

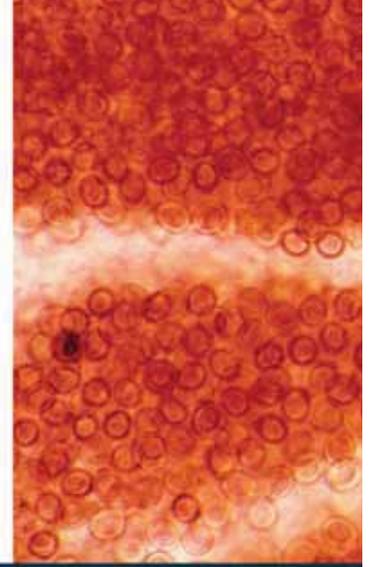


**Science, Engineering and Technology -
the lifeblood of South Africa's development**

National Science and Technology Forum

Annual Report 2004

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Business Parameters



Our Vision

To promote and build human resources through sustainable partnerships as the foundation of a national Science, Engineering and Technology (SET) organisational and institutional infrastructure, which will drive and sustain South Africa's economic growth.

Our Mission

To co-ordinate, facilitate, catalyse and contribute to the implementation of SET initiatives, activities and projects which, through passion, determination and compassion with all stakeholders, will make a significant contribution to the economic, human and social development needs of South Africa, whilst maintaining environmental sustainability.

Our Objectives

- To develop a process that initiates and develops participation by SET stakeholders
- To act as a sounding board for Government
- To provide a communication channel to and from the State President, Parliament, and any other legislative or administrative body or commission, on science and technology (S&T) matters
- To seek common understanding on short-term SET issues, transitional SET issues and issues involving the reconstruction of the SET system
- To fulfil the NSTF's role in respect of any instruments and structures in society that seek to consult or communicate with the broad SET community
- To advance, promote and protect the common interest of the NSTF's members relating to S&T
- To support the development of an integrated S&T system which reflects the principles inherent in a free and democratic South Africa
- To liaise and co-operate with other organisations on matters of common interest

Operational Strategy

To proactively promote SET in South Africa, through various initiatives, by interacting and networking within the SET sectors and community and mapping out the pathways based on SET innovation. Operations are conducted through Plenary Meetings, the Executive Committee and the Secretariat.

Support Base

Membership

The more than 100 member organisations of the NSTF are representative of the following sectors:

- Government Departments involved in SET issues
- Science councils
- Professional bodies / SETAG
- State Corporations and Utilities (Parastatals)
- The Education sector
- The Business sector (Corporate; Small, Medium and Micro Enterprises (SMME's); and Business Associations)
- Labour
- Civil Society and Community-Based organisations
- SET Service Providers
- Student organisations
- Women's organisations
- Linkages with SET organisations in Africa
- Linkages with SET organisations globally

Members of the Executive Committee

Mr J Marriott	NSTF Chairperson, Sasol
Prof BD Wingfield	NSTF Vice-Chairperson and Professional Bodies, SAWISE
Dr MJ Hlongwane	NSTF CEO
Prof MJ Green	Business Sector, Sasol Technology
Dr R Adam	Government, Department of Science and Technology (DST)
Dr RB Toms	Labour Sector, NFI
Mr D Kramer	NGO's and Civil Society, Sci-Bono Discovery Centre
Mr D Botha	Professional Bodies / SETAG, SAICE
Prof R Crewe	Education Sector, SAUVCA
Dr VZ de Villiers	State Utilities, Necsa
Dr F Petersen	Science Councils, Mintek
Ms B Njobe	Additional Member, Department of Agriculture
Dr XH Mkhwanazi	Additional Member, Bateman Africa
Mrs WM Eksteen	NSTF Secretariat



Chairperson's Message

A strong science, engineering and technology sector is essential for promoting development and economic growth.

