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Framework & Funding Guide for the DSTI/NRF- TETA Research Chairs in Research Chair in Agile Transport and Skills Development

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1. Strategic Background

1.1. Context

The need for South Africa to transform its workforce in Science, Engineering, and Technology (SET) has long been recognized in national policy. Earlier frameworks, such as the National Research and Development Strategy (2002) and the White Paper on Science and Technology (1996), highlighted the importance of developing a skilled and diverse SET workforce. More recently, the Science, Technology, and Innovation (STI) Decadal Plan (2022)—building on the vision set out in the 2019 White Paper on STI—has reaffirmed this priority. It emphasizes two key objectives: advancing research and strengthening the National System of Innovation (NSI), while ensuring that research delivers tangible solutions to South Africa’s socio-economic challenges.

In order to achieve the abovementioned goal, the South African Research Chairs Initiative (SARChI) was established in 2006 by the Department of Science, Technology and Innovation (DSTI). This funding instrument is managed by the National Research Foundation (NRF) through a contractual agreement with the DSTI. SARChI is a strategic intervention of the South African government designed to attract and retain research excellence and innovation at South African public universities, Research Councils and National Research Facilities. In particular, SARChI is aimed at increasing scientific research capacity through the development of human capacity and stimulating the generation of new knowledge. SARChI is also intended to support and advance transformation of the South African society in terms of demographics and the knowledge economy, so that there is equitable and inclusive participation in the generation of knowledge and that the generation of such knowledge translates into socio-economic benefits.

1.2. Research Chairs in Agile Transport and Skills Development

The transport sector is a critical pillar of South Africa's economy, contributing significantly to the GDP and employment. However, the transport sector is grappling with inefficiencies, outdated infrastructure, and a significant skills gap that hinders its ability to adapt to emerging technologies and global trends such as digitalization, automation, and climate change. A critical challenge is the outdated curricula in Higher Education Institutions (HEIs) and Technical and Vocational Education and Training (TVET) colleges, which fail to equip the workforce with the skills needed to navigate a rapidly evolving sector. This disconnect between education and industry needs has resulted in a workforce that is ill-prepared for the demands of agile transport systems, sustainable practices, and digital transformation.

Compounding this issue is the high rate of youth unemployment, which underscores the urgent need for targeted skills development programmes that can create pathways into the transport sector. Without immediate intervention, the sector risks falling further behind global advancements, limiting its ability to drive economic growth, job creation, and sustainable development. Addressing these challenges requires a focused research agenda that identifies emerging skills gaps and develops responsive training programmes to bridge the divide, ensuring a future-ready transport workforce and inclusive economic opportunities.

It is against this background that the Transport Education and Training Authority (TETA) has collaborated with the NRF to establish a Research Chair in Agile Transport and Skills Development.

2. Aims and Objectives of SARChI

The main aim of SARChI Chairs is to strengthen and improve research and innovation capacity of public universities in order to produce high quality postgraduate students and research outputs. The objectives remains as follows:

- Expand the scientific research and innovation capacity of South Africa;
- Improve South Africa's international research and innovation competitiveness, while responding to social, economic and transformation imperatives of the country;
- Attract and retain excellent researchers and scientists;
- Increase the production of Masters and Doctoral graduates; and
- Create research career pathways for young and mid-career researchers, with a strong research, innovation and human capital development output trajectory.

3. Guiding Principles

The following principles will inform the awarding of the SARChI Chairs:

- Applications for the Research Chair is administered through a directed Open Call accessible to all public institutions of higher education in South Africa. Each university may nominate a candidate/s who must submit an application separately.
- While all demographic groups may apply, preference will be given to females and Blacks, in particular African South Africans and Coloured candidates because they are grossly underrepresented in the SARChI Funding Instrument.
- There will be no pre allocation of Chairs. All applications will be subjected to the same robust two stage peer-review and adjudication processes for the SARChI.
- The institution may nominate and submit applications from eligible candidates from abroad, specifically females of any race or Africans and

Black South Africans of any gender in the diaspora. Applicants from abroad will only be considered for Tier 1 Research Chairs and must be willing to spend 50% of their time at the South African university.

