NELSON MANDELA UNIVERSITY

Structural changes in support of public engagement with science in South Africa

Azwinndini Muronga

Faculty of Science

CEF Plenary: Community Engagement Across the Frontiers

Snowmass21 Community Planning Meeting

5-8 October 2020 @18:00 - 23:00 SAST

SnowMass2021

Outline

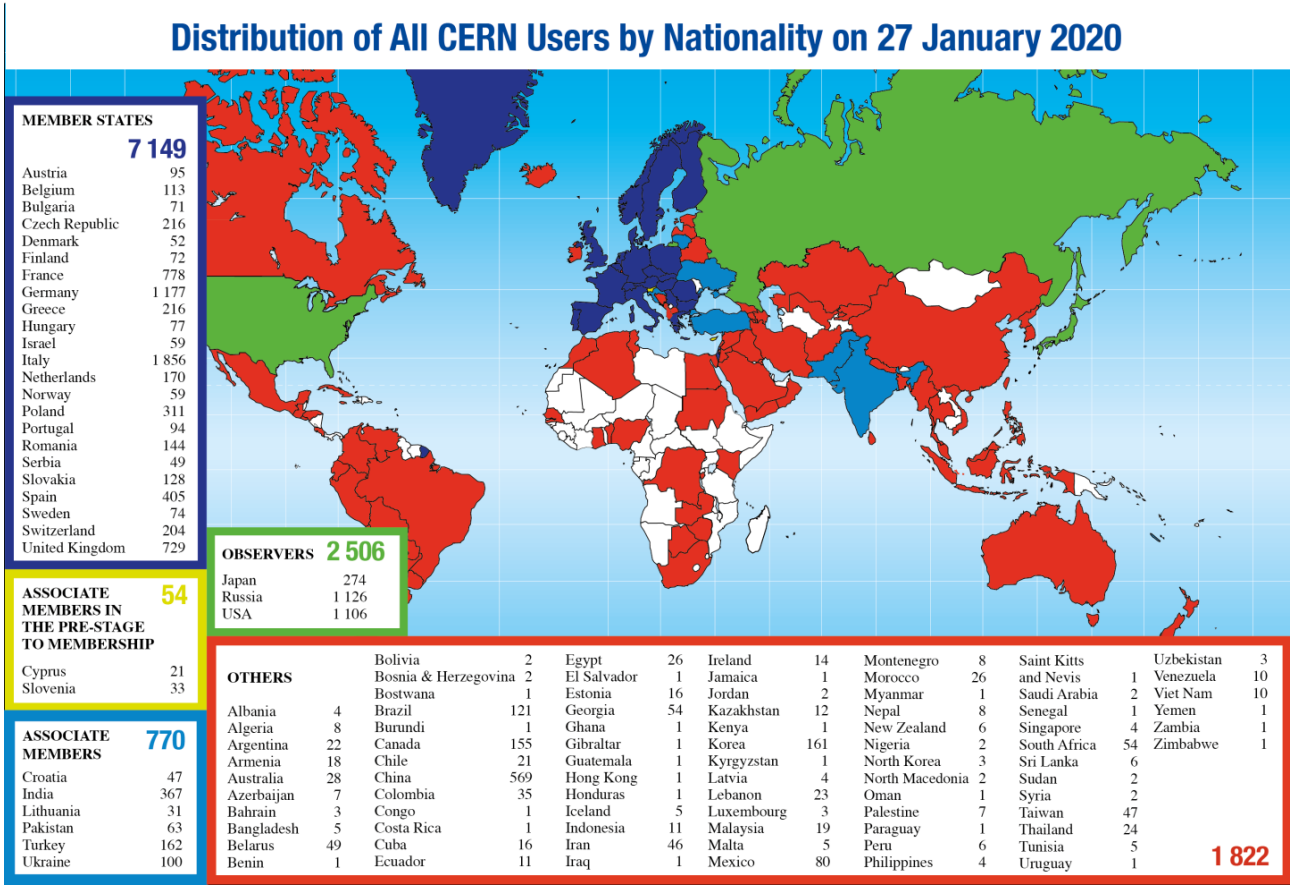
- Why science engagement matters for Africa
- Brief South African context
- Structural changes through national policy
- Structural changes at Institutional and Faculty/Departmental level
- Structural changes at Professional Society level

- **References**

- White Paper on STI
- Science Engagement Strategy:
- Science Engagement Implementation plan
- Amended NRF ACT
- Physics Comment
- Shaping the Future of Physics in South Africa
- Nelson Mandela University Organizational Redesign Plan

