months with flexibility to split the placement into several shorter visits. Longer placements may be undertaken where this would add value and these should be justified within the application. Placements must enhance, not replace, the standard training and study support that the postgraduate students receive. These placements must be managed to fit within the original funded period of the studentship. Additional funding will not be made available through this call to support studentship extensions for those undertaking international placements. Applicants should include information about how these reciprocal research visits will be managed. Funds within this programme can only be used for these reciprocal research visits/ mini sabbaticals and not for scholarship/ bursary/ students fees. The honours are on the PIs (and doctoral students) to secure funding for educational expenses of participating students. Doctoral students are hereby advised to apply for scholarship through the NRF call for Student Support which opens the beginning of April each year.
- **2-year postdoctoral research support** – Funds within this programme make provision for one postdoctoral position equivalent to the NRF Freestanding Postdoctoral Fellowship. Therefore, PIs are expected to supervise and mentor a postdoctoral researcher who should be allowed to conduct research, either on a pre-specified aspect of the joint project or on their own designed topic within the joint project and should be supported to publish the work. The responsibilities of this position may also include assisting the PI with the management and administration of the joint project. The postdoctoral fellows should be prepared to become principal investigators so they also take on senior responsibilities like mentoring, grant writing, and teaching.
- **Knowledge sharing costs (science engagement)** - in support of project-related activities, such as joint workshops, seminars, conferences, symposia, lecturer presentations, meetings, local and regional dissemination of results to relevant stakeholders.

In the case of meetings, research visits and exchanges of scientists, personnel, and experts, as well as reciprocal visits undertaken as part of joint research projects and the attendance of seminars, symposia

and other meetings funded under this programme, the sending side will be responsible for financing international travel, visas, medical insurance, accommodation and living expenses. Fees relating to the organisation of events (venue, catering, audio-visual equipment etc.) will also be the financial responsibility of the host investigator which is to be paid from his/ her allocation of the joint funding.

The following are **NOT** to be funded from the NRF funds allocation:

- Consultant's fees
- Large equipment
- Project management fees
- Overheads
- Salaries and temporary staff fees
- Educational expenses (scholarships/ bursaries/ student fees/ educational expenses, etc.).
Doctoral students in need of financial support are advised to apply for scholarship through the NRF call for student support which opens the beginning of April each year.

How much may I apply for?

The total amount requested from the NRF should not exceed R1.5 mil per project. Funding will be made available for a maximum of 3-years, to be paid in annual installments and exclusively for research activities commencing in 2022.

- R 1 070 000 (R356 667 per annum) for research-related activities; reciprocal research visits/ mini sabbaticals by young researchers and science engagement.
- R430 000 for 1 postdoctoral position at R215 000 per annum for 2-years (R155 000 non-taxable stipend, R45 000 contribution towards research costs, and R15 000 compulsory institutional contribution.

Please Note:

- Should you be successful you will be funded only for the activities within the scope of these guidelines.
- Scientific and financial reporting on the project is an **obligatory** condition of funding in subsequent years.
- Requested amounts do not necessarily imply that this amount will be awarded upon selection for funding.

How do I apply?

South African applicants should submit their applications by following the steps below:

Procedure for Submitting a Pre-Proposal:

- Applicants must submit their pre-proposals (mandatory) directly to the BRICS Call Secretariat. All the information on this process can be found through the link: <http://brics-sti.org/?p=new/30>. The deadline for the submission of pre-proposals to the BRICS Call Secretariat is **Thursday, 14 October 2021, 15:00 Moscow Time (UTC+3)**.
- A project consortia must choose an overall Project Coordinator who will take the responsibility for completing and submitting the Joint Application Form (JAF) to the Call Secretariat (via BRICS STI FP AMS at <http://ams.rfbr.ru/BRICS/>). Other project partners do not have to submit any additional proposals to the Call Secretariat, so only one JAF per single project is required.
- Please note that the submitted pre-proposals will undergo a joint review process and based on the review outcomes project consortia will be invited or not invited to submit a Full Proposal.

Procedure for Submitting a Full-Proposal:

- Each national researcher (PI) in a project consortium that has been invited to submit a full proposal **must** submit a national application to their respective national funders in accordance with the funders' rules and regulations. For the full proposal stage there is no submission of

any additional proposal to the BRICS Call Secretariat. If any of the national PI of a particular project consortia fails to submit a national component to their respective national funding agency by the due date and time, the full proposal will be considered as not submitted.