- Each application for the Research Chair must be in alignment with the university's Research Strategy, and its Programme and Qualification Mix (PQM) approved by the Department of Higher Education and Training;
- The Chair-holder will be expected to dedicate at least 80% of their time conducting research and in the process supervising an average of 10 Masters and Doctoral students per annum as well as mentoring Emerging Researchers or postdoctoral fellows. Demographics of postgraduate students supervised by the Chair must be aligned to the NRF Student policy.
- Research Chairs are tenable at Tier 1 and Tier 2 levels.
- Candidates appointed without an NRF rating are encouraged and required to get rated within the first funding cycle.

4. Accountability for Chairs

The Deputy Vice-Chancellor responsible for research at the South African host university will be directly accountable for the Research Chair. The chair will fit into the normal management structures of the host institution and will report in consultation with the Dean(s) and Head of Department, directly to the DVC of Research.

5. Profile and Minimum Requirements of Candidates

1. The candidate must have a doctoral qualification in the relevant field
2. The candidate must be at least an Associate Professor¹ at the time of application

¹ Candidates that are still applying for professorship at their respective institutions should not apply until these have been approved.

3. Must be an established researcher that is at least recognised nationally in their respective research field
4. Must have an extensive research profile, including peer-reviewed journal articles and other recognised knowledge outputs
5. Must have an extensive student supervision record and the ability to attract, recruit and train postgraduate students in the field of study that they are applying for.

6. Research Areas and scope

The proposed aim of the Research Chair is to advance research and innovation in agile transport systems and skills development, with a focus on identifying skill gaps and developing targeted training programmes to address them.

The work of the Research Chair in Agile Transport and Skills Development will be guided by the following objectives:

- To conduct research that identifies emerging skills gaps in the transport sector, particularly in areas such as digital transformation, automation, and sustainability.
- To develop and implement training programmes and short learning programmes that address the skills gaps identified through research.
- To collaborate with HEIs, TVET colleges, and industry stakeholders to ensure that training programmes are aligned with industry needs and national priorities.
- To contribute to the updating of HEI and TVET curricula, ensuring that educational offerings keep pace with technological advancements and sectoral demands.

7. Application, Review and Selection Process

The SARChI applicants who are established researchers and meet the minimum requirements as outlined above must submit an application that include: (i) the suitability of a candidate for appointment to the Research Chair position; (ii) a research and activity plan with concomitant budget drafted by the applicant, (iii) a letter of endorsement from the institution. All applications must be endorsed by the Deputy Vice Chancellor (DVC) of Research. The proposal must be led by the institution with technical aspects authored by the proposed nominated candidate and approved by the institution to submit to the NRF. The application should give details on:

- I. The readiness and commitment of the institution to provide an enabling environment to ensure the success of the Research Chair;
- II. Strengths, capabilities, strategic environment and competencies of the institution;
- III. The alignment of the proposed Research Chair with the proposed thematic area and the strategic plan of the institution;
- IV. The potential of the proposed Research Chair to enhance the international research and/or innovation competitiveness within the discipline;
- V. The potential of the research to impact on transformation, the social and/or economic development of the country;
- VI. The research focus of the Research Chair;
- VII. A proposed plan on how the Research Chair will fulfil SARChI objectives, including the strategic considerations mentioned in the proposal; and
- VIII. Specific objectives, outputs and outcomes for the five-year period.

Candidate(s)² must use the NRF online system, NRF Connect (<https://nrfconnect.nrf.ac.za/>) to register and/or update her/his *curriculum vitae* and complete the application.

The selection of candidates will be based on the merit of each candidate's full research proposal. This will include the strength of the candidate's profile, including his/her qualifications and experience, knowledge outputs in the discipline of the Research Chair and postgraduate student supervision track record. This will also include an assessment of the candidate's research and activity plan in respect of their ability to deliver on SARChI objectives, as well as the proposed budget.