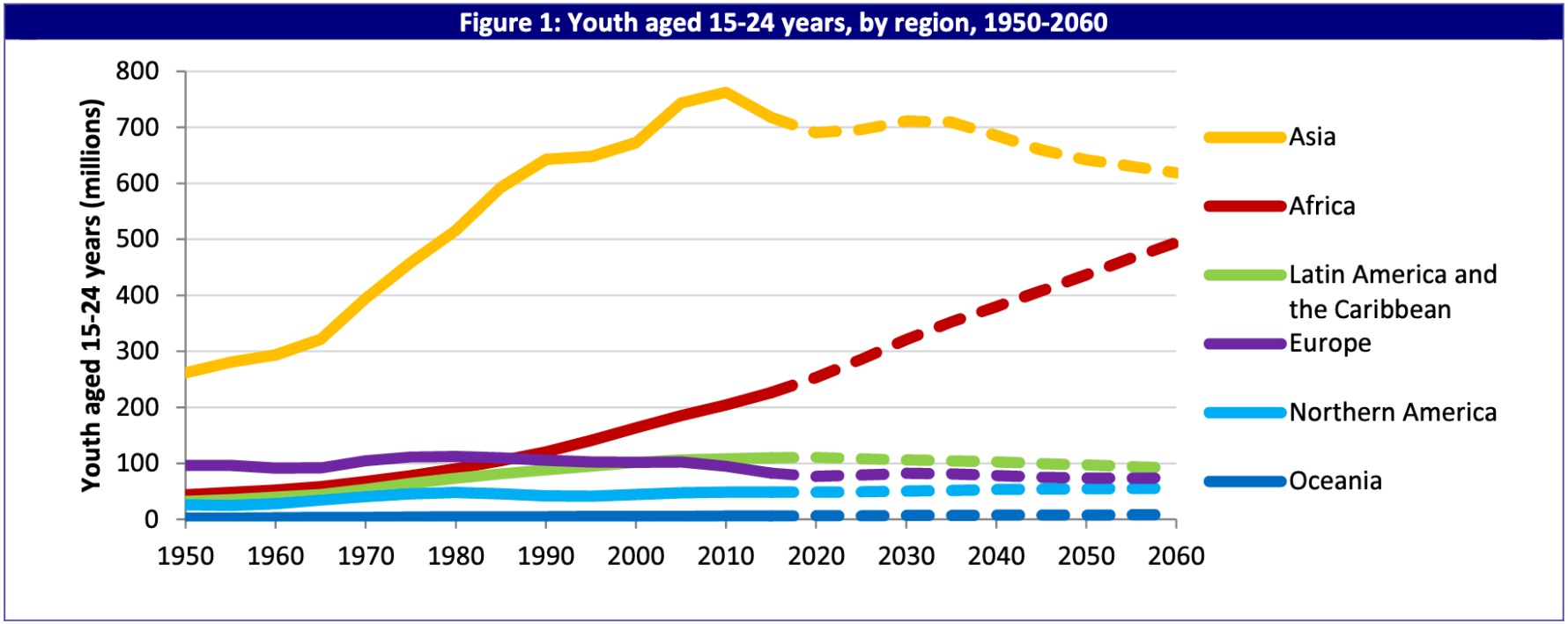
Science Engagement is important for development in Africa

The need for more students from Africa to participate in HEPP



About 0.01% of CERN users are African Nationals

Why we should care about attracting the youth of Africa into science - now



Data source: United Nations (2013) *World Population Prospects: The 2012 Revision.*

Currently about 60% of **Africa's population** is under the age of 25, making **Africa** the world's youngest continent. The number of youth in Africa accounts for about 20% of the global youth population and is predicted to double by 2055

https://www.un.org/esa/socdev/documents/youth/fact-sheets/

The South African context

Pre-1994 - A siege society under apartheid

- 1960s and 1980s represented the worst of times due to apartheid policies
- Progressive isolation of a science system – internationally and internally
- The apartheid ideology also had negative effects on the state of the SA science system itself
- The creation of historically black universities (HBUs) a.k.a 'bush colleges' in the 1960s led to a different kind of polarization

The tide turns – transition to an inclusive democracy

- South Africa becomes a democracy in 1994

- The period of isolation ends
- A new ministry of Science and Technology (S&T) is established
- Rapid evolution of a new and dynamic national S&T system
- A well-developed, newly reorganized university system
- Strategic high-level human capital development in S&T – the new priority
- Big science in South Africa – the SKA, MeerKAT and multi-messenger astronomy, iThemba LABS, Ocean Sciences, SA-CERN …

Shaping the Future of Physics in SA -- 2004

- Declining levels of funding, the red-shifting of the age profile of productive scientists, and the poor appreciation by the public of the role of physics in society and for development

- 14 recommendations emerged, all implemented by now

1. In many countries, elementary and secondary school teaching of mathematics and science is a considerable worry. In South Africa this situation is exacerbated in the historically black schools. Although beyond the scope of this inquiry, we must flag this very serious situation. We acknowledge that steps are being taken to address this matter, but urge the relevant authorities to pursue it with even more vigour, as it is a crisis situation. Individuals in the physics community are to be commended for their activity in this regard, but more involvement is needed, particularly at the structural level. [SAIP, NRF, Department of Education]

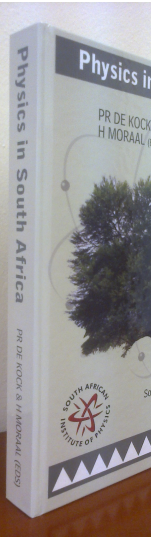
2. The long-term sustainable future of physics in SA depends on the country's commitment and investment in the development of a workforce that is representative of its demographic diversity. Evidence indicates that, while there is a rapidly growing cadre of physics students from previously under-represented groups, there are perceived difficulties that need to be addressed by the established physics community and by the funding authorities. Apart from financial barriers to both undergraduate and postgraduate study (addressed below), there are others matters of concern, such as that relating to the integration of students of different cultures into existing departments, particularly in regard to the transfer of students from HBU's to HWU's. These questions need to be addressed urgently, and interpersonal communication is of the essence. [University community].