- The NRF Online Submission System (<https://nrfsubmission.nrf.ac.za/>) will be opened only to those researchers who have been approved to submit a full proposal. The deadline for DA submission to the NRF is **Monday, 28 February 2022, 23:59:59 hours SAST**. South African researchers **must** consult their institutions for internal closing dates. Applications received after the closing dates will not be considered for review and for funding by the NRF.
- **Please note** that failure to submit a full proposal to the NRF will make the entire project consortium ineligible.
- When submitting to the NRF, South African PIs **must** attach the required documents in PDF format in the following order: CVs of partners and budgets of partners. Failure to submit compulsory documents will result in the disqualification of the application and will make the entire project consortium ineligible.
- South African PIs are advised to consult the NRF General Application Guide 2022 available at <https://www.nrf.ac.za/funding/framework-documents/funding-framework-documents> for further details on how to apply for this opportunity and for making use of the NRF Online Submission System.
- Researchers are also advised to ensure that their research partners' applications are submitted (that the JAF has been received by the BRICS Call Secretariat and that the full proposals have been received in the partner countries).
- The call process is highly competitive therefore application does not guarantee funding. The evaluation of full proposals from all countries should have positive ratings before consideration for funding. The NRF and BRICS Call Secretariat will not be held responsible for non-submission, administration or evaluation of the application in the partner countries.
- **Please note** the attached "**Frequently Asked Questions document**" for further details on the application procedure.

How are applications evaluated?

Following the NRF closing date indicated above, applications will be subject to a scientific peer review. The panel will include recognised local experts in the various fields of research represented by the proposals received. These experts will evaluate each proposal based on the following broad criteria:

- Scientific quality and innovation of the joint research plan.
- Sound project management, methodological approach, feasibility and appropriateness of joint research plan.
- Added value to be expected from the research collaboration.
- Balanced cooperation.
- Competence, expertise and complementarities of the consortium (interdisciplinary/ all necessary expertise).
- Appropriateness of resources and funding requested.
- Expected impact: e.g. scientific, technological, economic, and/or societal.
- Opportunities for young and emerging researchers for capacity building purposes.
- Partnership/ potential partnership with non-academic partners (e.g. industry, NGOs, etc.).
- Potential for promoting equity and redress.

Following local evaluation, a shortlist of projects to be funded will be constituted through consultations between the NRF and the other BRICS partners based on the results of the evaluations done in all countries.

Project follow-up and reporting

- A final scientific and financial report will be submitted in English by the South African PI and the other project leaders no more than 3 month after the end of the project.
- The report will mention the outputs of the projects compared with the objectives and aims of the proposal.
- The joint publications by the researchers will mention the support from the NRF and partner organisations.

Science engagement

The NRF supports science engagement through its coordination and implementation of the Department of Science and Innovation's Science Engagement Strategy. The strategy embraces a broad understanding of science, encompassing systematic knowledge spanning natural and physical sciences, engineering sciences, medical sciences, agricultural sciences, mathematics, social sciences and humanities, technology, all aspects of the innovation chain and indigenous knowledge. Within this context, science engagement refers to activities, events, or interactions characterised by mutual learning and dialogue among people of varied backgrounds, scientific expertise and life experiences, who articulate and discuss their perspectives, ideas, knowledge and values. Science engagement is an overarching term for all aspects of public engagement with science, science awareness, science education, science communication and science outreach, which aim to develop and benefit individuals and society. Researchers funded through the NRF programmes are required to contribute to science engagement and report the related outputs in their project's Annual Progress Report.

Intellectual property

The researchers of each country, particularly the leaders, must take adequate steps to ensure protection and sharing of the intellectual property that could result from the joint projects.

Ethical Clearance

It is the responsibility of the grant-holder, in conjunction with the institution, to ensure that all research activities carried out in or outside South Africa comply with the laws and regulations of South Africa and/or the foreign country in which the research activities are conducted. These include all human and animal subjects, copyright and intellectual property protection, and other regulations or laws, as appropriate. A research ethics committee must review and approve the ethical and academic rigor of all research prior to the commencement of the research and acceptance of the grant. The awarded amount will not be released for payment if a copy of the required ethical clearance certificate, as indicated in the application, is not attached to the Conditions of Grant. Please also refer to the "Statement on Ethical Research and Scholarly Publishing Practices" on the NRF website at <https://www.nrf.ac.za/media-room/news/statement-ethical-research-and-scholarly-publishing-practices>.

Where can I obtain more information?

For programme content-related queries	For technical and grant-related queries
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