The full proposal must also give specific details on:

- Proposed teaching³ to research time ratio;
- Research objectives for the first five year period;
- Expected knowledge⁴ outputs in the first five year period;
- Expected human capital⁵ outputs in the first five year period; and
- Existing and planned collaborations in the first five-year period.

7.1. Review and Selection process

Proposals submitted by candidates will be reviewed via a two-tier process, namely; postal peer reviews by subject specific experts with relevant expertise in the respective applications' research area and panel reviews comprising of individuals from broad disciplines covering the directed and thematic areas identified for this call for SARChI applications. The review panels comprising of individuals from broad disciplines will draw on the expert reviewers' written feedback and make recommendations to the NRF for the approval of research

² No commitment should be given to the candidate(s) by the university before the NRF has officially informed the university of the Award by means of a review panel outcomes letter.

³ Teaching of postgraduate students only. Note: Chair-holders may not spend more than 20% of their time on undergraduate teaching and/or management responsibilities not related to activities of the Research Chair.

⁴ Peer-reviewed journal articles, peer-reviewed conference proceedings, scholarly books and book chapters, patents, invited keynote presentations, conference presentations etc.

⁵ Numbers of Masters and Doctoral graduates and completed postdoctoral fellowships.

programmes and plans and on the suitability of the candidate for appointment as a SARChI Chair. Such review panels will be comprised of respected individuals with knowledge and insights of the Higher Education System and the NSI and will consider the recommendations of the review panels and select the Research Chairs to be awarded taking into account the strategic objectives of SARChI and the transformation needs of the sector.

7.2. Award levels

Following the peer-review of the full proposal and the *curriculum vitae* of the candidate, Chairs may be approved at the Tier 1 or Tier 2 level. Tier 1 is for Chairs who are Established Researchers and are recognised internationally as leaders in their respective fields and have received substantial international recognition for their research contributions. Tier 2 are for Chairs that are established and recognised nationally in their respective fields and are likely to be upgraded to tier 1 in one or two funding cycles. The criteria that must be met by nominated candidates for approval at the Tier 1 level is detailed in Table 5 below. An added advantage for a candidate to be recommended at a Tier 1 level, would be that the candidate must be typically an A or B rated researcher. Chairs who meet the Tier level criteria but are not rated at the time of application, must be rated within the first five (5) year funding cycle.

Table 1: Criteria for Tier levels

Tier 1 Research Chairs	Tier 2 Research Chairs
• Should be appointable at the level of a full Professor benchmarked nationally; • Should be an outstanding and innovative researcher whose accomplishments have made a major impact in their field; • Should be recognised internationally as an undisputed leader in their field and/or have received substantial international recognition for their research contributions; • Should have a superior record in attracting	• Should be appointable at the level of an Associate Professor or full Professor benchmarked nationally; • Should be an established researcher, with a strong research, innovation and human capital development output trajectory; • Should have the potential to achieve substantial international recognition for their research contributions in the next five to ten years;

and successfully supervising post-graduate students and postdoctoral fellows, taking into account the practices of the field; and • Should reside full time in South Africa for the duration of the Research Chair award. Candidates from abroad, specifically African scholars and Black South Africans in the diaspora that are willing to spend at least 50% of their time within South Africa are eligible for consideration.	• Should have demonstrated the ability to attract and successfully supervise postgraduate students and postdoctoral fellows; and • Should reside full-time in South Africa for the duration of the Research Chair award. Candidates from abroad, specifically African scholars and Black South Africans in the diaspora willing to reside full-time in South Africa for the duration of the Chair are eligible for consideration.
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8. Management of the Research Chairs

This section of the Framework and Funding Guide for Applications describes what follows after the Research Chair has been awarded to the institution.

The NRF will require the approved candidate for the Chair to enter into a five year performance agreement in the form of 'Conditions of Grant' and will evaluate the performance of the Chair against the research plan, stated objectives and targets. The plan will be reviewed every five years. Subject to satisfactory performance by the Research Chair following the 5-year in-depth review, the grant may be renewed for up to 2 more 5-year cycles for Tier 1 Chairs and one more 5 year cycle for Tier 2. At the end of each financial year the incumbent will be required to submit to the NRF a Progress Report (PR) addressing the milestones and expected outcomes as presented in the research activity plan of the application.

