



National
Research
Foundation

NRF DATA INSIGHTS

Unveiling the trends to shape tomorrow



NRF Funding for both Younger Researchers and Emerging Researchers



science, technology
& innovation

Department:
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Introduction

In this edition of *NRF Data Insights*, we consider the evolving landscape of research funding in South Africa, with a particular focus on two critical cohorts — younger researchers (under the age of 40) and emerging researchers (postdoctoral fellows and those in the early stages of their research careers). The development of these two groups is essential to ensure a sustainable and transformed research ecosystem. These two categories of researcher overlap significantly, but there are young researchers who are NRF-rated and who have established research careers, as well as emerging researchers who are over the age of 40-years old. A growing number of NRF-rated researchers are under the age of 40 — 526 in 2020 compared to 688 in 2024 — although this remains the smallest proportion (15%) of all rated-researchers. Further analysis of NRF-rated researchers can be found in volume six of *NRF Data Insights*.

Focused funding for both younger and emerging researchers is a strategic focus area for the NRF as it is essential for the future sustainability of the South African research sector. The NRF has adopted a pipeline approach to the funding of researchers, from next-generation (those pursuing postgraduate degrees) to emerging (post-doctoral fellows and those pursuing a rated) and established (rated researchers and those with a research record). Unique funding instruments ensure dedicated support for researchers at different career levels, including opportunities for funding, mentorship, and access to research infrastructure.

This volume of *NRF Data Insights* presents an analysis of funding trends from 2020 to 2024, highlighting shifts in grant allocations, demographic transformation, and investments across disciplines. It reflects the NRF's commitment to addressing systemic challenges such as the ageing academic cohort and underrepresentation of Black and women researchers.

Key findings noted in this edition of NRF Data Insights are:

- The NRF increased its investment in younger and emerging researchers, with funding for researchers under 40 increasing from R194 million to R262 million, and the average grant for emerging researchers growing by 33%.
- Half of all NRF-funded researchers were at emerging researcher level in 2024.
- Demographic transformation is evident. The proportion of Black South African emerging researchers increased from 58% to 65% and Black South African women from 31% to 36%.
- The slow growth in the proportion of university staff with a Doctorate, from 49% in 2019 to 54% in 2023, highlights the need to invest in young and emerging researchers.

NRF Funding: Analysis by age of researchers

Figures 1 and 2 show both the proportion of NRF-funded researchers under 40-years old and the proportion of funding allocated to these researchers. The proportion of grants to these researchers has declined slightly over the five-year period, from 40% of grants in 2020 to 37% in 2024, but the proportion of funding has increased from 16% of funding in 2020 to 19% in 2024, reflecting the increased value of grants for young researchers. In 2020, R194 million was allocated to researchers under 40 years old, with R262 million allocated in 2024. The proportion of researchers below 29 years old remains small, which highlights the time it takes to complete a Doctoral qualification (and move from next generation to emerging researcher funding). The investment in researchers aged 40 to 49 years has been growing steadily.

