

NSTF Projects



NSTF Science and Technology Awards and Gala Dinner for 2003
The NSTF Awards event continues to be one of the most popular and progressive on the SET calendar.



This year the number of categories recognised was increased from six to twelve. These additional categories were introduced to promote black researchers and were sponsored by the NRF and ESKOM. Partnerships in the awards increased to include the DST, the Telkom Foundation, Eskom, the NRF and the CSIR.

The 6th NSTF Science and Technology Awards Gala Dinner for 2003 was held on Friday, 28 May 2004. More than 500 guests attended the event at the Caesars Gauteng Resort and Convention Centre, Kempton Park. A tribute was paid to the former Minister of Arts, Culture, Science and Technology, Dr Ben Ngubane, who was honoured with the now well recognised NSTF trophy. At the same time, *Who's Who in Science, Engineering and Technology in South Africa 2003* was launched, featuring the awards finalists. It is intended that this publication will be updated annually, to become a 'database' for South Africa's SET fraternity.

The event was admirably attended by, among others, the newly appointed Minister of Science and Technology, Mr Mosibudi Mangena, who presented the keynote address for the evening and guest of honour, Dr T W Kambule.

A full report on the NSTF Awards, as well as copies of the *Who's Who* booklet, are available on request from the NSTF Secretariat.

The Adjudication Panel for 2003 comprised the following:

- Co-ordinator of the Panel, representing the Business Sector
- Education sector
- State Utilities sector
- Government Departments
- Science Councils
- Professional Bodies Group
- Labour sector
- NGO's and Civil Society

- Mr Denis Hunt (SACOB)*
- Mr Raymond Preiss (AFETISA)*
- Mr Eric Lerata (NECSA, Peldev)*
- Ms Anati Canca (DST)*
- Dr Rasigan Maharajh (CSIR)*
- Mr David Botha (SAICE)*
- Dr Rob Toms (FEDUSA)*
- Mr Andrew Molope (AECT)*



For Categories G, H and J only:

- ESKOM
- NRF

- Mr John Gosling*
- Dr Siphokazi Koyana*

We once again salute our winners in each of the following categories:

Main Awards - Recipients of the NSTF Trophies

- An Individual over a lifetime - Professor Wieland Gevers, Faculty of Health Sciences University of Cape Town
- An Individual through Research and Innovation over the last two years - Dr Debbie Glencross, Faculty of Health Sciences, Wits and National Health Laboratory Service
- An Individual through Activities other than Research and Innovation over the last two years - Mr John W Gosling, Technical Resource Development Manager, Eskom
- A Corporate organisation over the last ten years - Centre for Augmentative and Alternative Communication, University of Pretoria
- An SMME over the last three years - BreatheTex Corporation (Pty) Ltd, Port Elizabeth
- A Not for Profit Organisation over the last three years - SASOL SciFest, Grahamstown
- Researchers for Research Capacity Development over the last 5-10 years
 Professor Coleen Moloney: Senior Lecturer, Department of Zoology, University of Cape Town
- Professor Krish Bharuth-Ram: School of Physics, University of Kwa-Zulu Natal
- Senior Black Researchers over the last 5-10 years - Professor Anusuya Chinsamy-Turan: Department of Zoology, University of Cape Town
- Professor Mohamed Iqbal Parker: Faculty of Health Science, University of Cape Town
- Junior Black Researchers over the last 2-5 years - Dr Mamokgethi Setati: Senior Lecturer, Department of Education, University of the Witwatersrand
- Professor Tshilidzi Marwala: Associate Professor, School of Electrical and Information Engineering, University of the Witwatersrand





Education programme recognitions

- Science competition recognitions (Learners):
 - Maths Olympiad: Ingrid von Glehn, Tamara von Glehn and Marietjie Venter
 - Technology Olympiad Winning team: Jenna Keightley and David Scott
 - Science Olympiad: Elzabe Smit, Nicola Immelman and Elizna Rossouw
 - Expo for Young Scientists: Ayesha Mobarra, Fatima Mia and Vhonani Mphaga
- Matriculants:
 - Sedicka Laskery, Western Cape; Candice Benesha Carelse, Northern Cape; Mathapelo Makoena, Free State; Semole Anna Prudence Mooka, Gauteng; Moletseba Dorcas Rakgalakane, Mpumalanga; Marongwa Mametja, Limpopo; Nompumelelo Londiwe Mkhize, Kwazulu-Natal; Pakama Lwandisa Ntshwanti, Eastern Cape
- Teachers:
 - Mr Lesley Ndiyaza, Northern Cape; Ms Vanessa Thaver, Western Cape; Mrs Erika Viviers, Mpumalanga; Ms Zandile Nyuswa, Kwazulu-Natal; Mr Motsienyane Lethena, Free State; Mrs A Mulligan, North West; Mr Kenneth M Maepa, Limpopo; Mr M R Marivate, Limpopo (Bushbuckridge); Mr M Khoza, Gauteng; Ms Lulama Mbane, Eastern Cape
- Schools:
 - Costat School, Western Cape; Ndlela School, Mpumalanga; Mbilwi High School, Limpopo; Mlokotshwa School, KwaZulu-Natal; Metlife-Raucoll, Gauteng; Carl van Heerden High School, Northern; Mampoi High School, Free State; St James Senior Secondary, Eastern Cape; Tsogo High School, North West.

