



NRF/NSF Joint Research Programme on Dimensions of Biodiversity

2021 Call for Joint Research Proposals

Closing Date: Consult the General Application Guide 2022

*Please note that the NRF Online Submission System will open on 8 February 2021 for submission of applications. Researchers **must** consult their institutions for internal closing dates.*

One joint project will be funded for this call

The United States of America's National Science Foundation (NSF) Directorate of Biological Sciences and the National Research Foundation (NRF) have formed a partnership to promote opportunities for collaboration between researchers of the United States and South Africa. This collaboration offers United States and South African researchers an opportunity to apply for funding for Joint Research in Dimensions of Biodiversity.

Thematic areas of cooperation

Joint research proposals may only be submitted in the broad thematic area of Biological Sciences. Despite centuries of discovery, most of our planet's biodiversity remains unknown. The scale of the unknown diversity on Earth is especially troubling given the rapid and permanent loss of biodiversity across the globe. The goal of the Dimensions of Biodiversity campaign is to transform, how we describe and understand the scope and role of life on Earth.

This campaign promotes novel integrative approaches to fill the most substantial gaps in our understanding of the diversity of life on Earth. It takes a broad view of biodiversity, and focuses on the intersection of **genetic, phylogenetic, and functional dimensions of biodiversity**.

- Genetic diversity includes genetic, genomic, transcriptomic, and proteomic diversity.
- Phylogenetic diversity refers to reconstructing evolutionary relationships among lineages at and above the level of the population and how these relationships inform taxonomic understanding.
- Functional diversity refers to the roles that organisms play within populations, communities, and ecosystems, including the regulation of ecological processes and the role of key innovations in the generation and maintenance of biodiversity across spatial and temporal scales.

Successful proposals must integrate these three dimensions to understand interactions and feedbacks among them. While this focus complements several core programs in BIO, it differs by requiring that multiple dimensions of biodiversity be addressed simultaneously, in novel ways, to understand their synergistic roles in critical ecological and evolutionary processes, especially pertaining to the mechanisms driving the origin, maintenance, and functional roles of biodiversity.

Below is an indication of the types of joint projects that **will not be considered** under this Programme:

- Joint projects that address only the characterisation of genetic diversity within a single population or species.
- Joint projects that focus on species surveys, discovery, inventories, or descriptions (including projects that solely focus on large-scale sequence acquisition, for example microbiome surveys, without integrating the three dimensions of biodiversity).

- Joint projects that address only taxonomic boundaries (e.g., species delimitation) using genetic markers.
- Phylogenetic and/or phylogeographic studies that do not also address the genetic and functional aspects of the focal group(s)
- Joint projects that focus wholly, or in part, on marine biodiversity and/or marine environments.

Joint research projects must therefore ensure that they integrate all three dimensions of biodiversity (i.e. genetic, phylogenetic, and functional dimensions) with the goal of understanding the complex interactions and dynamic feedbacks among these dimensions. Innovative approaches that accelerate the characterisation and understanding of these three dimensions of biodiversity are encouraged, as are empirical, experimental, theoretical, and modeling approaches. Joint projects may incorporate the context provided by one or more drivers of biodiversity loss (e.g. climate change; over-exploitation of natural resources; planetary re-engineering such as land use change, water diversions, coastal development, fertilizer use; and the intentional or unintentional movement of species), but this is not a requirement of the solicitation. Joint projects that also develop original computational methods or technology that will be useful to a wide community of researchers (e.g., informatics, instrumentation, imaging, analysis) and other tools specific to integrative biodiversity studies are also welcome.

Aims of the dimensions of biodiversity programme

The Dimensions of Biodiversity program aims to characterise biodiversity on Earth by using integrative, innovative approaches to rapidly fill the most substantial gaps in our understanding of the diversity of life. Successful joint projects are expected to develop and incorporate new approaches to rapidly reduce unknown dimensions of the biodiversity of our living world. The Programme aims to:

- build on existing, outstanding and established research partnerships;
- support the advancement of basic research;
- contribute to scientific advancement in both countries through the funding of joint research activities in specified research fields;
- provide an opportunity for young researchers in the two countries to meet and interact through the funding of researchers' exchange programmes in the frame of joint research projects in specified research fields; and
- contribute meaningfully to research capacity development.

