Funding Instrument: South African Research Chairs Initiative (SARChI)

Domains: Research Chairs and Centres of Excellence & Grants Management & Systems Administration

Document: Framework & Funding Guide DST/NRF/SACN Research Chairs

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1. Strategic background

1.1. Context

The *White Paper on Science and Technology* (1996) and *the National Research and Development Strategy* (2002) put emphasis on the need for South Africa to transform its Science, Engineering and Technology (SET) workforce. Other policy and strategies of government, including the *Human Resource Development Strategy* (2009) and the *Medium Term Strategic Framework* (2009) note the shortage of high-level skills as a significant constraint in the development of the economy and society. In this regard, South Africa must produce a greater number of highly skilled individuals; particularly in SET, to achieve the goal of "*an equitable, sustainable, and inclusive growth path that brings decent work and sustainable livelihoods, education, health, safe and secure communities, and rural development*".

The South African Research Chairs Initiative (SARChI) was established in 2006 by the Department of Science and Technology (DST). This Funding Instrument is managed by the National Research Foundation (NRF) through a contractual agreement with DST. It is a strategic intervention of the South African government designed to attract and retain excellence in research and innovation at South African universities. In particular, the instrument is aimed at increasing scientific research capacity through the development of human capacity and stimulating the generation of new knowledge. It is also intended to support the realisation of South Africa's transformation into a knowledge economy in which the generation of knowledge translates into socio-economic benefits.

SARChI is designed to significantly expand the scientific research base of South Africa in a way that supports implementation of the national Research and Development policies. Since inception, 217 Research Chairs have been awarded in various disciplines and research fields and the funding instrument has been

successful in retaining leading South African scientists in the university system and attracting leading foreign researchers and expatriate researchers to South Africa.

1.2. SARChI aim and objectives

The **aim** of the initiative is to strengthen and improve research and innovation capacity of public universities for producing high quality postgraduate students, research, and innovation outputs. The **objectives** of SARChI are to:

- Expand the scientific research and innovation capacity of South Africa;
- Improve South Africa's international research and innovation competitiveness while responding to social and economic challenges 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.

1.3. Guiding principles for SARChI

The following principles will inform the awarding of the Research Chairs to the successful university:

- SARChI is a strategic instrument aimed at strengthening research and innovation capacity in public universities in South Africa, enhancing the training of a new generation of researchers and the further development of established researchers in all knowledge areas while responding to national priorities and strategies;
- SARChI is a funding instrument for universities but Research Chairs may be held by a university in partnership with a public research institution such as: another university, a science council, a national research facility or a public research institution;
- Public universities in South Africa will bid for the Research Chair in an open and competitive process;

- Each university may submit two (2) applications for the Research Chairs in this call, nominating a maximum of two (2) candidates;

- The university must demonstrate a commitment to closely cooperate with a SACN partners where applicable;

- The Research Chair must be in alignment with the university Programme and Qualification Mix (PQM) approved by the Department of Higher Education and Training;

- The Chair will be expected to dedicate at least 80% of their time conducting research, supervising Masters and Doctoral students and mentoring emerging researchers (Post-doctoral Fellows). The remainder of the time may be dedicated to administration or undergraduate teaching as well as to meetings with the NRF and SACN project partner;

- Research Chairs are tenable at Tier 1 or Tier 2. The Chair is therefore expected to be an established researcher with national and international recognition as a leader in his/her field and/or have received substantial international recognition for his/her research contributions.

1.4. University accountability for SARChI/SACN Research Chairs

A Chair may be appointed by the university, at the level of a Professor or an Associate Professor, benchmarked nationally. The Chair will fit into the normal management structures of the host institution. However, accountability for the Research Chair will reside with the Vice-Chancellor or Deputy Vice-Chancellor responsible for research at the South African host university.