The National Science and Technology Forum (NSTF) has entered its tenth year of existence as I complete my first year as Chairperson. It is generally recognised that a strong science, engineering and technology sector is essential for promoting development and economic growth. In South Africa government has understood this. The NSTF has earned its place in the South African national system of innovation and it has become the primary stakeholder forum amongst all the players in S&T in this country. The past year has been a strong learning curve for me. We are fortunate that the NSTF is well served by an excellent executive committee, an active CEO and administrative staff. The result is that the meetings are well attended and the membership involved. We must be very grateful for the support given to us by the DST both in terms of involvement as well as financially.

The NSTF functions primarily as a forum for all stakeholders in science, engineering and technology. Thus the breadth of its membership is very important. In this respect I am pleased that the initiative to expand the involvement and participation of the many scientific technical and professional societies is successful. The active involvement of the broad spectrum of membership can only enhance the value of the NSTF for South Africa. The executive committee also believes that membership of the NSTF needs to be increased in other sectors particularly amongst large and small business and actions are planned to realise this. It remains equally important to ensure that the participation of members remains at a high level.

The NSTF has been active in the area of serving as a sounding board for government as it develops policies and in reporting back on the results of its various policies and strategies. We welcome the way in which the DST and other government departments have been prepared to share their plans and programmes with our membership through presentations at plenary meetings. Equally these meetings have provided members with opportunities to provide these same government departments with feedback and suggestions. While the plenary meetings do not provide the time to go into detail on the many issues of importance to membership we plan to hold more seminars and workshops in future to probe issues of importance to members in more detail. I believe that through this mechanism we will be able to serve the purpose of the NSTF better.

One of the ways in which the NSTF is able to reach its objectives is through the identification of critical crosscutting activities and then, through its executive and membership, to ensure that the importance of the issues is discussed with the many role-players. One such crosscutting issue is the matter of skills development and availability. In our focus on the academic sector it is sometimes forgotten that economic development is dependant not only on a vibrant tertiary sector but also on more practical and vocational training. The issue of skills training and skills development is receiving attention as is detailed elsewhere in this report.

Recognition of achievement in SET amongst individuals and organisations is a particularly valuable role that the NSTF plays. I am proud to report that the NSTF's Annual Awards Function seems to grow in size and importance every year. Simply by attending the awards dinner one can see the pride of individuals and organisations in the achievements that are publicised as well as the motivational effect of such awards. In 2004 the NSTF was privileged to be able to expand the awards to recognise excellence amongst black researchers, both junior and senior, thanks to the initiative of the NRF and Eskom. Both organisations recognised the need to encourage greater participation in the research sector by young black people if true transformation is to take place in South Africa. It was pleasing to me to see the number and quality of the finalists presented.

The year 2004 has seen the celebration of ten years of democracy in South Africa. During most of these ten years we have been privileged to work closely with Dr Ben Ngubane as Minister of Arts, Culture, Science and Technology. It has been with him at the helm that we have realised so many of the significant developments in policy and strategy that are close to the hearts of those of us involved in science, engineering and technology. I wish to place on record the NSTF's deep gratitude to Dr Ngubane and our thanks for his contributions.

The decision by President Thabo Mbeki to create a single ministry of Science and Technology must stand as a landmark decision in the development of South Africa. We are very grateful that the President has demonstrated his belief in S&T in this manner. We must congratulate Mr Mosibudi Mangena on his appointment as the first Minister of the new DST. We look forward to fruitful co-operation in the coming months and years.

The success of the NSTF can, to a large extent, be ascribed to the effective and enthusiastic way in which our CEO, Dr James Hlongwane, and our secretariat, Mesdames Wilna Eksteen and Bernice Knight, have carried out their functions. The results achieved by this small team have been superb and they have in no small way helped me through the learning curve I spoke about earlier. Also I must record my thanks to the members of the executive committee, particularly the Deputy Chairperson, Prof Brenda Wingfield, who have contributed so effectively during the year.

Mr J Marriott
Chairperson

Chief Executive Officer's Progress Report

Looking Back

I was reminded recently that the NSTF is the largest and the longest surviving S&T forum in South Africa. It has seen and participated in the conceptual days of our country's democracy and it has contributed to the establishment of the National System of Innovation through its activities.