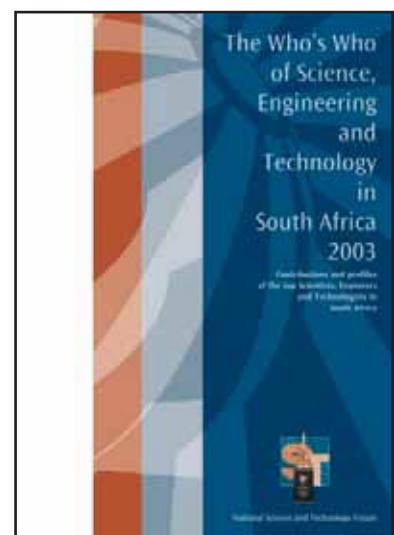


The call for nominations is now open for the 7th NSTF Science and Technology Awards for 2004. The closing date for nominatons is Monday 31 January 2005. The call for nominations form is available, explaining the purpose of the awards, categories, processes and criteria. The form can be obtained from the NSTF website or on request.

SET Awareness and the Public Understanding of Science, Engineering and Technology (PUSET)

During the course of the year, the CEO of the NSTF visited numerous organisations, and attended and presented at many workshops and conferences to promote SET awareness.

In addition to honouring leading SET practitioners, the NSTF Awards event, through its high profile in the media, serves to raise the level of SET awareness. The book *Who's Who in SET in South Africa* performs a similar function.





The NSTF has collaborated with the South African Agency for Science and Technology Advancement (SAASTA) to take the outcomes of a workshop, which was organised by the NSTF in 2003, further. The NSTF gathered interested stakeholders in April 2003 to deliberate on issues surrounding Puset. The workshop was the beginning of a process that will drive strong motivation for Puset initiatives and lobby for greater support with decision makers within government and industry. A call for submissions on Puset was circulated widely and SAASTA agreed to compile a discussion document, which will be used as the basis of a workshop to be organised on Puset. Issues such as sustainability, duplication and resources will also be considered in the document.

On 12 February 2004, the NSTF, in collaboration with the National Development Agency (NDA), hosted a workshop on Poverty Alleviation. This workshop was attended by about 30 stakeholders from key organisations involved in this issue, including the Department of Social Development.

The objectives of this workshop were to:

- Establish a working relationship among organisations concerned with Poverty Alleviation in our country
- Assess the magnitude of the problem
- Assess the availability of resources
- Establish national response to this problem, and
- Establish links with the NEPAD initiatives.

It was recommended that networking efforts needed to be increased and that a wider spectrum of organisations were to be invited to come on board. The outcomes of the workshop are to be taken further by the NDA.

Science, Technology, Engineering and Mathematics Education (STEAME) Initiative

The NSTF has been continuously involved with the STEAME initiative over the years and it remains an important focus area. The CEO of the NSTF was appointed as a member of the Reference Group on the National Curriculum Statement for Further Education and Training schools by the Minister of Education. He also serves on the Mathematics, Science and Technology Special Advisory Council to the Education MEC of Gauteng province.

As their special guests at the 6th NSTF Science and Technology Awards Gala Dinner in May 2004, the NSTF invited all the provincial co-ordinators of the Mathematics, Science and Technology Education (MSTE) Strategy. This was intended as a gesture of support for the MSTE strategy and to encourage the co-ordinators to continue with their efforts to improve these subjects in schools.

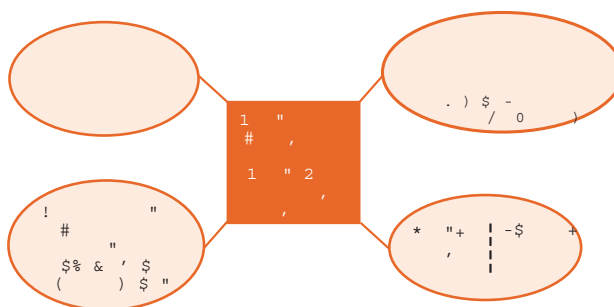
The CEO of the NSTF joined the Gauteng MEC for Education and a group from the Gauteng Education Council on a visit to some schools in the biggest school district, including a Dinaledi school (schools identified to focus on Mathematics and Science subjects). This was a very fruitful exercise. After three years and despite concerted efforts, it is clear that much work has yet to be done with regard to Mathematics and Science in schools.

To confirm this situation, the CEO of the NSTF scrutinised the Matriculation results of 2003, as analysed by the National Department of Education. A summarised version of the results is presented here, as well as tables, which may serve as useful sources of information.