1.5. DST/NRF/SACN Research Chairs

The DST/NRF/SACN Research Chairs will be awarded to a public university in South Africa that can host such Research Chairs in its own right, or in partnership with a public research institution in South Africa; such as another university, a science council or a national research facility. Only institutions that adequately demonstrate research strength and competencies in the thematic area of the

Research Chairs and have the required research infrastructure will be considered for awarding of the Research Chairs.

This Chair will be funded in partnership with the **SACN** (South African Cities Network), through the NRF. The broad objective of the DST/NRF/SACN Research Chairs is to strengthen research and innovation capacities at the highest scientific level in the selected research domain and to promote international exchange and cooperation on key themes relating to city development, governance and practice. There are no restrictions on the gender and citizenship status of the candidates, *but preference will be given to applications from institutions with black and/or female candidates as proposed Chairholders*. The research chair holder will however be expected to live and work in South Africa full time should the proposed candidate be sourced outside of the South African Borders.

1.6. Cooperation with SACN partners

Willingness of the nominated candidates to engage SACN and its associated bodies is a prerequisite. The submitted application should already include plans regarding collaboration with other SACN partners and bodies.

1.7. Working Conditions

The NRF will require the approved candidate for the Research Chairs to enter into a five (5)-year performance agreement in the form of '*Conditions of Grant*' and will evaluate the performance of the Chairs against the research plan, stated objectives and targets. The track record of the nominated candidate is therefore very important to the selection process and success of the Research Chairs.

Each university must submit two (2) applications to host a Research Chair and can nominate up to two (2) candidates for the Chair position. The full proposal must be completed and provided by each candidate. For a university, where a Chair is taken up by a current academic staff member the university must immediately

initiate a process to fill the vacated position with a suitably qualified candidate[1]. The replacement candidate must be employed on a full-time basis for at least the duration of the tenure of the Research Chair. Where such replacement candidates are not young, black or female, the university must develop a succession plan designed to develop a range of possible candidates with competitive capacity within two cycles of a Research Chair award.

All candidates who are requested by the Deputy Vice Chancellors (DVCs) responsible for research to apply for a Research Chair must be established researchers that hold a doctoral degree or an equivalent research qualification and must submit a proposed research programme that is innovative, original and of high quality.

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 based on:

> Their past research and innovation outputs;
>
> Track record in supervising and mentoring postgraduate students and postdoctoral fellows, and;
>
> National and international recognition for their research contributions.

The criteria that must be met by nominated candidates for approval at the Tier 1 or Tier 2 level are detailed in table 1 below:

Table 1: Criteria for SARChI Tier 1 and Tier 2 Research Chairs

Tier 1 Research Chairs	Tier 2 Research Chairs
• Should be appointable at the level of a full Professor benchmarked nationally;	• Should be appointable at the level of an Associate Professor or full Professor benchmarked nationally;

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[1]   In short, this Initiative must **add** to the number of university research and academic staff.

• 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 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, including African scholars and South Africans in the diaspora, that are willing to spend at least spend 50% of their time within South Africa are eligible for consideration.	• 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; • 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, including African scholars and South Africans in the diaspora willing to reside full-time in South Africa for the duration of the Chair are eligible for consideration.

2. Proposal submission and assessment process

This section of the Framework and Funding Guide provides details of the research focus areas and scope of the proposed DST/NRF/SACN Research Chairs. It also describes the process for proposal submission and assessment.

2.1. Research Focus and thematic areas

The proposed thematic areas for the awarding of the DST/NRF/SACN Research Chair is intended to support scientific research and innovation generally, but also to respond to the urban policy momentum in Chapter 8 of the South African National Development Plan (NDP 2030) and the Integrated Urban Development Framework (IUDF) of the South African government in relation to the UN

Sustainable Development Goal 11 (*Make cities and human settlements inclusive, safe, resilient and sustainable*) and the New Urban Agenda, a 20 year roadmap for creating sustainable and equitable cities for all. The Research Chair will also conduct research aligned to the SACN Strategic Framework 2021 and respond to SACN's goal, to use its Knowledge Generation Programme to continue anticipating and developing new knowledge, but specifically to focus in on key areas that have been identified as being new or deficient, and also to build those into knowledge competencies in South Africa that support the New Urban Agenda (NUA).