Ten out of Ten - for successful National Impact on SETI

After ten years of South Africa's democracy, it is appropriate to remind our stakeholders of the ten most significant contributions made by the NSTF during this decade. The NSTF has:

1. Contributed and provided input into the White Paper on Science and Technology and other policy and planning processes within government
2. Initiated the discussion that led to:
 - The declaration of South Africa's first Year of Science and Technology (YEAST) in 1998, and
 - The establishment of the highly acclaimed annual NSTF Science and Technology Awards which honour role models and reward excellent achievements in SET
3. Participated and added considerable value to initiatives and processes relating to the establishment of the NRF and the Presidential AIDS Advisory Panel and acted as an observer in the debates of the panel on HIV/AIDS
4. Played an active role in the evaluation, review and implementation processes of the:
 - National System of Innovation (NSI)
 - Innovation Indicators
 - Research and Development Strategy
 - National Human Resource Development Strategy, and
 - National Research and Technology Foresight Exercise
5. Substantially contributed, through the organisation of working groups and workshops, to the development of the S&T Commission of the African Renaissance vision, to ensure that SET plays its rightful role in promoting NEPAD in the African continent
6. Initiated debate and discussions on Ethics in S&T in South Africa that produced a discussion document and a charter aimed at establishing a National Consultative Council on S&T Ethics in South Africa
7. Advocated for the review of work permits for SET professionals, which led to workshops and discussions on the effects of the "brain drain" on South Africa
8. Aspired to change the face of education in South Africa by initiating discussions and leading national consultations that resulted in the formulation and implementation of the Mathematics, Science and Technology Education Strategy for schools
9. Commissioned a joint study between the NSTF and NACI addressing Growth and Innovation and its perspectives on the interaction between economic growth, science, technology and human capital, and
10. Contributed actively in the generation of the National Sustainability Strategy as well as the organisation and deliberations surrounding the World Summit for Sustainable Development.

Highlights of the Year

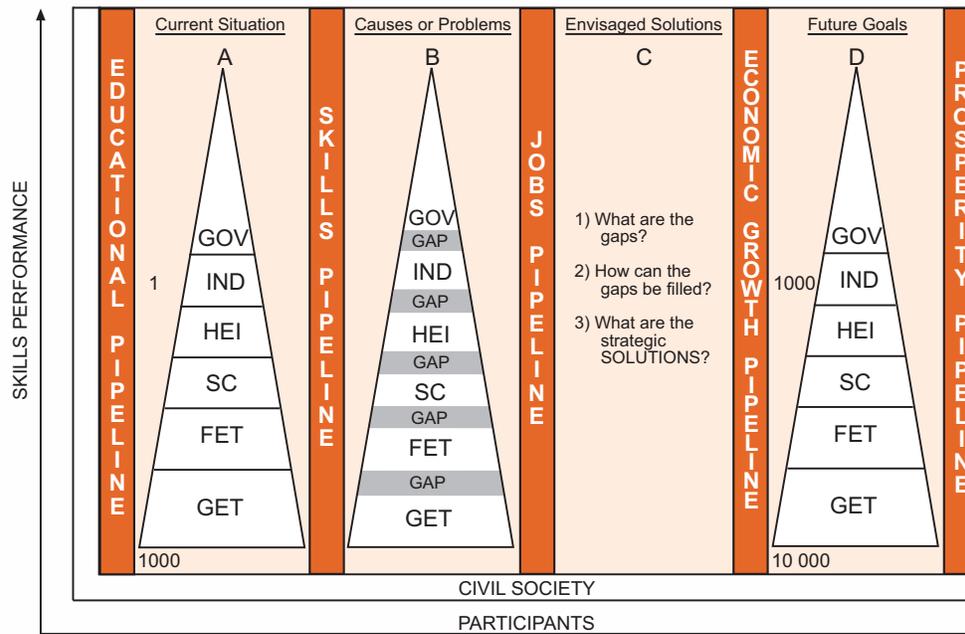
Skills Training and Development

In our 2002 - 2003 Annual Report we identified Skills Training and Development as the important tool that is required to fulfil one of freedom's greatest challenges, namely Poverty Alleviation. A SET Skills Development and Training Strategy was proposed and visits were subsequently made to more than fifty organisations, institutions and government departments to discuss the matter and gather their ideas and input. The response to this proposal was enormous, as was the response to the subsequent proposed model for discussion on a Skills Development and Training strategy in SET.