During year five, of the five-year funding cycle, the Research Chair will be subjected to an in-depth evaluation undertaken by peers following the framework set out in the SARChI Monitoring and Evaluation Framework.

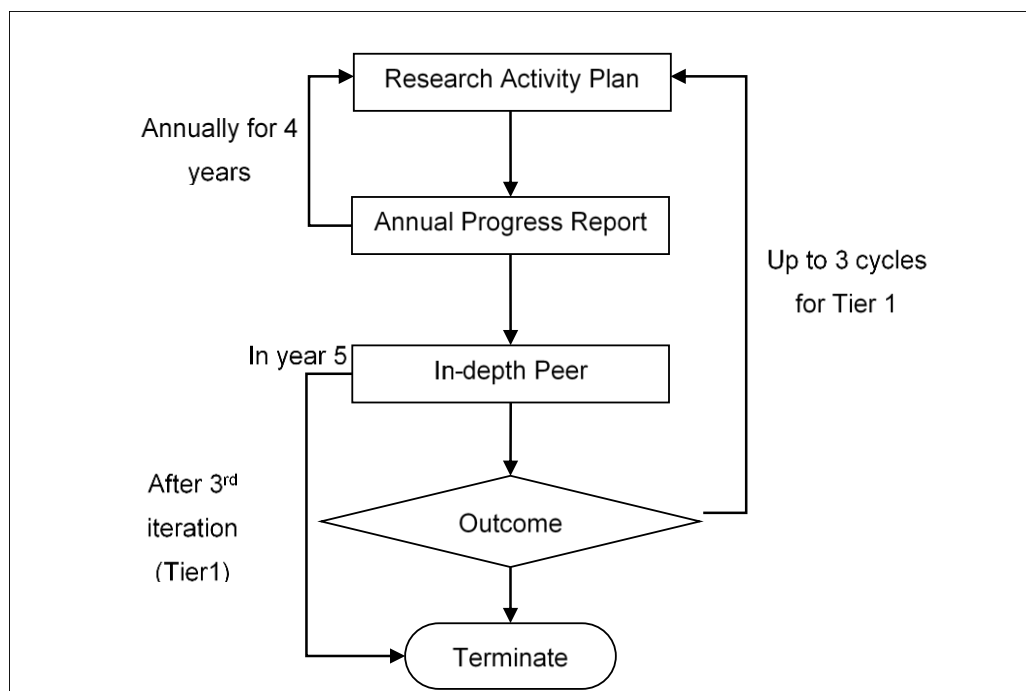


Figure 1: Management of the Research Chair over the tenure of a Research Chair

8.1. Duration of the Research Chair

After the Chair is awarded, Tier 1 Research Chairs will be tenable for five years, renewable for two further five-year cycles giving a total lifespan of 15 years, subject to satisfactory performance by the Chair following each five year in-depth review. Tier 2 is tenable for two five year cycles, giving it a total lifespan of 10 years. However, Tier 2 Research Chairs can apply for an upgrade to Tier 1 at the first or second five year review. Eligibility for renewal will be entirely based on the performance of the incumbent.

8.2. Funding Levels

SARCHI funding instrument provides initial awards of R3 000 000 for Tier 1 Chairs and R2 000 000 for Tier 2 Chairs. The award covers salaries; postdoctoral fellowships; research operating costs; research equipment & infrastructure, and overheads for the host institution. The guidelines for apportioning of the grant across these categories and the values of fellowships and scholarships are shown in Table 2.