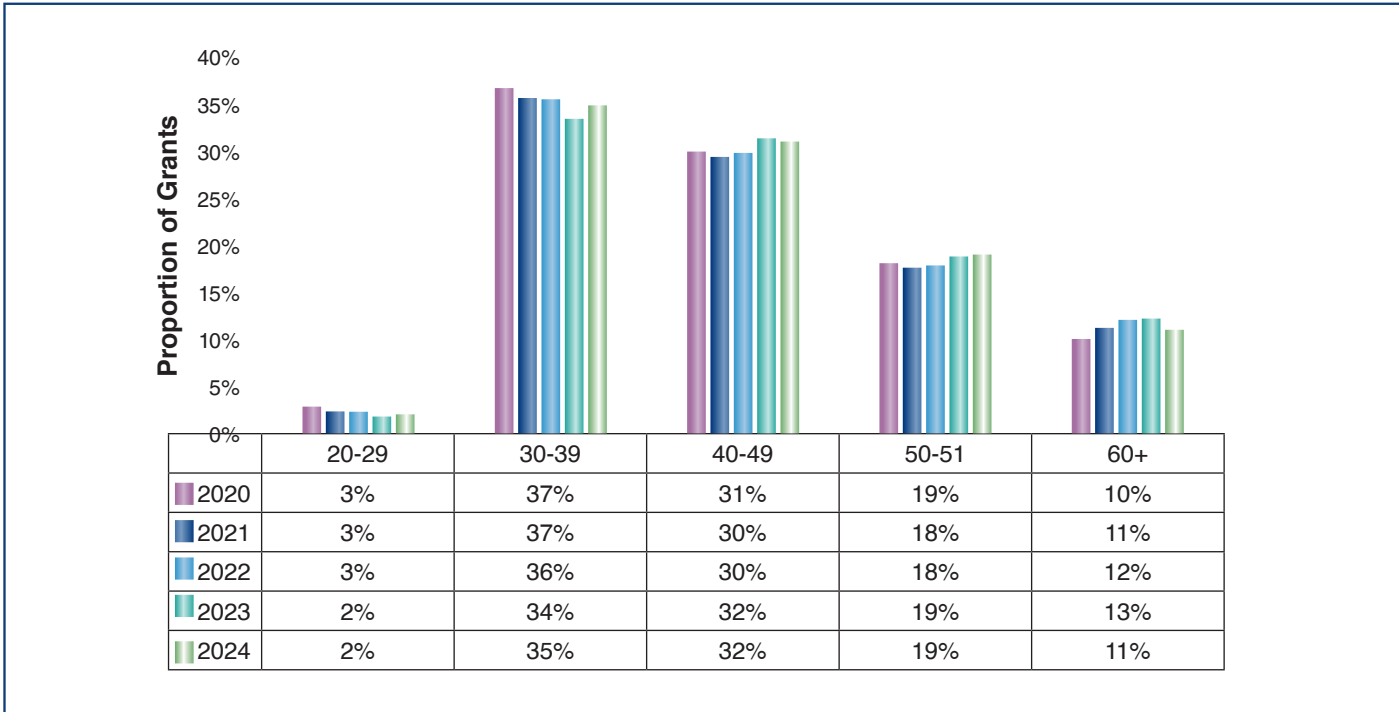


Figure 1: NRF-funded Researchers and Postdoctoral Fellows by Age (2020 to 2024)