The model proposes a holistic approach to identify the challenges, gaps, impediments and obstacles which are currently facing Skills Development and Training. It also addresses the issue at all levels, from schools through to government. The diagrams below throw some light on the process, from the current situation and proposed solution through to the desired end state.

We heartily invite all stakeholders to participate in, and contribute to, the generation of this strategy. Since the NSTF played a leading role in the formulation of the Mathematics, Science and Technology Education (MSTE) Strategy for schools, we have shown that together, nothing will stop us from formulating a useful strategy for Skills Development and Training in S&T. We need your expertise and support. Please do not hesitate to contact our secretariat for an appointment to share your ideas.

Figure 1: Skills Development and Training Strategy



Explanatory notes on the Skills Strategy Diagram (Figure 1)

Abbreviations:

FET	Further Education and Training	HEI	Higher Education Institutions
GET	General Education and Training	IND	Industry and Commerce
GOV	Government as represented by the various Departments, e.g. DoE; DoL; DST; DTI; DoA, etc.	SC	Skills Centre - like SETA Centres, Science Centres and special Skills Development Projects or Programmes, etc.

Descriptions:

Participants means people who are involved in the Skills Development and Training System. These may be learners, students, professionals, workers, managers and directors at different levels.

Performance means the level or quality of education or skills exhibited by the participants; a degree of competence displayed.

Current Situation (A):

This depicts the different sectors in the education and skills systems. The triangle shows the number of learners who are studying Mathematics and Science and who are aspiring to follow careers in Science, Engineering or Technology. For every 1000 at the GET level, only one currently qualifies. The rest tend to drop out for many reasons. This contributes to a low number of suitably skilled people in SET.

Causes of the Current Situation or Problems (B):

This depicts the many causes and problems, which create huge gaps in the different pipelines or systems. These gaps widen at different levels.

Envisaged Solutions (C):

This is the challenge to the SET community, in fact to all citizens of South Africa. New working solutions must be generated for SET skills.

Future Goal (D):

This represents the desired situation, where the number of initial participants in SET is increased to 10 000 and skills performance is improved to the extent that despite natural attrition, 1000 qualify.

Pipelines:

The pipelines represent different systems which are key to sustainable development.

- **Education:** Currently our education pipeline is nothing to write home about. The quality of education and enthusiasm in Mathematics and Science in schools is poor. Both participation and performance need to be inspired to better levels, so that SET careers may prove to be beneficial to society - leading to a better life for all.
- **Skills:** South Africa has a great need for people with appropriate skills. What skills are acquired from the education pipeline? At what level do we begin to acquire these skills? The flow between education and skills training is not well established.
- **The Job, Economic Growth and Prosperity pipelines** need to be seriously overhauled or reconstructed to meet the needs and aspirations of the four economic groupings of our communities. These also need to be linked to the education and skills pipelines.

