



DSI-NRF Centre of Excellence for  
Integrated Mineral and Energy Resource Analysis

**DSI-NRF CIMERA ANNUAL FUNDING CALL  
CALL FOR NEW PROJECT SUPPORT FOR 2022**

**Call opens: Friday 19 March 2021**

**Call closes: Monday 10 May 2021**

**Submissions to: [cimera@uj.ac.za](mailto:cimera@uj.ac.za)**

**Enquiries: [nwagner@uj.ac.za](mailto:nwagner@uj.ac.za)**

### **OVERVIEW**

All academics are encouraged to submit new project proposals related to economic geology. Please follow the process outlined below. Please identify suitable students a.s.a.p. DSI-NRF CIMERA are also issuing a call for interest to students and we may be able to assist academic collaborators to find potential students. To obtain CoE funding in 2022, the project must be approved by the Scientific Advisory Committee (SAC). Academics submit a new project proposal; the proposal is approved / not approved by the SAC; the supervisor provides the project to a potential student and assists the student with the NRF online application prior to the institution internal deadline (21 June 2021 at UJ; 23 June 2021 at Wits). All potential students MUST apply via the online system. The CoE may have some funds available in 2022 to assist with further bursaries / top-up funds / running costs. Free standing bursary applicants may also use the CoE approved projects in collaboration with the supervisor, without the UID.

### **DSI-NRF CIMERA GOAL AND FOCUS**

DSI-NRF CIMERA serves as a central hub for research and human resource development in mineral and energy resource analysis in Africa. The primary focus of DSI-NRF CIMERA is to perform high quality, world-leading, basic and applied research on the vast mineral and fossil fuel resources in, not only South Africa, but in Africa as a whole. The knowledge so obtained ensures optimum and sustainable extraction and utilization of the natural resources. This is aligned with one of the South African Government's national strategies, recognizing that mineral and fossil energy resources represent cornerstones of the country's economy.

DSI-NRF CIMERA is funded by the Department of Science and Innovation (DSI) and the National Research Foundation (NRF), with contributions from the University of Johannesburg and the University of the Witwatersrand, the respective host and co-host institutions. Centres of Excellence (CoEs) are mandated by the DSI to supplement funding through collaborative industry and internationally funded projects.

DSI-NRF CIMERA places much emphasis on funding postgraduate student bursaries and running costs for student research projects **in economic geology** in order to ensure the supply of properly qualified human resources for the future of the mineral and energy resource industries on the continent and abroad.

In 2020, DSI-NRF CIMERA received 66 applications for funding, of which 36 were selected for full or partial funding. In 2021, we are directly supporting 71 Hons, MSc, PhD, PDRF (Postdoctoral Research Fellow), and Research Associate (RA) projects. Unfortunately, our pool of money obtained from the NRF will not increase, but the number of people wishing to conduct research under the umbrella of DSI-NRF CIMERA continues to increase. Hence, the call for funding will become increasingly competitive, and applicants are encouraged to seek co-funding. Over 70% of the funds allocated to DSI-NRF CIMERA by the NRF directly supports research projects.

The NRF implemented its new online bursary application process in 2020, to which DSI-NRF CIMERA complied. The two-stage process is to be followed again in 2021 for 2022 bursaries, as explained below.

## 1. Hons, MSc and PhD bursary application process

**Note: PDRF applicants do NOT apply via the NRF online system for funding. The CoE funds these applicants directly.**

To obtain a CoE NRF bursary for 2022, the student HAS TO apply for the bursary via the NRF online application system; this system opens 1 April 2021. The student can complete the CV and additional information at this time. To complete the application, the student must have a CoE approved project proposal and supervisor in order to apply via whichever institution he/she wishes to study. The student will add the DSI-NRF CIMERA Unique Identification Number (**UID 91487**) to the application in order for the Host Institution and NRF to link the application to our CoE. The bursary is awarded directly to the student by the NRF; funds are not managed by the CoE.