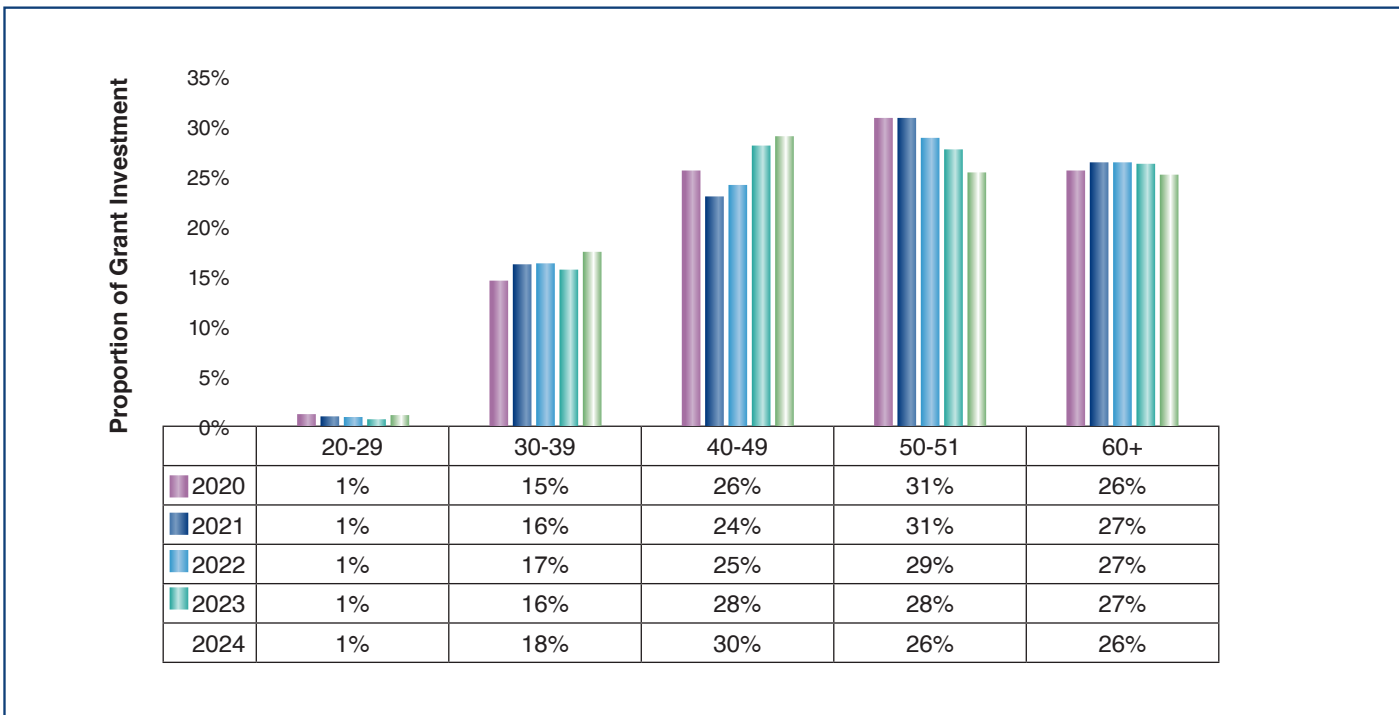


Figure 2: Proportional Investment in Researchers and Postdoctoral Fellows by Age (2020 to 2024)

NRF Funding: Emerging researchers

In 2024, emerging researchers accounted for 50% of all funded researchers, a slight decline from 52% in 2020. Nonetheless, the number of emerging researchers (Figure 3) supported has increased by 5% since 2020 (from 1 544 to 1 621) although there have been fluctuations during the five-year period with a height in 2022 of 1 685 emerging researchers supported. These fluctuations are largely due to changes in grant size (analysed below) and in the overall investment in research funding. The total investment in researchers has increased from R1.203 billion in 2020 to R1.385 billion in 2024 (a 15% increase without taking inflation into account). The NRF is actively pursuing partnerships to leverage additional funding.

In terms of the demography of the emerging researchers supported, the trend shows growing support for South Africans and, in particular, for Black and Black women emerging researchers. The proportion of South Africans has grown from 83% to 85%, reflecting the impact of the strategic decision to focus on South Africans when allocating funding for postgraduate study. The proportion of Black South Africans increased from 58% to 65% and Black South African women from 31% to 36%. The proportion of South African women remained constant at 49%. This reflects an overall transformation of the emerging researcher cohort, which should lead to transformation of the established researchers cohort over time.