Please Note:

- In terms of human capital development, joint projects that involve young scientists (i.e. doctoral students) and pay attention to gender equality (a balanced involvement of female and male researchers) will be positively considered and will receive a higher rating.
- In terms of the South African transformation agenda, South African applications from previously disadvantaged higher education and research institutions and the involvement of previously disadvantaged individuals will be prioritised.

Duration of support

The successful project will be supported for a period of five years.

Who may apply?

Each proposal under this Programme must have one main applicant based in South Africa and one main applicant based in the United States. They are the **Principal Investigators (PIs)** and they bear the main responsibility for the project including its technical and administrative coordination as well as timely delivery of scientific and financial reports.

South Africa:

- Only 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.
- Private higher education institutions are not eligible to apply under this programme.
- The SMEs, private companies/industries, and NGOs cannot serve as a PI but can form part of the research consortium.
- It is “*obligatory*” for South African PIs based at historically advantaged institutions to include, as part of the consortium, a research partner from any of the historically disadvantaged institutions. 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 partner from the historically disadvantaged institution in this case, can serve as a co-applicant in the proposal.
- Applicants based at historically disadvantaged institutions 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:

Please note that only the following eight universities will be recognized as historically disadvantaged in line with the Department of Higher Education and Training November 2015 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)
- Sefako Makgatho Health Sciences University (SMU)

United States:

NSF Proposal and Award Policies and Procedures Guide (PAPPG) guidelines apply. The complete text of the PAPPG is available electronically on the NSF website at:

https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg.

Please note that the NSF is running the same Biodiversity Programme with two other countries, i.e. China – in partnership with the National Natural Science Foundation of China (NSFC) and Brazil – in partnership with the São Paulo Research Foundation (FAPESP). Therefore the US and South African PIs are allowed to submit a multilateral joint project, incorporating other research partners from China and/or Brazil into their project, should this bring added value. PIs should ensure that all the partners in their joint projects are eligible to receive funds from their funders (i.e. NSF, NSFC and FAPESP) in order to cover their costs of participating in the project. It is also important to ensure that both the Chinese, and Brazilian partners directly submit the application to their funders as well.

Which activities may I apply for?

The purpose of this funding is to support joint research, human capacity development, mobility, and research exchanges between researchers, Postdoctoral, Doctoral and Masters’ students within the joint projects. From the NRF side, funding will be made available for the following joint research activities undertaken as part of the joint research project.

▪ Research-related costs

Activities to be supported may include expenses relating to field work such as conducting interviews / surveys / laboratory experiments, research-related trips of the research teams between the partnering countries, etc. Airfare, accommodation, ground transport, subsistence, visa and health insurance costs should be calculated using rates as stipulated in institutional travel policies.

- **A 2-year postdoctoral position**
The funds make provision for one postdoc position equivalent to the NRF Freestanding postdoctoral fellowships. The responsibilities of this position may also include the management and administration of this project.
- **Masters, doctoral and postdoctoral research placements**
The placements should enable the postgraduate students within the project to (1) learn valuable new skills or techniques; (2) access facilities or resources not readily available at home; (3) build relationships with potential new collaborators; and (4) 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 exchanges will be managed within their proposal.
- **Knowledge sharing costs (science engagement)**
In support of activities organised by the partners, such as joint workshops, seminars, conferences, symposia, lecture presentations, capacity building sessions, meetings, local/regional dissemination of results aimed at involving stakeholders, and/or end-users from outside the consortium with a minimum of 10% of the grant budget.
- **Small equipment, consumables and accessories**
Up to a maximum of 25% of the budget may be budgeted for this item.

The following will **NOT** be funded from the **South African** side:

- Consultant's fees
- Salaries and temporary staff fees
- Large equipment
- Overheads

Funding modalities

South Africa:

The total amount requested from the NRF should not exceed R5.6 mil per project. Funding will be made available for a maximum of 5 years, to be paid in annual instalments and exclusively for research activities commencing in 2022. The funds per project have to be utilised as follows:

- R5 mil per project for research activities, mobility costs of the research team, small equipment and knowledge sharing costs per project (R1 mil per year).
- 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).