3. Job prospects in Physics are perceived by many young people to be poor, and this affects the take-up of the subject in schools and universities, but this is illusory. Both industry and business welcome them, for both technical and managerial careers, but this is not made apparent. The fault appears to lie on both sides, employers not making it clear that physicists are welcome to apply for their vacancies, and physicists not being sufficiently proactive. We recommend that SAIP mount a "connectivity-campaign". [SAIP]

4. The "Public Understanding of Science" is increasingly important, not least for a democratic nation where the wide appreciation of science is vital. Much is being done but we recommend more, particularly as "the public" consists of many constituencies, all of which are important. [SAIP]

SA science community should be thankful to the international community for speaking up during our dark days

Why South African science community should be very proactive in acting against racism



The American Physical Society
335 EAST 45 STREET, NEW YORK, NEW YORK 10017 • (212) 682-7341

15 July 1987

Prof. G. Heymann
President
South African Institute of Physics
Council for Scientific & Industrial Research
PO Box 395
Pretoria, 0001 South Africa

27 JUL 1987

Dear Prof. Heymann:

The American Physical Society (APS) is concerned about the effects of apartheid on physics in South Africa. I have therefore asked the APS Subcommittee on International Scientific Affairs (SISA) to gather some information and to propose to the APS Council some positive actions that APS might take with the cooperation of physicists in South Africa, in order to improve access to physics for all talented persons in South Africa. In this effort we have received the encouragement of several South African physicists with whom we have been able to have informal contacts.

We were pleased to learn that there are major universities which have opened their doors to black faculty and students in physics, and that some special programs have been instituted to improve access and make up for the poor preparation of many of these students. We applaud the efforts in that direction. We would like to learn more about them and also about the situation in industrial and government laboratories.

Before examining in detail a number of specific programs that SISA is contemplating, we invite your comments and those of your colleagues on whether you believe some adaptation of these proposals might be effective and appropriate in advancing towards a goal of making physics education and research opportunities accessible to all in South Africa. Some of these possible actions which APS might take, either alone or in conjunction with other groups, comprise cooperation in projects such as:

Planning a summer school for black science teachers;
Research awards;
Awards to South African physicists (of any color) who have made notable contributions to the education and training in physics of students from disadvantaged communities;
Selection of scholarship physics students for US universities;
Selection of South African physicists for travel grants to attend meetings and conferences in the USA; and
Donation of journals and books to deserving schools and institutions of higher education.

At SISA's request, Prof. Michael Hoch (Witwatersrand), on sabbatical leave at Cornell, has provided the names of physicists at several black universities in South Africa who might, also, be informed of our interest. That consultation is being initiated by copies of this letter.

I would ask you not only to comment on the ideas presented here, but to augment them with ideas from the South African Institute of Physics and suggestions for cooperation with appropriate groups in South Africa in their implementation.

My colleagues and I look forward to hearing from you.

Sincerely yours,

Val L. Fitch

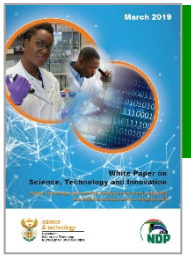
cc: Professor J.R. Seretlo
Head of the Dept. of Physics
University of Fort Hare
Private Bag X1314
Alice 5700, Ciskei, South Africa

Professor Krish Baruth-Rham
Dean of Science and Professor of Physics
University of Durban-Westville
Private Bag X540011
Durban 4000, South Africa

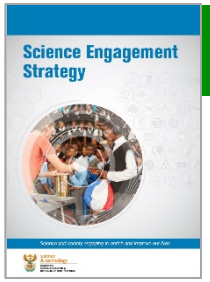
Professor Merlyn C. Mehl
Director, Goldfields Science & Mathematics Resource Centre
University of the Western Cape
Private Bag X17
Bellville 7530, South Africa

Effecting changes at Policy level

Science Engagement (SE) in South Africa

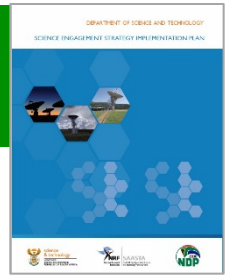


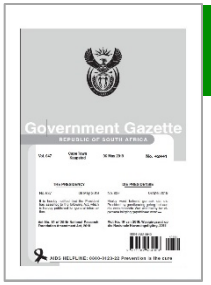
- White Paper on Science and Innovation



Science Engagement Strategy

Science Engagement Implementation Plan





NRF Act and Science Engagement

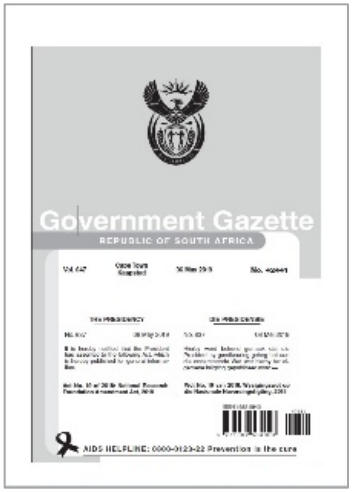
- The White Paper on science, technology and innovation (STI) sets the long-term policy direction for the South African government to ensure a growing role of STI in a more prosperous and inclusive society.