The main objectives of the Research Chair as aligned to SACN's knowledge generation agenda are:

- to implement a large urban research themes implemented through outcome-driven partnerships;
- to use these partnerships to build sustained, focused urban research capacities in institutions throughout the country; and
- to retain the capacity to undertake complementary internal research programmes for purposes of continuity or responsiveness.

2.2. Scope of the DST/NRF/SACN Research Chairs

The NRF and SACN will establish two (2) research chairs focussed on the research priorities articulated in the SACN strategic research agenda. SACN has undertaken an analysis of existing Research Chairs that focus on urban issues in order to ensure maximum coverage and avoid duplication in the SACN Research Agenda.

SACN proposes to establish SARChI chairs in Metropolitan Financing and Urban Spatial Transformation as shown in Table 2:

Table 2: Research chairs to be established by NRF and SACN.

Proposed research chair	Description[1]	Alignment with priority areas identified in the

		SACN research agenda
1. **Metropolitan Financing**	**Chair: <u>Sustainable Metropolitan Financing</u>** **Goals:** a) Establish a monitoring hub / Observatory for State of City Finances – databases, analytics, emergent research questions b) Alternative Metropolitan Financing studies and modeling, exploring approaches to achieving sustainable metropolitan financing which is aligned to a longer-term development agenda. **Study issues:** o Tracking and analysing large-city fiscal performance and financial management o Innovations for achieving sustainable city financing o Budget-Mission alignment: Financing economic development and spatial transformation	**Institutions: Sustainable Metro Financing priority area and Systems: Urban Data Project**

	o Long-term metropolitan finance modeling and sustainability o Infrastructure financing and transaction management and innovation	

2. Spatial Transformation	**Chair: <u>Urban Spatial Transformation</u>**
	
	Goals:
	
	a) Conceptual and analytical research on "spatial transformation". What does Spatial Transformation mean for:
	
	    o Integrating planning and design of transport, infrastructure, property and land-use (The physical)
	
	    o Investment decision making in, and governance of urban areas (The political)
	
	    o The aspirations, interactions, perceptions, behaviours, and inclusion of people (The socio-economic)
		Space: Spatial Transformation priority area
		
		and
		
		People: Spatial Determinants of Well-being
		
		and
		
		Systems: Future City Development Strategies

| | b) Studies on practical interventions and innovations to articulate and advance spatial transformation into the future

c) Training emerging researchers on inter- and trans-disciplinary approaches to studying urban spatial issues.

Study issues:

o Integrated urban built environment planning and delivery
o Integrated built environment delivery and performance data and analytics
o Spatial determinants as linked to urban well-being and structural inequality
o Inclusive development strategies (e.g. Transit Oriented Development)
o Livability of neighborhoods
o Visioning and imagery of future cities | |

1. These are high-level descriptions which are to be detailed with the successful Chairs, and in consultation with relevant partners.

The proposed topics of research are also informed by the need to strategically grow specific research areas capable of researching and generating knowledge

and capabilities in important areas of cities development and governance as well as the absorptive capacity of individual universities and the university system in general.