Table 2: Budget guide for Research Chairs

Budget category	Sub-item	Cost/person/annum	Minimum number of people	Maximum number of people
Salaries	Chair	Tier 1	1	1
	Admin support	Up to 32% of budget	1	1
	Research assistants	Tier 2 Up to 34% of budget		3
Fellowships	Post-doctoral fellow Research cost	320 000 50 000	2	
Research equipment or infrastructure	Up to R400 000			
Running	At discretion of Chairholder depending on need			
University Overhead	Up to 5% of budget			

8.2.1. Budget line items

Research Equipment

The goal is to provide support to Chairs for the purchase of small research equipment, contributing to the purchase of large equipment, covering the maintenance, service or upgrade costs for equipment or hiring of equipment.

Eligibility

- Details of laboratory equipment to be purchased, e.g. water bath, autoclave, water purification system or gel dryer.
- Details of the contribution to the purchase of large equipment, e.g. shipping and customs.
- If the funds are not used to purchase equipment, they can be used to cover equipment maintenance / service / upgrade costs, to enable research to be carried out on the SARChI project,

the following:

- Detailed description of the equipment, e.g. (camera or tape recorder for data capturing purposes);

- Details of the specific maintenance or service or upgrade.
- A motivation for specialised hardware, e.g. audio-visual equipment, and specialised software.
- If more than one item of a particular piece of equipment is purchased, a motivation per application should be provided.
- Maintenance costs, for new equipment that is purchased with NRF funding, must be budgeted for (if not requested in this application).
- Equipment must be purchased in accordance with the institutional procurement policies.

Exclusions

- Personal laptops, notepads, hand-held notebooks, and personal digital assistant (PDA) devices.
- Licence fees or renewals of licences of non-specialised software (e.g. MS Office).

All research equipment purchased through this Grant shall be registered in the Chairholder's Institution asset register according to the policies of the Institution, and shall remain the property of the Institution on completion of the Grant.

Overheads

Up to 5% of the annual grant may be used to cover indirect costs of the Research Chair, and may be used at the discretion of the institution for whatever purpose it deems appropriate.

It is important to note that Table 2 provides a budget guide that states the minimum and maximum amounts per budget category and has the flexibility for the Chair to allocate the SARChI grant based on the research activity plan. The proposed budget will be approved at the commencement of each five-year funding cycle. The incumbent will be given an opportunity, at the end of each calendar year, to make budget adjustments for the subsequent year, in consultation with the South African Research Chairs Initiative function of the NRF.

Tier 1 Chairs will not be eligible for additional NRF parliamentary core grant funding. Incumbents must apply for grants for large equipment (above R400k) through the NRF Infrastructure Funding Instrument. The Chairs are therefore strongly encouraged to attract additional funding for research and human capital development from other national and international funders and donors to supplement the SARChI grant.

9. Postgraduate Student Funding Policy

In 2021, the NRF implemented the *DSI-NRF Postgraduate Student Funding Policy* wherein postgraduate funding allocations are underpinned by the principles of equity of opportunity; representivity; prioritisation; and enhanced access, success and throughput. The *DSI-NRF Postgraduate Student Funding Policy* gives effect to the Ministerial guidelines for improving equity in the distribution of DSI-NRF Bursaries and Fellowships (2013). Citizenship, age, gender and disability are considered in the allocation of funding, with transformation of the postgraduate cohort as the core objective. Financial need is included as a criterion for determining the level of funding. To attract and retain a diverse range of students, funding levels cover the full cost of study for students who meet the required criteria.

The NRF's minimum academic requirements for postgraduate funding are as follows:

- **For first-time honours funding** - A minimum average of 65% for major subjects in the final undergraduate year of study;
- **For first-time master's funding** - A minimum average of 65% for all subjects at the honours level OR a minimum average of 65% for all subjects of a postgraduate diploma OR a minimum average of 65% for all final year subjects of a four-year degree; and
- **For first-time doctoral funding** - A minimum of 65% at the master's level.