SE in South Africa: Policy context

From the DSI White Paper

- Policy intent:
  - Support a science-literate and science-aware society
- Institutional environment:
  - Coordination of science engagement in South Africa will be entrenched through legislation
  - A system-wide science engagement coordination model will be instituted, enabling higher education sector, industry, research councils, science centres and other relevant stakeholders to collaborate in science engagement
  - Government will introduce an approach whereby a fixed percentage of funding from STI-intensive departments to their entities, is to be spent on raising science awareness

SE in South Africa: Policy - Act



ACT

To amend the National Research Foundation Act, 1998, so as to delete and insert certain definitions; to provide for the Minister to determine national policies and issue policy guidelines for implementation; to extend the functions, powers and duties of the Foundation; to empower the Minister to make regulations relating to the determination of national research facilities; to provide for the withdrawal of the determination or transfer of a national research facility; to empower the Minister to declare a research institution and its eligibility to receive funding; to make certain textual alterations; to provide for the liquidation of the Foundation; to delete certain inappropriate or obsolete provisions; and to provide for matters connected therewith.

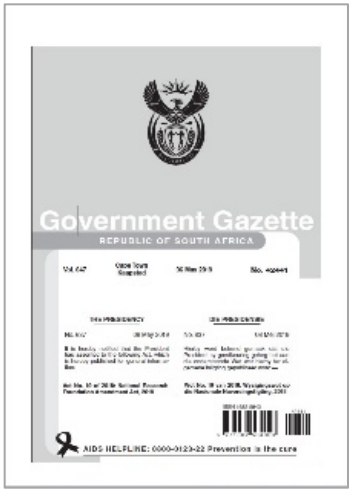
Substitution of long title of Act 23 of 1998

26. The following long title is hereby substituted for the long title of the principal Act: "To provide for the support, promotion and advancement of research, both basic and applied, and **[the extension and transfer of knowledge]** human capacity development in the various fields of science and technology, **[and indigenous technology]** including humanities, social science and indigenous knowledge; and for this purpose to provide for the establishment of a National Research Foundation; to support and promote science engagement; to develop, support, advance and maintain national research facilities; to promote the development and maintenance of the national science system and support of Government priorities; and to provide for incidental matters.".

Short title and commencement

27. This Act is called the National Research Foundation Amendment Act, 2017, and comes into operation on a date determined by the President by proclamation in the *Gazette*.

SE in South Africa: Policy - Act



(*g*) by the substitution for the definition of "research institution" of the following definition:

" **'research institution'** means the institution conducting research as recognised by the Minister in terms of section 5A;";

(*h*) by the insertion after the definition of "science" of the following definition:

" **'science engagement'** means participation by the public in a programme aimed at generating public response to science, which includes but is not limited to awareness, accumulation of knowledge, enjoyment, opinion formulation and scientific literacy;"; and

(*i*) by the substitution for the definition of "technology" of the following definition:

" **'technology'** means the manner through which knowledge accumulated through research or observation finds practical application;".

(*m*) by the substitution in subsection (2) for paragraph *(a)* of the following paragraph:

"*(a)* allocate funds or award grants, contracts, scholarships or bursaries to individual or juristic persons, national research facilities or research institutions—

(i) for research;

(ii) for research infrastructure;

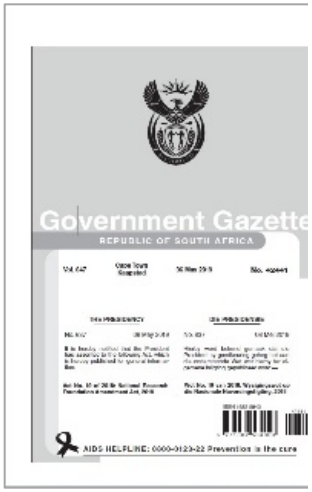
(iii) for human capacity development or related activities; and

(iv) to promote science engagement;";

(*n*) by the insertion in subsection (2) after paragraph *(a)* of the following paragraphs:

"*(a*A) coordinate relevant research institutions and targeted science advancement and outreach activities;";

SE in South Africa: Funding



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Section	Complete	Date Updated	Edit
NRF Call Information Documents (Please			
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Contact Details *			
Qualifications *			
Career Profile *			
Research Expertise *			
Personal Profile *			
Student Supervision Record			
Absence from Research			
Books			
Chapters in Books			
Articles in Refereed/Peer-reviewed Journ			
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Keynote/Plenary Addresses			
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Other Significant Conference Outputs			
Technical/Policy Reports			
Products			
Artefacts			
Prototypes			
Other Recognised Research Outputs			
Disability *			
ORCID *	✓	07 Apr 2020	
Details of Funding Request *	✓	07 Apr 2020	
Details of Hosting: Details of Event *	✗	07 Apr 2020	
Purpose and Motivation *	✗	07 Apr 2020	
Expected Outcomes/Output *	✗	07 Apr 2020	
Impact *	✗	07 Apr 2020	
Possible Reviewers	✗	07 Apr 2020	
Excluded Reviewers	✗	07 Apr 2020	
Alignment to National Imperatives *	✗	07 Apr 2020	
Financials: Operating Costs *	✗	07 Apr 2020	
Financials: Other Sources	✗	07 Apr 2020	
National Infrastructure Platforms *	✗	07 Apr 2020	
Science Engagement *	✗	07 Apr 2020	
Attachments	✗	07 Apr 2020	
Print Preview	ⓘ	07 Apr 2020	

Final Submit

NRF RISA — NRF Online Submission System

Welcome Azwinndini Muronga
Support

Landing / Edit Application - ENGF200407511535 DST-NRF Conference Fund (Review Period 1)

Science Engagement

Instructions

- For the purposes of this application/report, the use of the overarching term science engagement is inclusive of all aspects of public engagement with science, science communication, science literacy as well as science outreach and awareness. It includes all participation by various groups of society in a programme aimed at generating mutual (two way) understanding and responses to science, including but not limited to awareness, accumulation of knowledge, enjoyment, opinion formulation and scientific literacy.
- The approach acknowledges the importance of citizens in the research and innovation process.
- It also embraces a broad understanding of "science" and "the sciences", 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.
- Broader impact encourages engagement beyond the boundaries of academia and considers the impact of the activities/project on the various public(s) and/or the various participants in terms of knowledges and/or awareness, behavioural and/or attitudinal change, skills acquisition etc.
- For more information, click here. The attached Strategy is for the South African Context and may be used by applicants as input to their science engagement strategy. International applicants could utilise this or draw from their own national strategy if it already exists.