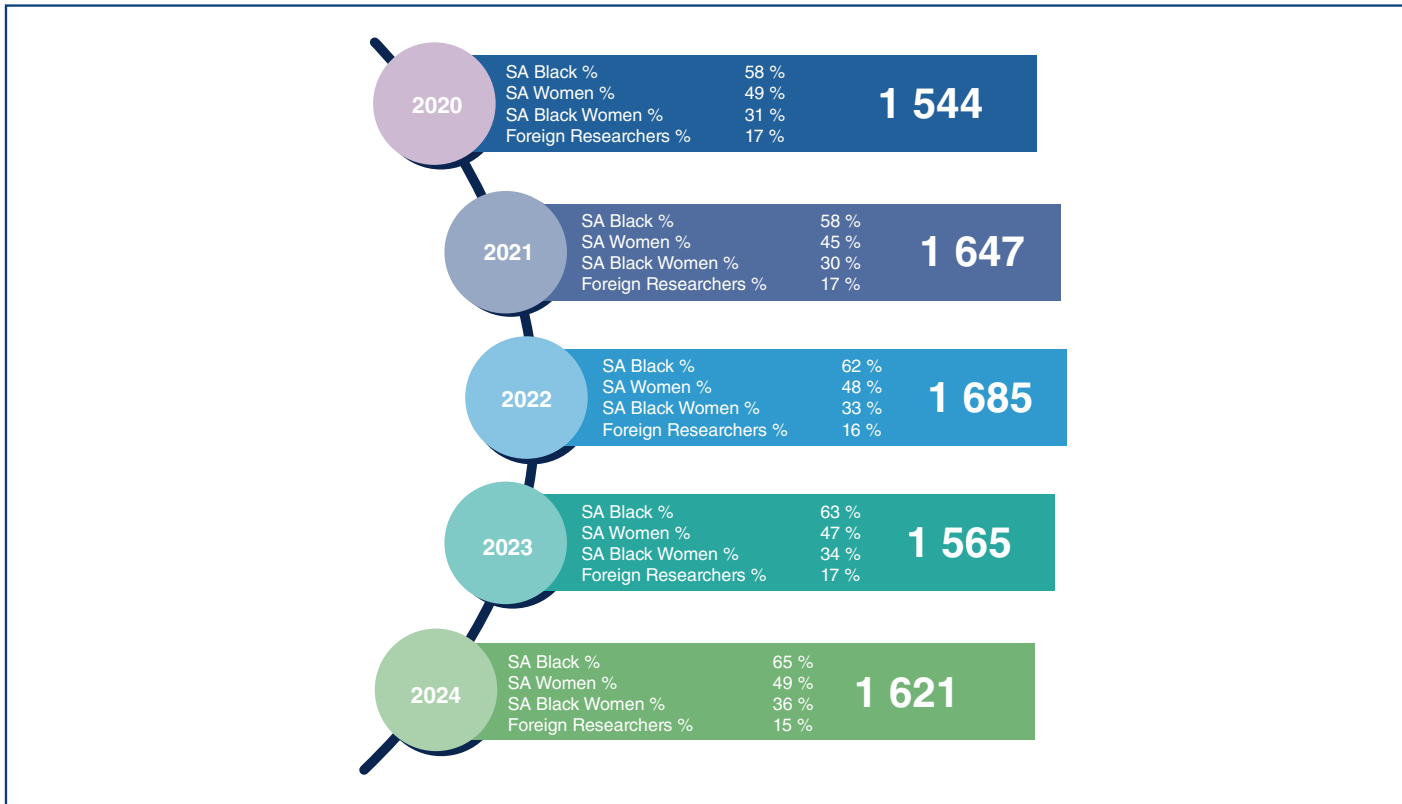


Figure 3: Black and/or Women Emerging Researchers Supported (2020 to 2024)

The average research grant (Figure 4) to emerging researchers has grown relatively steadily over the five-year period from R129 643 in 2020 to R172 658 in 2024 (33% growth).¹ Nonetheless, the average grant size for emerging researchers remains slightly lower than that for all researchers (R180 419). This corresponds with the data on the proportion of funding for these researchers and reflects the need to balance fit-for-purpose grant sizes with the number of researchers supported. Increased grants would lead to fewer researchers being funded.

1. The average grant calculation excludes funding for research equipment, the South African Research Chairs Initiative (SARChI), Centres of Excellence, travel and conference grants, and other similar funding.