2.3. Application, Review and Selection Process

A Research Chair will be awarded in an open and competitive process. The application and selection process will be conducted in a one-phase process, which will include, (i) *the motivation by the South African public university to host the Research Chair; (ii) the nomination of a candidate for appointment to the Chair position; (iii) a research and activity plan drafted by the nominated candidate(s).*

An open call will be advertised to all South African public universities to host the Research Chair. Beside the nomination of a candidate for appointment to the Chair position and a research and activity plan, 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 university;

(iii)   the alignment of the proposed Research Chair with the proposed thematic areas and the university research strategy;

(iv)   the potential of the proposed candidate(s) to enhance the international research and/or innovation competitiveness within the discipline;

(v)   the potential of the research to impact on social and/or economic development of the country;

(vi)   the research focus of the candidate(s);

(vii)   a proposed plan on how the Research Chair will fulfill SARChI objectives, including the strategic considerations mentioned in the university proposal, and how it will deliver on the university research strategy;

(viii) specific objectives, outputs and outcomes for the five (5)-year period, and;

The approved candidate(s) must use the NRF Online Submission System (https://nrfsubmission.nrf.ac.za) to register and/or update her/his curriculum vitae and complete the application. Applications will be assessed in a two-tier peer review process, namely postal review and panel review.

Main pillars of the selection process are:

The NRF will set up a selection committee consisting of an equal number of independent experts nominated by the NRF and SACN respectively. The NRF and SACN will each nominate up to three (3) experts.

A decision for awarding of the research Chair will be made by the selection committee, based on independent postal peer review reports. The NRF in consultation with SACN will identify three (3) reviewers per nomination for the postal reviews. The application and selection processes will be carried out by the NRF with participation from SACN and all review committee meetings will be convened by the NRF.

More information on selection criteria is given in **Section 2.4 below**. The full application proposal must also include the biography of the candidate(s), who will have, in principle[2] accepted the nomination for the Research Chair by the university.

As awards of SARChI Research Chairs are to be made to the host university and/or research institution, the application by the proposed candidate has to be supported through the electronic application process as mentioned above. The support must be made by the Deputy Vice-Chancellor responsible for research and postgraduate affairs at the university. Each university and/or research institution must submit the following documentation to be considered as a host university for Research Chairs, through the online application:

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[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 an award letter.

- University or Research Institution Research Strategy;

- University Programme and Qualification Mix (PQM) approved by the Department of Higher Education and Training;

- Details of current academic and research staff of the university and/or Research Institution in the specific discipline; and

- Statistics on university and/or research institution's research outputs and postgraduate students trained and graduated for the period 2013 to 2017, in the specific discipline.

Applications should be submitted on the NRF Online Submission System (https://nrfsubmission.nrf.ac.za), by the DVC responsible for Research and validated by the relevant Designated Authority (DA).

NB: Only submissions that provide all the requested information will be eligible and considered for review. Following a competitive review process, led by experts in the selected discipline, the Research Chair will be awarded to the successful university for appointment of the candidate.

2.4.   Selection Criteria

Application to host the Research Chair by university

The selection of the applications will be based on (i) the readiness and suitability of the university to host the proposed Research Chair, (ii) the strategic alignment of the proposed Research Chair, (iii) the motivation by the South African public university to host the Research Chair; (iv) the nomination of a candidate for appointment to the Chair position; (v) a research and activity plan drafted by the nominated candidate.

The application must therefore address the following:
- The alignment of the proposed Research Chair with the university's research strategy and PQM;

- Alignment of the proposed Research Chair's focus with that of existing research activities or capacity;
- University commitment for creating an enabling environment with regard to:
    - Office and/or laboratory space.
    - Infrastructure (equipment, IT facilities, etc.);
    - Academic support (information, resource facilities and related research groups);
    - Management and leadership; and
    - Financial support (direct and indirect);
- The reporting lines and location of the Research Chair within the university structure.

The selection of candidates will be based on the merits of each candidate's full research proposal. This will include the strength of the candidate's profile, including her/his qualifications and experience, publishing in the discipline of the Research Chair and postgraduate student training track records. This will also include an assessment of the candidate's research and activity plan in respect of its ability to deliver on SARChI objectives, as well as a proposed budget (see Section 3.3. Funding Levels).