Category	Engagement to be undertaken and desired outcome	People/audiences	Intended engagement with audiences	Plan to assess broader impact(s)	Edit	Delete

No records to display.

Add

No science engagement planned

Save | Return to Menu

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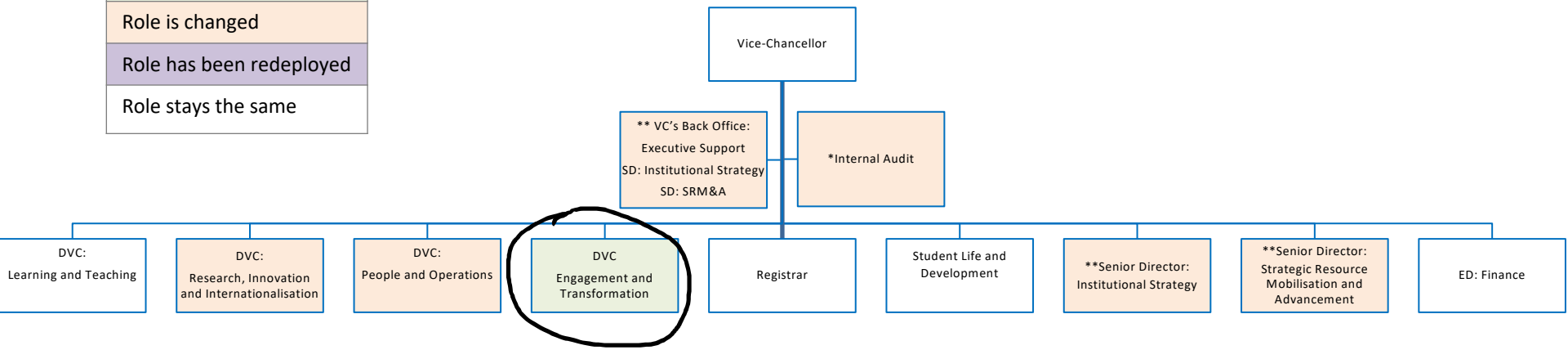
Disclaimer