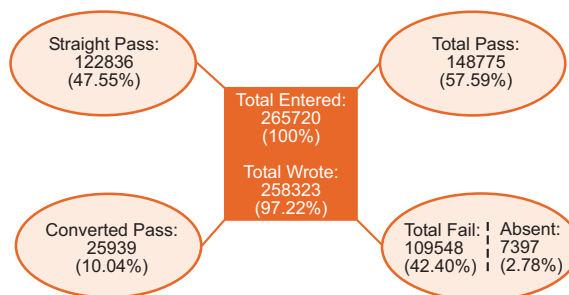




Figure 3:
2003 National Matriculation Results
All Subjects: 6 or More Taken



Participation and Performance
in Mathematics: HG & SG



Dinaledi dedicated schools: Participation and Performance - Grade 12 of 2001 - 2003

Table 1

| YEAR | MATHEMATICS (HG & SG) | | | PHYSICAL SCIENCE (HG & SG) | | |
|------|--------------------------|--------|------|-------------------------------|--------|------|
| | Wrote | Passed | % | Wrote | Passed | % |
| 2001 | 6467 | 2563 | 36.8 | 4000 | 1746 | 44.6 |
| 2002 | 7370 | 3450 | 47.5 | 4479 | 2536 | 53.4 |
| 2003 | 7480 | 4580 | 63.5 | 4517 | 3468 | 78.3 |

Table 2

| YEAR | MATHEMATICS HG | | | PHYSICAL SCIENCE HG | | |
|------|----------------|--------|------|---------------------|--------|------|
| | Wrote | Passed | % | Wrote | Passed | % |
| 2001 | 724 | 285 | 45.4 | 1313 | 431 | 30.0 |
| 2002 | 1484 | 561 | 43.7 | 1978 | 753 | 41.5 |
| 2003 | 1533 | 898 | 68.1 | 2172 | 1199 | 60.3 |

What is very clear is that a high number of learners fall out of the education system. These accumulatively add to what is called "Out of School Youth" who in turn increase the unemployment rate.

More than 50% of learners who enter for Matriculation examinations contribute each year to the increased numbers of "Out of School Youth" and to unemployment. These learners may not repeat the year at their schools. Some rewrite their matriculation examination, but very few get to improve their position. Most of the learners who pass their examinations are not admitted at Higher Education Institutions, because of lack of funds or poor matriculation results, etc.

A significant number of these learners do not get jobs because they lack relevant skills and experience, and hence they become unemployed. The SETAs do absorb a few of them, but still the pool of "Out of School Youths" is growing every year.



About 40% of first year students at Universities fail and drop out to join the "Out of School Youth".

Prompted by these challenges, the NSTF has proposed that a Skills Development and Training Strategy in Science, Engineering and Technology, be generated as an urgent start to improving the "Out of School Youth" problem and the national unemployment rate, which now stands at about 40%.

Let us grab the bull by its horns! The information below was obtained from the National Department of Education.

NEPAD

The NSTF, in collaboration with the DST and NACI, is working to take the process of NEPAD in Science and Technology further. The DST is the custodian of this initiative in South Africa.

Following the NEPAD Ministerial Conference for Science and Technology that took place in November 2003, the NSTF has participated in several consultative workshops organised by the DST. These form part of the process of translating the adopted Plan of Action into a business plan for the 12 flagship programmes identified by the Ministerial Conference for Science and Technology as:

- i. Biodiversity science and technology;
- ii. Biotechnology;
- iii. Information and Communication Technology (ICT);
- iv. Energy technologies;
- v. Materials science;
- vi. Space science and technologies;
- vii. Post harvest food technologies;
- viii. Water sciences and technology;
- ix. Indigenous Knowledge Systems (IKS);
- x. Desertification research;
- xi. S&T for manufacturing; and
- xii. Laser technology.

National surveys are currently being conducted to establish institutional capacity. These will be followed by regional workshops, where collaborative projects will be formulated on the basis of regional priorities.

Recently a workshop surrounding NEPAD in Science and Technology was organised for NSTF stakeholders to:

- Provide a consultative platform for the S&T community to share ideas on NEPAD in S&T
- Apprise NSTF stakeholders of the status of the NEPAD Science and Technology programme
- Provide an opportunity for the participants to contribute to the formulation of a common national approach to the NEPAD programme for Science and Technology, and
- Formulate priority projects to contribute towards the formulation of a programme for Southern Africa and the continent.

More than 150 participants attended the workshop. The outcomes of the workshop will be compiled into a document with recommendations which will be submitted to DST.

Ethics in Science and Technology in South Africa

There has been no progress in this initiative for the past two years, since it became apparent that the positive involvement of government, and in particular the DST, was crucial to its success. At the time, the DST did not have sufficient capacity to handle the issue effectively, since it is an extremely involved and controversial one.

Recently, meetings have been held with top officials of the DST in an effort to revive the process. The DST has now committed to working with the NSTF and NACI to see to it that the process takes off. Preparations are under way to establish a joint reference group that will again drive the initiative, which has received the endorsement of Minister Mosibudi Mangena.