Additional selection Criteria for the Chair in Spatial Transformation:

Over and above the aforementioned criteria, the Chairs must meet the following additional criteria:

- The Chair should have a track record in urban and Built Environment research.
- The trans-disciplinary nature of research means that the Chair should have demonstrated an interest to work across disciplines, professions and institutions in producing research knowledge and output.
- The Chair candidate should have a multi-disciplinary background with qualifications and/or experience across a combination of disciplines including but not limited to e.g. for Spatial Transformation Chair: transport, urban and regional planning, architecture & design, urban politics,

engineering or urban anthropology; and for Metropolitan Finance Chair: public sector finance, development financing, urban development planning, local or micro-economic development, and other relevant disciplines.

The full proposal must also give specific details on:
- The proposed teaching[3] to research time ratio;
- Research objectives for the five year period;
- Expected knowledge[4] outputs in the first five year period;
- Expected human capital[5] outputs in the first five year period;
- Existing and planned collaborations in the first five-year period

3. Management of the Research Chair

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

3.1.   Duration of the Research Chair

Tier 1 or Tier 2 Research Chairs will be tenable for five (5) years, renewable for one and/or two further five (5)-year period giving a total life lifespan of 10 years for Tier 2 and 15 years at Tier 1. Eligibility for renewal will be entirely performance-linked.

3.2.   Management of Research Chairs

The management of SARChI grants is illustrated in **Figure 1** and described below. On accepting the award and signing the '*Conditions of Grant',* the newly appointed incumbent of the Research Chair will be required to deliver on the research activity

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[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 Honours, Masters and Doctoral graduates and completed postdoctoral fellowships.

plan that formed part of the accepted full proposal. At the end of each financial year the incumbent will be required to submit to the NRF an annual progress report addressing milestones and expected outcomes presented in the research activity plan. This report will be shared with SACN.

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*.
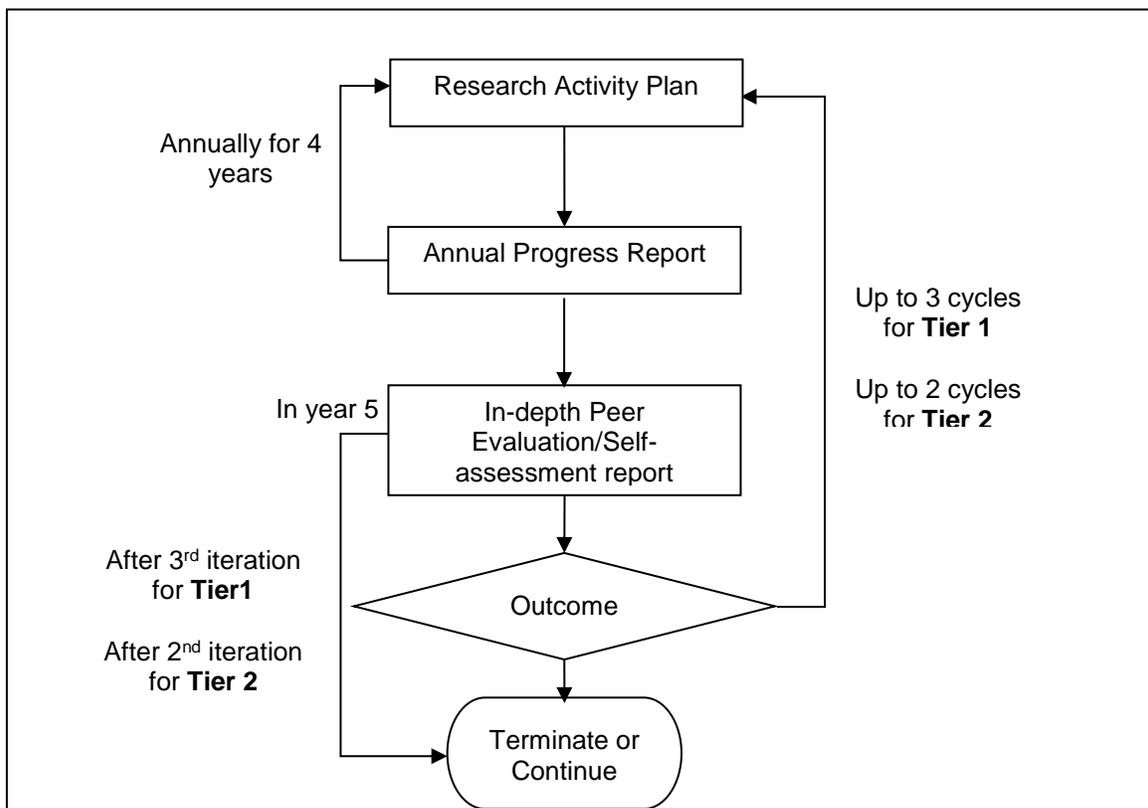