Effecting change at Institutional level

Case study – Nelson Mandela University

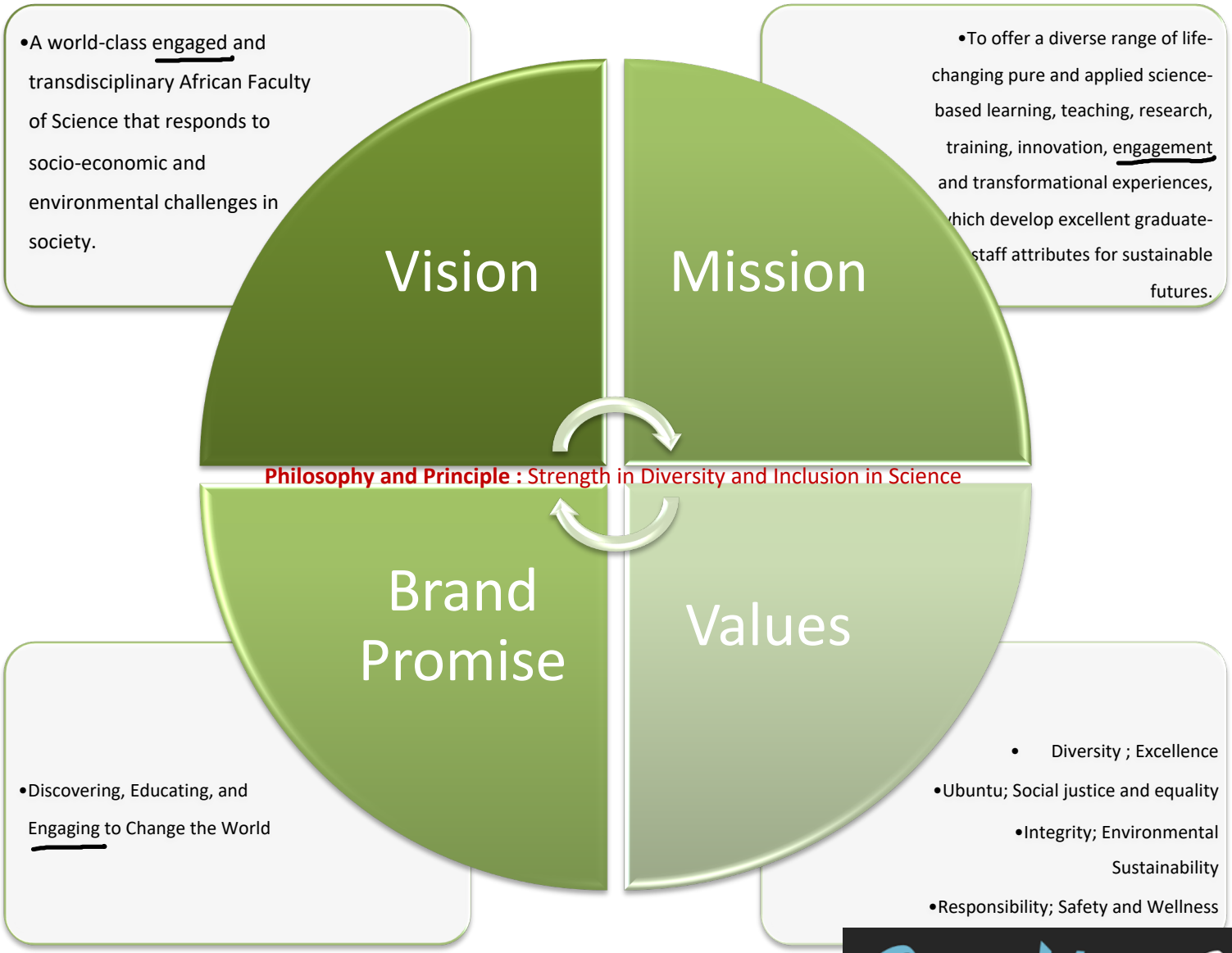
STRUCTURE OF THE VICE-CHANCELLOR'S OFFICE

KEY
Role is new
Role is changed
Role has been redeployed
Role stays the same



Notes:

THE CORE IDEOLOGY OF THE FACULTY OF SCIENCE



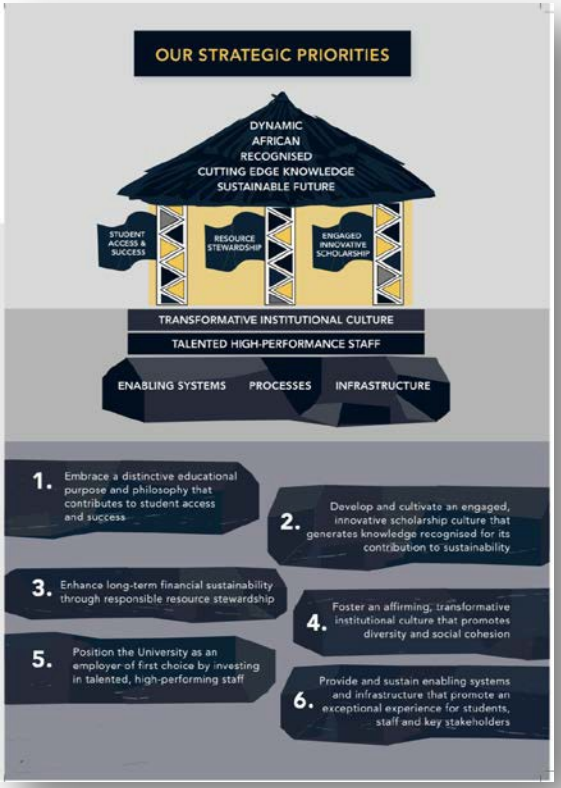
PROPOSED "TO BE" DESIGN | FACULTY OF SCIENCE

FROM → TO

BECAUSE OF

Faculty of Science
Teaching and Learning
Research, Training and Innovation

?



Faculty of Science
Learning and Teaching
Research, Training and Innovation
Engagement and Partnerships

Notes:

SE in Academic Promotions

Candidates must present their application for promotion by way of a CV and a carefully completed "case for promotion template", which addresses their achievements with respect to:

- qualifications and discipline-based knowledge levels;
- learning and teaching;
- research; and
- academic engagement.

Table 4: Achievements in Academic Engagement

Academic engagement involves:

	Lecturer	Senior Lecturer	Associate Professor	Professor
		Mentors new academic staff and young researchers	Regularly mentors new academics and young researchers	Regularly mentors new academics and young researchers
	Experience in participating in developing local partnerships (including liaising with industry)	Experience in contributing to dev. local & national partnerships (incl. liaising with industry)	Experience in developing local, national & international partnerships to foster knowledge exchange	Extensive experience in dev. local, national & international partnerships to foster knowledge exchange & technology transfer
External service to the discipline/ profession		Participates in professional/ academic assoc.	Active participation in professional/ academic associations	Active participation & leadership in prof/ academic bodies &/or editorial boards
		Can participate in public debate based on academic expertise	Participates in public debate based on academic expertise	Contributes to public debate through disciplinary expertise
External engagement with and service to the community	Participates in consulting with NGOs, public & private sector organizations	Acts as a consultant to NGOs, public & private sector organizations	Acts as a consultant to NGOs, public & private sector organisations	Provision of advice & consultancy to organizations (e.g., serving on boards and commissions)
	Facilitating learning tailored to the needs of the external community (incl. SLPs, seminars, CPD workshops)	Facilitating learning tailored to the needs of the external community (incl. SLPs, seminars, CPD workshops, public talks)	Application of disciplinary knowledge & expertise in facilitating learning tailored to the needs of the external community (incl. SLPs, seminars, CPD workshops, public talks)	Extensive application of disciplinary knowledge & expertise in facilitating learning tailored to the needs of the external community (incl. SLPs, seminars, CPD workshops, talks)
	Contributes to projects directed at economic, social & cultural development	Actively participates in projects directed at economic, social & cultural dev. Locally	Actively participates in projects directed at economic, social & cultural dev. locally/nationally	Plays leadership role in projects directed at economic, social & cultural dev. locally/nationally

Examples of evidence that can be provided:

- Internal and external committees/bodies served on (include role, especially if part of the executive). Professors are expected to play greater leadership roles in departments/schools/NMU committees.
- Membership of professional and academic associations (nationally and internationally).
- Leadership and management positions in department and faculty.
- List community engagement projects and SLPs, seminars, workshops, etc. offered.
- List examples of nature and scope of professional consultations.
- Give examples of contributions to public debates.