The NRF will award a full or partial bursary depending on:

- (a) Academic achievement (above 65%)
- (b) A financial means test
- (c) NRF diversity targets:
  - >55% Female
  - >90% Black (African; Coloured; Indian)
  - <10% White
  - >90% South African citizens and /or permanent residents
  - 5% Southern African Development Community (Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia, Zimbabwe.
  - 5% Rest of the world

Students are required to have a final mark of 65% or above in their major subjects in 3<sup>rd</sup> Year undergraduate studies (for Hons applicants), a final Honours mark of 65% or above (for MSc applicants), or a final MSc mark of 65% or above (for PhD applicants). The NRF bursary award will be provisional until the final mark is obtained and the student registers at his/her Home Institution. All applicants will be means tested, and the NRF will adhere to diversity targets.

All students considering upgrading from MSc to PhD are required to apply through this call. Funding for the conversion degree is not automatic. The project must be approved / reapproved by the SAC.

## 2. Project Funding Application process

DSI-NRF CIMERA SAC will determine which new projects to support in 2022 by means of this call. All proposals for Honours, MSc, PhD and PDRF projects will be assessed.

**Supervisors need to identify suitable candidates a.s.a.p.** It is possible to apply to DSI-NRF CIMERA without an identified student, but for the project to run in 2022, a student must have been allocated the project before the Home Institution internal closing date. The CoE will distribute a call for interest for potential students and will attempt to link students to potential supervisors.

**Supervisors** must complete this project template accurately, providing all the required information. It is a distinct advantage if collaboration with industry, and / or parastatal organisations, and / or other universities (SA and internationally) is evident. And the link to economic geology is essential. **Each institution should screen the applications for completeness and accuracy before submission to DSI-NRF CIMERA.**

A detailed running cost budget is not required (beyond what is requested on the template), but elaboration on additional / supplementary funding sources will be a distinct advantage.

The DSI-NRF CIMERA SAC will assess all complete applications, and each project is scored. The merits of each project are discussed at the SAC meeting, and feedback is provided. Please refer to the timeframes below. No late applications will be accepted.

Academic staff who already hold DSI-NRF CIMERA funding, but who have a number of overtime students, may be ineligible to apply for further funding until their current students have completed their studies. Academic staff must ensure that the appointed students are familiar with the DSI-NRF CIMERA bursary requirements and timeframes. No overtime student may be funded through this call; please refer to call for extension grants.

## Timeframes 2021 for 2022 applications

Friday 19 <sup>th</sup> March	Call for proposals opens
Monday 10 <sup>th</sup> May	Final deadline - <b>NO PROPOSALS WILL WE BE ACCEPTED AFTER THIS DATE</b>
11 <sup>th</sup> – 14 <sup>th</sup> May	Compilation and internal screening for completeness by Admin Manager; submission to SAC
15 <sup>th</sup> – 28 <sup>th</sup> May	Evaluation and scoring by SAC members; return feedback to Admin Manager
1 <sup>st</sup> or 2 <sup>nd</sup> June	SAC meeting to discuss scores, and list accepted projects
3 <sup>rd</sup> – 5 <sup>th</sup> June	Distribution of project proposal outcome letters. <b>Supervisors to inform potential students to apply for bursaries on the NRF online system as soon as possible. Late applications will NOT be accepted by the NRF. ACADEMICS NEED TO NOTE THEIR INSTITUTIONAL CLOSING DATES (e.g. UJ 21 June; Wits 23 June)</b>
November	Steering Committee meeting for endorsement of projects and 2022 Business Plan
December	NRF will inform applicants of bursary outcomes

## Funding (2022)

The NRF has announced the following indicative funding allowances:

- Honours projects: full cost of study maximum R148 715 for one year (); partial cost of study maximum R100 000 for one year.
- MSc bursary: full cost of study maximum R166 713 for two years, depending on satisfactory progress after Year one (); partial cost of study maximum R100 000 for two years, depending on satisfactory progress after Year one.