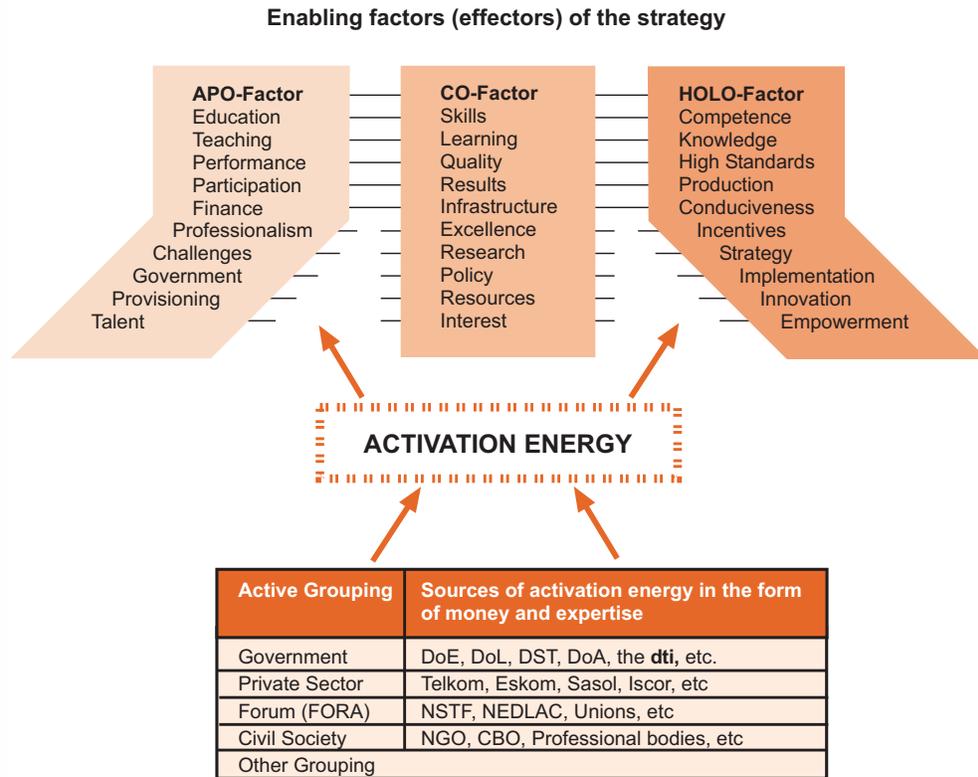
This is the challenge to all of us and I appeal to you to contribute to the development of the Skills Strategy in SET.

Talking of challenges and solutions, sometimes solutions come out of dreams. This reminds me of the DNA model, which sounded like a dream some 50 years ago. Now it is solving many intricate problems. My dream about the skills problem in SET derives from the DNA model, as the basis of the solution to the challenges we are facing in Education and Skills Development and Training. I dream of a Triple-stranded Model of Skills Development and Training Strategy in SET.





Figure 2: Triple-stranded model of Skills Development and Training Strategy of SET



Membership Participation Platforms

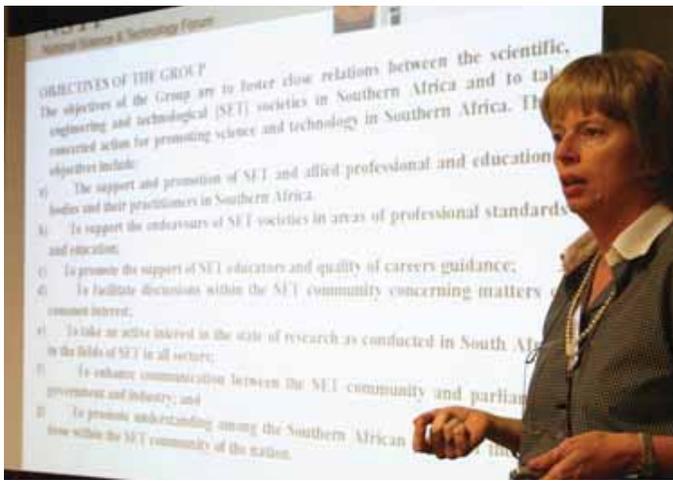
As a Forum, the NSTF has created platforms to promote participation and communication by its members. One of these platforms is the Plenary meetings, which are held twice a year. For the past two years participation by members increased tremendously.

The NSTF's plenary meeting is where stakeholders and other interested parties meet to debate and discuss issues on SET. The plenaries are also used as a platform for government to present new policies as well as strategies.

The NSTF uses the plenary meeting to report on its administrative matters, finances and projects. At its May 2004 plenary, the CEO of the NSTF presented the Skills Development and Training Strategy in SET, as described above. The DST presented the Science and Technology Direction for the next 5 years. The HSRC presented the outcomes of its Research and Development Survey.

Membership Development

Due to the ongoing growth of the NSTF's membership over the years, it was decided that a comprehensive membership audit should be undertaken during the period under review. As a result of this audit, a number of non-active members were identified. Where attempts to revive their interest were unsuccessful, they were removed from the database. Active members were reaffirmed and as a result, the NSTF now has a strong membership of about 110 umbrella organisations. Its news/communications readership is now distributed among more than 3 000 individuals across South Africa.