SnowMass2021

Effecting change at Professional Society level

SE in South Africa: South African Institute of Physics

Vol 7, Issue 3 & 4, December 2015 Webpage Email

Physics Comment

A Southern African Physics Magazine

News from Africa

News from Africa

South African High School students perform experiment at CERN

by Matilda Heron, CERN, Swizzerland. Reprinted from "High-school students become CERN physicists for a a week" published by CERN.

Watch related video report here: (https://www.youtube.com/watch?v=8mZLJjR3M44)

From 10–20 September, winners of the Beamline for Schools competition visited CERN to perform their experiments. Two teams of high-school students – "Accelerating Africa" from South Africa and "Leo4G" from Italy – were chosen from a total of 119 teams, adding up to 1050 high-school students.

"When we were told we'd won we never believed it. People's parents thought we were lying," says Michael Copeland from Accelerating Africa.

Students from Accelerating Africa work on their experiment (Image: Accelerating Africa)

The two teams shared a fully equipped accelerator beamline and conducted their experiment just like other researchers at CERN.

nado Park High School. Their team's experiment used a crystalline undulator – including diamonds grown by specialists – to produce high-energy gamma rays. The team hopes that these gamma rays could one day be used to reduce the half-life of nuclear waste and to treat cancer.

"It makes the classroom come alive. When you sit in the classroom reading textbooks the topics are difficult to conceptualise but now we're living the life of a physicist and doing all of these things that people could only dream of," says Connor Mercer from Accelerating Africa.

Stefano Gagliani presenting Leo4G's experiment at the Beamline for Schools 2015 Prize-winner's event (Image: Sophia Bennett/CERN)

The team Leo4G is made up of a class of 19 students at Liceo Scientifico Leonardo da Vinci school, 10 of which came to CERN to conduct their experiment. The rest of the students were invited to visit CERN and see the beamline on the last two days of the experiment. Leo4G customised a low-cost web-cam to test whether it could be used as a particle detector.

"The highlight for me was the first time we detected particles. We were so excited, and proud. When the camera was parallel to the beam we saw dots, but we didn't know for certain they were particles, they could

The Beamline for Schools 2015 students and organisers at the Prize-winner's event (Image: Sophia Bennett/CERN)

Beamline for schools is a CERN & Society project, funded in 2015 in part by the Fund Ernest Solvay, managed by the King Baudouin Foundation, and funded in part by the Motorola Solutions Foundation. Find out more about CERN & Society projects and how to get involved here.

SAIP Launches the SA Physics Olympiad

By Case Rijsdijk – SAPhO Convener and Ndanga Mahani – Projects Officer SAIP

The South African Olympiad is hosted by the SAIP with the aim of identifying young South Africans with ability in Physics, in the hope that these students will continue to study Physics at tertiary institutions and universities within South Africa.

SA, like many other countries, has a need for expertise in Science, Technology, Engineering and Mathematics education, and in particular, SA has started some major international collaborations, including the Square Kilometre Array, SKA, the Southern African Large Telescope, SALT, Laser Technology, Electron Microscopy and ITC: these all require highly skilled scientists. We

News from Africa

Annual SAIP Conference dinner in Cape Town on 8 July 2016.

Ranking	Name & School	Result
Winner	L Geldenhuys, St John's College, Johannesburg	74%
Runner up:	H Y Mathivha, Mbilwi Secondary School, Sibasa,	70%
Third place	K Spies, St John's College, JHB.	62%

The runner up receives a Silver Certificate and R1 000. The Third place receives a Bronze Certificate and R 500. Merit Certificates are awarded to those scoring between 50% – 61%. Honourable Mention Certificates for those scoring between 40% – 49%, and Participation Certificates for all other participants.

These results were most satisfactory and it is hoped that next year the SAPhO can be extended to about 150 learners.A number of staff, at both the SAIP and SAASTA, are thanked for their support and making the SAPhO the success that it was.

For further enquiries contact: Case Rijsdijk , SAPhO ConvenerPlans for South African Email: case@saao.ac.za . Tel: 044 877 1180 and 083 444 2494

Words of wisdom for WiPiSA women

by Humairah Bassa, UKZN

were just some of the unconventional survival tips for females physicists given by guest speaker Prof Alleta Prinsloo during the women in physics lunch at University of KwaZulu-Natal. The event, organised by Dr Yaseera Ismail on August 11, bought together 13 female postgraduate students and staff members within the department of physics. It was as a result of a WiPiSA initiative with the aim to stimulate interest in physics among females, encourage networking and generate a discussion about the challenges facing women in the field.

The luncheon provided an ideal platform for the attendees to network, share ideas and consider problems in a friendly environment while enjoying a delicious meal together. The issue of balancing a family life with a career in research and the guilt that females feel for any choice they make was discussed in detail. It was emphasised that it is important to take advantage of all opportunities that are presented as well as make one's voice heard in different situtations. On the whole, this event served to strengthen the support structure between females in a male dominated field.

SAIP implements new outreach strategies starting in Limpopo

SAIP President Azwinndini Muronga emphasizes outreach to grow Physics.