- PhD bursary: full cost of study maximum R173 713 for three years, depending on satisfactory progress annually (); partial cost of study maximum R90 000 for three years, depending on satisfactory annual progress.
- MSc – PhD conversion: maximum total support for 4 years
  - *If a student upgrades after Year 1 of an MSc study, regardless of the source of the bursary, DSI-NRF CIMERA will budget for 3 years of funding to complete the PhD (4 years of study). The student HAS to apply to the NRF for the 4<sup>th</sup> Year extension; it is NOT automatically granted.*
  - *If a student upgrades after Year 2 of an MSc study, regardless of the source of the bursary, DSI-NRF CIMERA will budget for 2 years of funding to complete the PhD. (4 years of study) The student HAS to apply to the NRF for the 4<sup>th</sup> Year extension; it is NOT automatically granted.*

The actual value awarded to the student will be determined by the NRF, based on the financial means test.

Please note: the partial costs bursary provides R50 000 towards tuition fees and R50 000 towards university approved accommodation. Should the student not require the full R50 000 for tuition fees, the NRF will retain the remainder (not the CoE). The partial cost bursary does NOT provide for a stipend / living allowance.

**DSI-NRF CIMERA will continue to provide the following funding towards project running costs (per project and disbursed by the supervisor):**

- Hons: R15 000 (max.)
- MSc: R40 000 (max.)
- PhD: R50 000 (max.)
- Running costs per supervisor/ DSI-NRF CIMERA Researcher: R40 000 per annum irrespective of number of projects. (Note: These funds must be used in year awarded as they are NRF funds.)

The supervisor must alert the student to the conditions of the bursary contract with the NRF, signed on commencement of the study. **The contract obligates the student to repay the bursary to the NRF if he/she does not complete their degree.** In addition, the student has to sign our CoE Specific grant conditions that lists additional conditions he/she has to accept.

The 2<sup>nd</sup> or 3<sup>rd</sup> year of funding is only released on receipt of an acceptable annual student progress report (APR) submitted by the supervisor. Funding is linked to performance, which is managed by the supervisor.

The NRF requires students to complete their MSc studies with 2.5 years, and PhD studies in 3.5 years; MSc – PhD conversions need to be completed within 4.5 years. DSI-NRF CIMERA funding cannot be used to fund overtime students, even if they previously received a bursary from another source (i.e. DSI-NRF CIMERA funding cannot support the 3<sup>rd</sup> or subsequent years of an MSc registration).

**ALL APPLICANTS ARE ENCOURAGED TO APPLY FOR ADDITIONAL SOURCES OF FUNDING.** Holders of other bursaries can apply to DSI-NRF CIMERA for running costs and top-up bursaries, if required and where the total amount does not exceed the values noted above.

## Submission of Applications

Please complete the attached template and submit by **Monday 10 May, 2021**, to [cimera@uj.ac.za](mailto:cimera@uj.ac.za). Final decisions will be circulated by **5 June, 2020**.

Each project should fit into one of the focus areas as shown in Table 1. Exceptions are possible as long as the project clearly relates to economic mineral resource / economic geology research. The applicant may contact the focus area champion to discuss project ideas and seek collaboration. Note that geometallurgy, geophysics, small-scale mining, sustainable development, and environmental issues projects should ideally fit within a focus area / commodity.

**Table 1. Research Focus Areas (we are in the process of refining the focus areas and reappointing Champions). PLEASE NOTE THE FOCUS AREA NUMBER AND DETAIL MAY HAVE CHANGED**