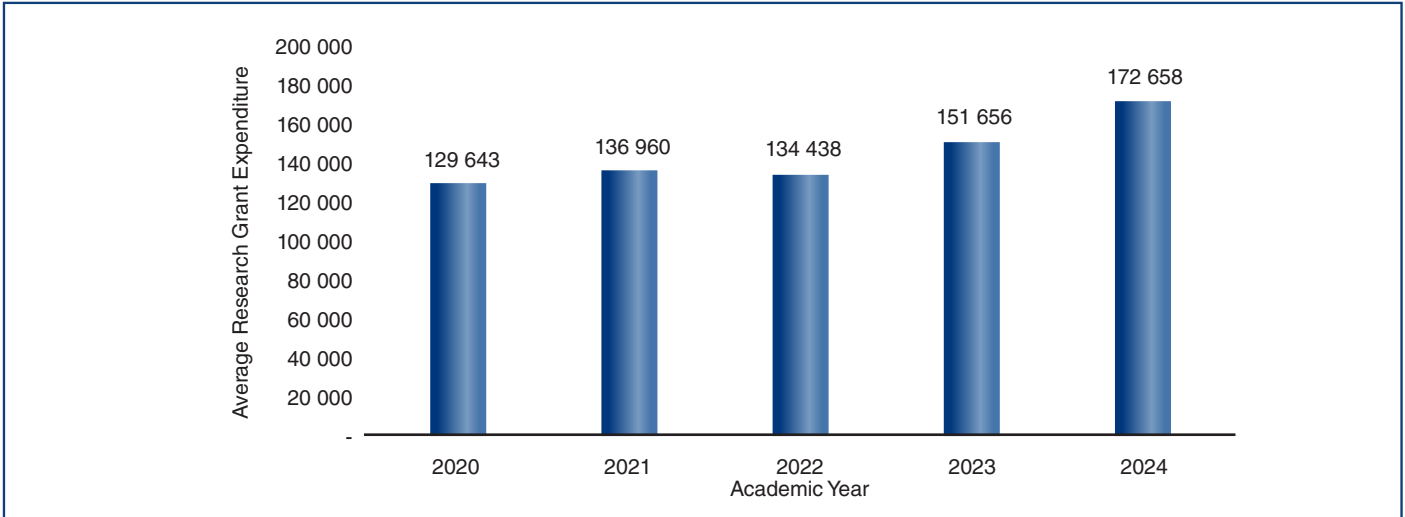


Figure 4: Average Grant Size for Emerging Researchers (2020 to 2024) ²

NRF Funding: Emerging researchers by field

In terms of field of study, emerging researchers were supported across a large range of fields. The full breakdown is shown in Table 1, with demography in Table 2. The NRF strategically invests in areas of national priority as identified in the Department of Science, Technology and Innovation’s (DSTI) Decadal Plan. Disaggregated data assists in understanding the fields where targeted interventions are needed to ensure both the sustainability and transformation of the future researcher cohort in pursuit of national imperatives.

The six fields with the highest number of NRF-funded emerging researchers in 2024 were the health sciences, biological sciences, chemical sciences, engineering sciences, social sciences and physical sciences. When considering the top six fields in terms of NRF researcher investment for each emerging researchers and all researchers, the biological and health sciences are the highest investment fields. The data highlights the need to focus more on the critical skill areas of information and computer sciences, mathematical sciences, and technologies and applied sciences, although the support for the engineering and agricultural sciences at emerging researcher level is encouraging.

Table 1: Proportion of NRF-funded emerging researchers by research area and citizenship, 2024

Research Area	% South African by Research Area	% Foreign by Research Area	% of Total Emerging Researchers
Agricultural sciences	97%	3%	6%
Biological sciences	89%	11%	19%
Chemical sciences	83%	17%	12%
Earth and marine sciences	78%	22%	4%
Engineering sciences	88%	12%	9%
Health sciences	90%	10%	20%
Information and computer science	80%	20%	2%
Mathematical sciences	74%	26%	2%
Physical sciences	71%	29%	6%
Technologies and applied sciences	80%	20%	3%
Arts	80%	20%	1%
Humanities	91%	9%	5%
Law	64%	36%	2%
Social sciences	78%	22%	8%
Economic sciences	82%	18%	2%

2. The average grant calculation excludes funding for research equipment, the South African Research Chairs Initiative (SARChI), Centres of Excellence, travel and conference grants, and other similar funding.



In terms of transformation, Black South African researchers made up fewer than 50% of the NRF-funded emerging researchers in only two fields — law (44%) and Earth and marine sciences (42%). South African women accounted for 50% or more of the NRF-funded emerging researcher cohort in five fields — the social sciences (53%), biological sciences (58%), health sciences (61%), humanities (64%), and the arts (65%). The highest proportion of NRF-funded Black South African women emerging researchers were in the health sciences (47%), humanities (42%) and social sciences (40%).

Table 2: NRF-funded emerging researchers by research area, with demographic breakdown, 2024

Research Area	% SA Black by Research Area	% SA Women by Research Area	% SA Black Women by Research Area	% Foreign Researchers by Research Area
Agricultural sciences	82%	48%	37%	3%
Biological sciences	59%	58%	38%	11%
Chemical sciences	74%	39%	34%	17%
Earth and marine sciences	42%	44%	19%	22%
Engineering sciences	67%	31%	26%	12%
Health sciences	70%	61%	47%	10%
Information and computer science	64%	40%	32%	20%
Mathematical sciences	52%	42%	23%	26%
Physical sciences	58%	33%	29%	29%
Technologies and applied sciences	78%	30%	30%	20%
Arts	50%	65%	35%	20%
Humanities	64%	64%	42%	9%
Law	44%	44%	32%	36%
Social sciences	63%	53%	40%	22%
Economic sciences	68%	37%	29%	18%

Conclusion

The analysis presented in this volume of NRF Data Insights reflects the critical role of targeted funding and strategic investment in shaping the future of South Africa’s research landscape. Progress has been made in increasing support to younger and emerging researchers, particularly in terms of demographic transformation and increased grant values. However, ongoing challenges have also been identified, including the low number of postdoctoral fellows and researchers under the age of 30, given the small proportion of students completing Doctorates at this age. In fact, the slow growth in the proportion of permanent research and instruction university staff with a Doctorate is an ongoing challenge, with only 54% holding a Doctoral degree in 2023, compared to 49% in 2019. The NRF’s pipeline approach to researcher development, from next-generation scholars to established researchers, is a strategic response to these systemic issues and the need to ensure a sustainable research cohort.