Postgraduate student support

- **Up to 5 (3-year) doctoral positions**
For further details on the eligibility and funding criteria refer to the [NRF Postgraduate Funding Policy](#). The PI is expected to encourage his or her students to apply for bursaries when the call for Student Support opens on 1 April 2021 for bursaries in 2022. The PI should provide the students with his/her NRF/NSF application reference number to include in their applications. When new students want to apply for support from 2023, they must use the PI's grant number (**UID number**) which will be provided

by the NRF on the Letter of Award. For further details on the NRF Postgraduate Funding policy, kindly refer to **ANNEXURE A** at the bottom of this document.

United States:

Total amount requested from the NSF should not exceed \$2 000 000 per project. Funding will be made available for a maximum of 5 years for research activities commencing in 2021.

How do I apply?

The onus is on applicants to find their own research partners. Proposals must be received in both South Africa (NRF) and United States (NSF) – and in the 3rd and 4th partner country in case of a multilateral project. Proposals which have not been received in all countries will not be considered for funding. The call process is highly competitive therefore application does not guarantee funding. Funders will not be held responsible for non-submission of the application in the partner country.

South Africa:

Applications must be submitted through an online application process to the NRF on the NRF Online Submission System at <https://nrfs submission.nrf.ac.za/>. Applicants must attach the required documents in PDF format in the following order: CV of partner and the budget of partner. Failure to submit compulsory documents will result in the disqualification of the application. Applicants are further 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.

United States:

Details on how to apply for funding from NSF:

- Full Proposals submitted via FastLane:
https://www.nsf.gov/publications/pub_summ.jsp?ods_key=pappg
- Full Proposals submitted via Grants.gov:
https://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide.

This call requires an endorsement letter from the Institution's Research Office (Designated Authority) to confirm that the application was submitted to the NRF in South Africa. This letter should be sent to the US Partner Principal as indicated on the application.

Joint project proposals

Please note that the **Project Description** for all proposals, must include:

- A description of how the project integrates the three dimensions of biodiversity, as defined above.
- Details about why the work represents an innovative approach to biodiversity research.
- Information about how the work will rapidly increase understanding of biodiversity.
- Identification of the substantial gap(s) in biodiversity knowledge that will be filled by the proposed joint research.
- "Broader Impacts": a discussion of the broader impact of the proposed activities.

How are applications evaluated?

Reviews will be conducted jointly with NSF and reviewers will be requested to evaluate all proposals against two main criteria, as follows:

1. Intellectual Merit:

- The Intellectual Merit criterion encompasses the potential to advance knowledge.

2. Broader Impacts:

- The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

The following elements will be considered in the review for both criteria:

- What is the potential for the proposed activity to:
 - advance knowledge and understanding within its own field or across different fields (Intellectual Merit); and
 - benefit society or advance desired societal outcomes (Broader Impacts)?
- To what extent do the proposed activities suggest and explore creative, original or potentially transformative concepts?
- Is the plan for carrying out the proposed activities well-reasoned, well-organised and based on a sound rationale?
- How well-qualified is the individual (and team) identified to conduct the proposed activities?
- Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?

The project selection will be carried out by both funders through consultations.

Projects follow-up and reporting

- Principal Investigators are expected to submit progress reports to the NRF annually. Funds for the subsequent years will not be released by the NRF without a Progress Report (PR).
- A final scientific and financial report should be submitted by both the South African and the US project Principal Investigators no more than 3 months after the end of the project.
- The report should mention the outputs of the projects compared with the objectives and aims of the proposal.
- The joint publications by the researchers should mention the support from all the funders (e.g. NRF and NSF).

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 PIs, 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 grantholder, 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>.

Closing date for applications

The deadline for submission to NSF is **26 March 2021**.

The deadline for DA submission to the NRF is **31 March 2021**. South African researchers **must** consult their institutions for internal closing dates.

Applications received after the closing dates will not be considered for funding. Please note that neither the NRF, NSF nor other funders will be held responsible for applications that were not received. Researchers are also advised to ensure that their research partners' applications are submitted and have also been received in the partner country.