The SETAG sector of the NSTF

One of the biggest sectors of the NSTF membership, the Scientific, Engineering, Technological Societies and Allied Professions Group of South Africa (SETAG), was launched during the year.

The NSTF has embarked on a Strategic Plan to grow its membership base. It reviewed its membership structure and recognised that it had a model that will encourage more sectoral identity and participation of the SET community in the National System of Innovation (NSI), which is crucial in order to integrate efforts and to provide a common platform and critical mass.

The NSTF invited all the SET professional bodies, associations, societies and groups that it is aware of, to come together to form one group which is known as SETAG under the umbrella of the NSTF. This sectoral organisation would then eliminate the need to establish other less coherent umbrella bodies. SETAG will seek to address issues of common interest including, for example, the importance of Mathematics and Science and the visibility and recognition of the sector in building South Africa. However, the individual organisations forming SETAG will continue with their normal activities outside the NSTF and SETAG.

SETAG was successfully launched on 14 September 2004. More than 120 SET organisations were represented. The Interim Executive Committee of SETAG was given a unanimous mandate to proceed with the organisation of the necessary structures and activities that would ensure meaningful participation by all SETAG members.

All speakers at this launch emphasised the need for the formulation of SETAG and the power that such a unity would bring in terms of lobbying and mobilisation. Dr Adi Paterson, the Chief Operating Officer of the Department of Science and Technology represented government at the launch. He applauded SETAG members for this brave move and initiative and encouraged them to unite and work together in order to influence SET policy and strategies effectively.

We thank all those who attended for their participation, as well as Eskom and the University of Pretoria for sponsoring the event. A follow-up meeting will be organised where a formal Executive Committee will be elected and the plan of action will be discussed and generated.

SET organisations that are not yet members of SETAG are urged to join this powerful SET team. For more information, please contact the NSTF Secretariat or visit the website www.nstf.org.za

Science, Engineering and Technology are the major pillars of the South African economy and create a better and sustainable quality of life for all. We challenge you to become one of the building blocks in these pillars!

Members of the SETAG Interim Executive Committee	
Prof Brenda Wingfield	Interim Chairperson, SAWISE
Prof Robin Crewe	Member, ESSA
Dr James Hlongwane	NSTF CEO
Mr David Botha	Member, SAICE
Mr Dawie van Wyk	Member, GSSA
Mr Mike Crouch	Member, SAIEE
Mrs Wilna Eksteen	Secretariat, NSTF

Further membership recruitment is being pursued and applications for membership can now be submitted on-line through the NSTF's website, www.nstf.org.za - follow the Membership, Becoming a Member link on the home menu. Application forms are also available from the office of the Secretariat and we heartily encourage all interested parties to join us. It is as good to serve you as it is to learn from you!

Collaborations

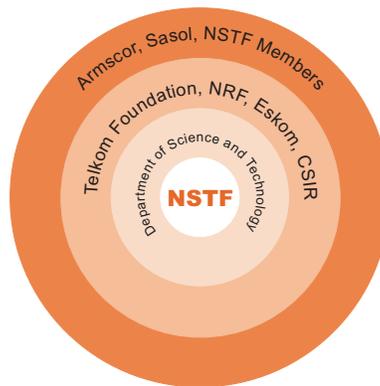
During the year under review, the NSTF entered into some very important collaborations with the following influential organisations to promote the different aspects of the NSI:

- NACI
- The NRF
- ESKOM
- The Telkom Foundation
- The DST, and
- The CSIR.

These collaborations, together with our relationship with other government departments, boosted the image and productivity of the NSTF substantially.



Acknowledgement of our valued sponsors and partners



Acknowledgements

I wish to thank the following organisations and people who supported me and the NSTF in our endeavours:

- Chairperson of the NSTF, Mr John Marriott and his Deputy, Prof Brenda Wingfield
- The Secretariat of the NSTF, Mrs Wilna Eksteen, and her assistant, Ms Bernice Knight
- All members of the NSTF Executive Committee
- The DST and other government departments involved with the NSTF
- The new Minister of Science and Technology, Mr Mosibudi Mangena for his immediate support of the NSTF and its activities, and
- Our sponsors, donors and partners who are the central pillars of the NSTF.