South African citizens or permanent resident applicants who have **graduated from 2021 academic year with a classification of Pass will not be allowed to apply in the current call**, only applicants with a numerical pass mark may apply for NRF funding. However the following individuals will be allowed to apply without a numerical mark:

- South African citizens or permanent residents who graduated prior to 2021 academic year with a 'Pass' and 'Pass with a distinction'. Applicants with a 'Pass' should enter the 'Pass' under the academic achievement section of the application form, and those with 'Pass with a distinction' should enter 75%;
- South African citizens or permanent residents with a 'Pass with distinction'. These applicants should enter 75% mark in the application form; and
- International applicants applying for masters and doctoral scholarships. These applicants should enter a 'Pass' in the application form.

The eligibility criteria for funding at Full Cost of Study (FCS) and Partial Cost of Study (PCS) listed in Table 3 apply to all first-time applicants for honours, master's and doctoral funding.

Table 3: Eligibility criteria for first time applicants for the DSI/NRF Student Funding for FCS and PCS

Study level	Full Cost of Study		Partial Cost of Study
	Exceptional Achievers	Financially Needy and Applicants with a Disability	Other
Honours	Average of $\geq 75\%$ mark for major subjects in the final	Average of $\geq 65\%$ mark for major subjects in the final	Average of $\geq 65\%$ mark for major subjects in the final

	year of undergraduate study	year of undergraduate study	year of undergraduate study
	Applicants for honours funding must be 28 years of age or younger in the year of application i.e. applicants must not be over 28 years by 31 December 2025. Only South African citizens and permanent residents are eligible for honours scholarships.		
Master's	Minimum average of 75% for all subjects at the honours level; OR Minimum average of 75% for all subjects for a Postgraduate diploma level; OR Minimum average of 75% for final year subjects of a four-year degree	Minimum average of 65% for all subjects at the honours level; OR Minimum average of 65% for all subjects for a Postgraduate diploma; OR Minimum average of 65% for final year subjects of a four-year degree	Minimum average of 65% for all subjects at the honours level; OR Minimum average of 65% for all subjects for a Postgraduate diploma; OR Minimum average of 65% for final year subjects of a four-year degree
	Applicants for master's funding must be 30 years of age or younger in the year of application i.e. applicants must not be over 30 years by 31 December 2025.		
Doctoral	Minimum average	Minimum average	Minimum average

	of 75% for Master's degree	of 65% for Master's degree	of 65% for Master's degree
	Applicants for doctoral funding must be 32 years of age or younger in the year of application i.e. applicants must not be over 32 years by 31 December 2025.		

Only South African citizens and permanent residents who are either financially needy, living with a disability or exceptional academic achievers are eligible for FCS. Applicants that are eligible for FCS can be awarded at PCS due to budget constraints. The NRF reserves the right not to make an award or adjust a grant under any circumstances from PCS to FCS. The PCS funding will be awarded to South African citizens, permanent residents and 5% of international students. The entry age requirement is 28, 30 and 32 years for honours, master's and doctoral studies respectively, in the year of application, regardless of first year of registration.

For more information on the student policy, please go onto the NRF Connect.

10. Evaluation and Impact of Research Chairs

A baseline study of Research Chairs, their institutional and intellectual environments will be conducted with each round of new awards. These studies, together with the universities' Strategic Research Plans and the Research Chair's activity plan, will serve as the baseline to evaluate impact on the discipline and at the institutional level.

11. 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 in accordance with institutional ethical policies and procedures. The ethical clearance approval should be held by the institution and the grant holder and accessible on request, if necessary. Please also refer to the “Statement on Ethical Research and Scholarly Publishing Practices” on the NRF website at <https://www.nrf.ac.za/statement-on-ethical-research-and-scholarly-publishing-practices/>.

12. NRF Contact Persons

- Dr Makobetsa Khati, Head: Strategic Investments, Impact and Innovation: (phone: 012 481 4022; e-mail: MA.Khati@risa.nrf.ac.za).
- Dr Nana Boaduo, Manager: Strategic Investments, Impact and Innovation (phone: 012 481 4326; e-mail: NKK.Boaduo@risa.nrf.ac.za).
- Ms Andisiwe Jukuda, Professional Officer: Strategic Investments, Impact and Innovation (phone: 012 481 4113; email: AH.Jukuda@risa.nrf.ac.za).