One of the new strategies of SAIP is to start with outreach as early as primary school. An SAIP delegation headed for Limpopo to implement outreach activities and plans are in place to follow up next year with Gauteng and other provinces. The delegation was lead by SAIP president Prof Azwinndini Muronga and SAIP Marketing & Outreach chair, Prof Regina Maphanga. Also participating were the communication officer of the National Institute of Theorectical Physics and Nsanganeni Mahani, the SAIP Projects officer during the Limpopo visit which lasted for two days, the 7th and 8th October.

Physics outreach starts at primary schools

The delegates visited Mbilwi Senior Secondary in Sibasa, the University of Venda, Belemu Primary School and Makakavhale Secondary School in the rural villages of Lwamondo, the next day followed by University of Limpopo (Turfloop Campus).

At Mbilwi Senior Secondary on the 7th of September 2015 Muronga handed over a SAPhO (South African Physics Olympiad) Silver Award to H.Y Mathivha who had

SE in South Africa: SAIP

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Physics Comment
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Words of wisdom for WiPiSA women

by Humairah Bassa, UKZN

Prof Aletta Prinsloo (second from left), president of WiPiSA, together with female physicists at UKZN.

"Don't be a victim! Take the credit where it is deserved, be thankful for the support you receive and live in the present! " These

life with a career in research and the guilt that females feel for any choice they make was discussed in detail. It was emphasised that it is important to take advantage of all opportunities that are presented as well as make one's voice heard in different situtations. On the whole, this event served to strengthen the support structure between females in a male dominated field.

SAIP implements new outreach strategies starting in Limpopo

By Ndanga Mahani – Projects Officer SAIP, Pretoria and Thomas Konrad, UKZN, Durban.

Outreach and public understanding of physics has always been a central objective of the South African Institute of Physics (SAIP), which just celebrated its 60th anniversary at the Annual SAIP conference in June. The new SAIP president, Prof Azwinndini Moranga, who is an expert in outreach, made it clear at the last annual SAIP conference in Port Elisabeth in June 2015, that the institute will emphasize outreach to preserve and grow the discipline and SAIP membership. There are currently more than 600 professionals, academics and students that are members of SAIP, 10% of which are from other African countries or further abroad.

Limpopo to implement outreach activities and plans are in place to follow up next year with Gauteng and other provinces. The delegation was lead by SAIP president Prof Azwinndini Muronga and SAIP Marketing & Outreach chair, Prof Regina Maphanga. Also participating were the communication officer of the National Institute of Theorectical Physics and Nsanganeni Mahani, the SAIP Projects officer during the Limpopo visit which lasted for two days, the 7th and 8th October.

Physics outreach starts at primary schools

The delegates visited Mbilwi Senior Secondary in Sibasa, the University of Venda, Belemu Primary School and Makakavhale Secondary School in the rural villages of Lwamondo, the next day followed by University of Limpopo (Turfloop Campus).

At Mbilwi Senior Secondary on the 7th of September 2015 Muronga handed over a SAPhO (South African Physics Olympiad) Silver Award to H.Y Mathivha who had scored second place in the first South African national physics olympiad on 3. August 2015.

From left infront, Mr Lidzhade (headmaster), HY Mathivha (SAPhO Silver Award winner), Prof A Muronga (SAIP), Mr Tshivhase (Circuit Manager), Mrs Mathivha (Parent). Back from right, Mrs Rene Kotze (NITheP) and other educators looking on.

News from Africa

SAIP engaging with the learners at Belemu Primary School...

In an interesting twist of events, it was a personal journey for Prof Muronga. He retraced the the steps of his education as he attended Belemu Primary school then proceeded to Makakavhale Secondary School. After matric at Mbilwi Senior Secondary School Muronga went to University of Venda for his undergraduate studies.

... and Makakavhale Secondary school.

The delegation informed students at the University of Limpopo about career and bursary opportunities in Physics

National Science Week

During the National Science Week, the Soweto Science Centre of UJ organized a two-day event (7. - 8. Aug.) for primary and secondary school learners at Nzhelele, Vhembe District, and Limpopo. SAIP was represented by the Council's President (Prof. Muronga) and Projects Officer (Ndanga).

A total of 2498 learners and 19 educators participated in the event. SAIP's objective was to introduce the learners to Science and inspire them to pursue a career in Science, Engineering and Technology.

Medunsa

SAIP contributed to a colloquium at the annual BSc carreer fair at Sefako Makgatho Health Sciences University (SMU, formerly MEDUNSA) held on the 15th August 2015. A total of 852 students plus guests participated. The aim was to inform science students at this University about bursaries, internships and possible carrier opportunities in science.

Eskom Expo

SAIP was invited to the Eskom Expo For Young Scientists, Gauteng South Regional Finals, that were held on Saturday 29th of August 2015 at UJ, Soweto Campus. The setting represented a good opportunity to inform learners about careers in Physics and SAIP projects such as the Teacher Development Workshop.

Young Scientist awarded Meiring Naudé Medal

Thomas Konrad, UKZN, Durban

ered the isotope N15, the medal is awarded annually to scientists below the age of 35, for extra-ordinary scientific contributions. Dr Marais, wrote her PhD thesis on photosynthesis under the supervision of Prof Francesco Petruccione and Dr Ilya Sinyaskiy and studies the origins of life in the framework of Quantum Biology. She has applied to travel and settle on Mars with dutch company Mars One, and is shortlisted together with 99 other candidates. More about Dr Marais' work, ambitions and interests can be found on her website: http://www.adrianamarais.org