As a ten year old democracy we all have an obligation to fulfil freedom's challenge. The SET community should be at the forefront in meeting this challenge - we are, after all, the driving force and engine of economic development and growth.

Dr Mziwenkosi James Hlongwane
Chief Executive Officer

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 Anali Canca (DST)
Dr Rasigan Maharajh (CSIR)
Mr David Botha (SAICE)
Dr Rob Toms (FEDUSA)
Mr Andrew Molohe (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 Rkgalakane, Mpumalanga; Marongwa Mamejta, 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; Ndelela School, Mpumalanga; Mbilwi High School, Limpopo; Mlokotshwa School, KwaZulu-Natal; Mellife-Raucoll, Gauteng; Carl van Heerden High School, Northern; Mampoi High School, Free State; St James Senior Secondary, Eastern Cape; Tsogo High School, North West.

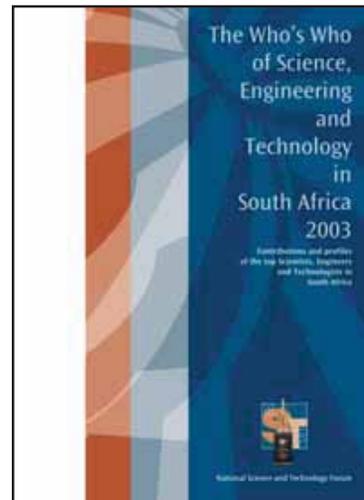


The call for nominations is now open for the 7th NSTF Science and Technology Awards for 2004. The closing date for nominators is Monday 31 January 2005. The call for nominations form is available, explaining the purpose of the awards, categories, processes and criteria. The form can be obtained from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

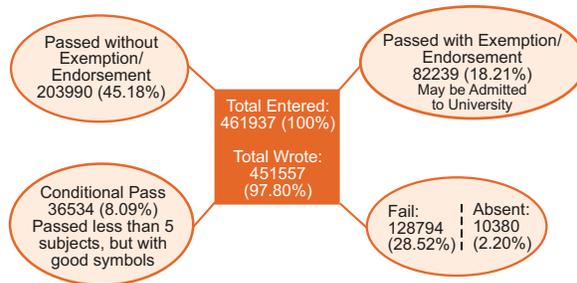
The CEO of the NSTF joined the Gauteng MEC for Education and a group from the Gauteng Education Council on a visit to some schools in the biggest school district, including a Dinaledi school (schools identified to focus on Mathematics and Science subjects). This was a very fruitful exercise. After three 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.

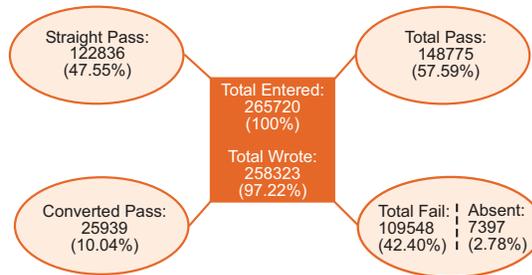




Figure 3:
2003 National Matriculation Results
All Subjects: 6 or More Taken



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.

Annual Financial Statements

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Statement of changes in equity	17
Cash flow statement	17
Accounting policies	18
Notes to the annual financial statements	19
Detailed income statement	22

Annual Financial Statements for the year ended 31 March 2004

The executive committee is responsible for the preparation of the annual financial statements that fairly present the state of affairs and the results of the Forum at the end of the financial year in conformity with South African Statements of Generally Accepted Accounting Practice.

The financial statements set out on pages 16 to 21 and the detailed income statement set out on page 22 were approved by the Executive Committee on 19 August 2004, and are signed on its behalf by:



Mr J Marriott
Chairperson



Dr M J Hlongwane
Chief Executive Officer

REPORT OF THE INDEPENDENT AUDITORS TO THE MEMBERS OF THE NATIONAL SCIENCE AND TECHNOLOGY FORUM

Introduction

We have audited the annual financial statements set out on pages 16 to 21 for the year ended 31 March 2004. These financial statements are the responsibility of the executive committee. Our responsibility is to express an opinion on these financial statements based on our audit.