	<b>Focus Area</b>	<b>Champion</b>
1	<b><u>Deep earth, early earth, mantle and crustal processes and metallogenesis:</u></b> Mineral deposit evolution in the Archaean and Proterozoic eons and the impact of the Great Oxidation Event on mineralization systems. The study of kimberlites and diamonds.	Contact Prof Wagner in interim
2	<b><u>Metallogeny and Paleogeographic Implications of Layered Igneous Complexes (LICs) and Large Igneous Provinces (LIPs):</u></b> The main focus is on the Bushveld Complex combined with studies on the Molopo Farms, Uitkomst and Kunene Complexes, and LIPs such as the Umkondo LIP, supplemented with geochronological studies and paleomagnetic reconstructions of ancient supercontinents.	Contact Prof Judith Kinnaird (Wits) in interim
3	<b><u>Gold deposits:</u></b> Covering all gold deposits in South Africa and Africa; gold ore refining; gold recovery and related environmental studies.	Contact Prof Wagner in interim
4	<b><u>Manganese and Iron Ore Deposits:</u></b> The major focus is on the characterization of the giant Kalahari Manganese Deposit and the high-grade Sishen-type iron ore deposits of the Transvaal Supergroup in the Northern Cape Province, with a secondary focus on manganese and iron ore deposits in other parts of Africa. These focus areas are coupled with studies on iron formations to gain a better understanding of the depositional settings of the ore protoliths, geochronology to understand the timing of metallogenesis and geometallurgical studies to ensure proper future utilization of the deposits, including low-grade ore resources.	Dr Bertus Smith (UJ)
5	<b><u>Critical raw materials</u></b> Although the list of critical metals may vary from year to year and from country to country, it is recognized that some are in short supply. There are many elements of growing interest, such as indium and germanium, which have had little use historically. The major focus is on assessing those critical metals that are available in Africa.	Prof Paul Nex (Wits)
6	<b><u>Base metals</u></b> To include deposits of lead, copper, zinc, other metals not considered currently as critical raw materials.	Contact Prof Paul Nex (Wits) in the interim
7	<b><u>Energy Resources:</u></b> Coal will remain the major form of energy in South Africa for the foreseeable future. But, coal and by-products (ash) can find application in many different industries. Other potential energy and carbon-based chemical sources in South Africa include shale gas, oil, and natural gas.	Prof Nikki Wagner (coal) (UJ) Prof Ray Durrheim (oil & gas) (Wits)
8	<b><u>Environmental Geology:</u></b> Focus on reclamation of old mine dumps and minimizing the effects of mining on the environment.	Prof Jason Ogala (Univen)
9	<b><u>Geology for Society</u></b> To include: geoheritage; earth science education; advanced analyses.	Contact Prof Wagner in interim

**Geometallurgy:** Prof Viljoen (UJ); **Geophysics:** Prof Manzi (Wits); **Small-scale mining:** Mr Senzani (UJ)



<b>NEW projects: proposed work plan / methodology</b> (bullet points work best here). <b>Please attach a GANNT chart</b> with key milestones addressing research questions / objectives.	Complete if a new proposal  DELETE THIS SECTION IF NOT APPLICABLE
<b>EXISTING projects:</b> Please clearly state what has been achieved, and the work plan going forward (GANNT Chart or similar). Include any outputs (conference presentations, papers).	Complete if this is an existing project not previously funded by DSI-NRF CIMERA and requesting funding in 2022.  Please complete for MSc to PhD conversions  DELETE THIS SECTION IF NOT APPLICABLE
<b>Location of analytical equipment.</b>	Please ensure you have confirmed that the equipment is available for your project; contact the instrument specialist. The SAC may check this has been done.
<b>Benefit to Economic Geology, industry, society, and / or the environment (VIP)</b> (1 paragraph).	VIP: must be completed
<b>References cited</b> (single spaced, bullet; may be abbreviated to save space).	

**BUDGET (in Rands)**

*Note that bursary and running costs are capped (see above), so please be realistic.*

	Year 1	Year 2	Year 3
<b>Bursary</b> (PhD, MSc – refer to notes above).	<b>NRF</b>	<b>NRF</b>	<b>NRF</b>
<b>Fieldwork</b> (subsistence and travel costs).			
<b>Estimated analytical costs.</b>			
<b>Conferences</b> (registration, travel, accommodation etc)			
<b>Computer / software</b>			
<b>TOTAL (Rands)</b> <b>NOTE CAPPED VALUES</b>			

**Elaborate on co-funding (in-kind or financial) (1 paragraph): Very Important.**