Figure 1: Management of Research Chairs over the tenure of the Research Chair

3.3.   Funding Levels

SARChI funding instrument provides initial awards of up to R2, 680,000 and   R1, 680,000 per annum for Tier 1 and Tier 2 Chairs, respectively. Each award covers

salaries[6]; postdoctoral fellowships and bursaries for postgraduate students; research operating costs; research equipment & infrastructure, and overheads for host institution. The guidelines for apportioning of the grant across these categories and the values of fellowships and scholarships are shown in Table 4.

Table 4: Guidelines for SARChI annual budget breakdown for Tier 1 and Tier 2 Research Chairs

Budget category	Sub-item	Cost pa (ZAR)	Minimum number of people	Maximum number of people
Salaries	Chair	550 000 (Tier 2) to 700 000 (Tier 1)	1	1
	Admin support	30 000	0	1
	Research Assistants (per person)	30 000	0	3
Fellowships	Postdoctoral Fellows (per person awarded pro rata)	200 000	1	Variable
Bursaries	Doctoral (full time)	100 000	2	Variable
	Masters (full time)	70 000	2	Variable
	Honours	40 000	4	4
Research equipment or infrastructure	Variable	≤400 000	Not applicable	Not applicable
Running	Variable	Up to 30% of total budget	Not applicable	Not applicable
University Overheads	Variable	Up to 10% of total budget	Not applicable	Not applicable

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[6]   Salaries of the incumbent and limited administrative support

It is important to note that this budget template provides a guide that stipulates 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 Director of the Research Chairs & Centres of Excellence and Grants Management and Systems Administration directorates.

Tier 1 Research Chairs will not be eligible for additional NRF parliamentary core grant funding, except in respect of Rated Researchers Incentive Funding. Incumbents must apply for grants for large equipment through the NRF Infrastructure Funding Instrument.

However, Tier 2 Chairs may apply for NRF grants as outlined in the Multiple Grants Eligibility Overview (http://www.nrf.ac.za/document/multiple-grants-eligibility-overview).

Chairs are expected to dedicate at least 80% of their time conducting research and supervising an average of at least 10 Masters and Doctoral students per annum. 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.

3.4.   Payment of Grants

The grant for year 1 of 5 for the awarded Research Chair will be fully disbursed to the university upon receiving the signed copy of the NRF '*Conditions of Grant'* by the incumbent. Grants will thereafter be disbursed to the universities on an annual basis, for the approved funding period, subject to the appointed Chair meeting the requirements as contained in the *'Conditions of Grant'* and submitting an Annual Progress report.

3.5.   Evaluation and Impact of the Research Chair

The university's Strategic Research Plans and the Research Chair's Research and Activity Plan, will serve as the baseline to evaluate impact of the Research Chair in general, the discipline and at the institutional level. Seeing the ground-braking, innovative potential of the research topic of the Chair, its impact on the scientific advancement in this particular field will furthermore form part of the assessment.

4.   References

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5.   NRF contact persons

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