Contact details for queries and further information

| For NRF, South Africa | For NSF, USA |
|--|---|
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ANNEXURE A

POSTGRADUATE STUDENT FUNDING POLICY

Postgraduate student support

The National Research Foundation (NRF) has developed a new Postgraduate Student Funding Policy that will use postgraduate student funding as a lever to address the challenges of inequity of access, success and throughput. The policy is underpinned by the pursuit of research excellence in all of its dimensions and has transformation of the postgraduate cohort as the core objective. Its purpose is to retain high academic achievers in the system to pursue postgraduate studies up to the doctoral level, as part of a national drive to grow the next generation of academics to sustain South Africa’s knowledge enterprise. The NRF is prioritising postgraduate students with research inclination, with the aim to grow the pool of early career researchers. Another motivation for this policy is to fast-track the development of postgraduate students in high-impact, priority and vulnerable disciplines critical for national socio-economic development.

From the 2021 academic year onwards, the NRF will be phasing out the block grant nomination process as well as the grantholder-linked modalities of funding postgraduate students. All the postgraduate students will be expected to apply on the NRF Online Submission System by accessing the link: <https://nrfsubmission.nrf.ac.za/>. This single entry point will allow the NRF to coordinate the applications that have not yet had the financial means test conducted. This financial means test will be conducted by Ikusasa Students Financial Aid Programme (ISFAP). Postgraduate students will be funded either at Full Cost of Study (FCS) or Partial Cost of Study (PCS) under the new policy. To ensure equity of access to postgraduate studies, financially needy students (i.e., those whose combined household income is R350 000 per annum or less) and students with a disability will be funded at FCS. Academic high fliers achieving a distinction or first-class pass will also be eligible for funding at FCS. International students as well as any other South African student who is not eligible to be funded at FCS will be eligible for PCS funding.

The students are expected to meet the NRF minimum entry requirement in order to be eligible for FCS or PCS as illustrated in **Table 1** below.

Table 1: Eligibility criteria for NRF postgraduate funding for FCS and PCS.

| Study Level | Full Cost of Study <i>(South African Citizens and Permanent Residents only)</i> | | Partial Cost of Study <i>(South African Citizens; South African Permanent Residents and 5% Non-South African Citizens)</i> |
|-------------|--|---|---|
| | Exceptional Achievers | Financially Needy & Students with Disability | Other |
| Honours | <ul style="list-style-type: none"> • ≥ 75% Mark in Final Year of study | <ul style="list-style-type: none"> • ≥ 65% Mark in Final Year of study | <ul style="list-style-type: none"> • ≥ 65% Mark in Final Year of study |
| | <p>Honours students must be 28 years of age or younger in the year of application. Non South African Citizens are not eligible for Honours Scholarships.</p> | | |
| Masters | <ul style="list-style-type: none"> • ≥ 75% Mark for Honours • Completed Honours in one year | <ul style="list-style-type: none"> • ≥ 65% Mark for Honours • Completed Honours in one year | <ul style="list-style-type: none"> • ≥ 65% Mark for Honours • Completed Honours in one year |
| | <p>Masters students must be 30 years of age or younger in the year of application.</p> | | |

| | | | |
|-----------------|--|--|--|
| Doctoral | <ul style="list-style-type: none"> • ≥ 75% Mark for Masters • Completed Masters in two years | <ul style="list-style-type: none"> • ≥ 65% Mark for Masters • Completed Masters in two years | <ul style="list-style-type: none"> • ≥ 65% Mark for Masters • Completed Masters in two years |
| | Doctoral students must be 32 years of age or younger in the year of application. | | |

In cases where a grade is not indicated, the application will not be considered for funding by the NRF.

The NRF will allocate all postgraduate bursaries under its management control as follows:

- 95% South African citizens and permanent residents;
- 5% students from SADC countries and from the rest of the world; and
- 55% women.

The NRF disaggregates these targets for South African citizens and permanent residents as follows:

- 90% Black (African, Coloured, and Indian);
- 10% White; and
- 1% students living with a disability.

For further details on the NRF Postgraduate Funding policy, kindly refer to the framework document which is available on www.nrf.ac.za.