Scope

We conducted our audit in accordance with South African Statements of Generally Accepted Accounting Practice. Those standards require that we plan and perform the audit to obtain reasonable assurance that the financial statements are free of material misstatement.

An audit includes:

- examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements,
- assessing the accounting principles used and significant estimates made by management; and
- evaluating the overall financial statement presentation.

We believe that our audit provides a reasonable basis for our opinion.

Qualification

In common with similar organisations, it is not feasible for the National Science and Technology Forum to institute accounting controls over cash collections from donations, membership and subscriptions prior to the initial entry of the collections in the accounting records. Accordingly, it was impractical for us to extend our examination beyond the receipts actually recorded.

Qualified audit opinion

In our opinion, except for the effect on the financial statements of the matters referred to in the previous paragraph, the financial statements fairly present, in all material respects, the financial position of the Forum at 31 March 2004, and the results of its operations and cash flows for the year then ended in accordance with South African Statements of Generally Accepted Accounting Practice.

Emphasis of matters

At the date of this report the Forum had not yet succeeded in its application for exemption from income tax as a public benefit organisation. Based on the assumption that the Forum will succeed in its application to be exempt from paying income tax, no liability has been raised in the financial statements.

Supplementary information

The detailed income statement set out on page 22 does not form part of the annual financial statements, but is provided as additional information. We have not audited the detailed income statement and, accordingly, do not express an opinion on it.

Debitte ; Touche

20 August 2004

Income Statement and Balance Sheet for the year ended 31 March 2004

Income Statement

	2004	2003
Notes	R	R
Membership and sponsorship revenue	1 103 424	778 049
Project expenses	(11 130)	(15 077)
Operating expenses	1 (1 106 348)	(845 278)
Deficit from operations	2 (14 054)	(82 306)
Income from investments	3 29 043	38 022
Net surplus (deficit) for the year	14 989	(44 284)

Balance Sheet at 31 March 2004

Assets

Non-current assets

Equipment 4 6 143 5 515

Current Assets

Investments 5 271 558 243 618

Accounts receivable 6 43 746 8 778

Cash and cash equivalents 7 1 944 44 107

Total Assets

323 391 302 018

Equity and Liabilities

Funds and reserves

Funding contributions 242 823 227 834

Accumulated surplus 65 418 65 418

177 405 162 416

Current liabilities 80 568 74 184

Accounts payable 8 80 568 56 184

Membership fees received in advance - 8 000

Sponsorships received in advance - 10 000

Total Equity and Liabilities

323 391 302 018

Income Statement of Changes in Equity and Cash Flow Statement for the year ended 31 March 2004

Statement of Changes in Equity

	Funding contributions R	Accumulated surplus R	Total R
Balance at 31 March 2002	65 418	206 700	272 118
Net deficit for the year	-	(44 284)	(44 284)
Balance at 31 March 2003	65 418	162 416	227 834
Net surplus for the year	-	14 989	14 989
Balance at 31 March 2004	65 418	177 405	242 823

Cash Flow Statement

Cash Flows from Operating Activities

	Notes	2004 R	2003 R
Cash received from members and sponsors		1 068 456	803 041
Cash paid to suppliers and employees		(1 106 909)	(883 587)
Cash utilised in operations	9	(38 453)	(80 546)
Interest received		29 043	38 022
Net cash outflow from operating activities		(9 410)	(42 524)

Cash Flows from Investing Activities

(Increase) decrease in investments		(27 940)	39 486
Additions to equipment		(4 813)	-
Net cash (outflow) inflow from investing activities		(32 753)	39 486

Net Decrease in Cash and Cash Equivalents

Cash and cash equivalents at beginning of year		44 107	47 145
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Cash and Cash Equivalents at End of Year

	10	1 944	44 107
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Accounting Policies for the year ended 31 March 2004

The following are the principal accounting policies of the Forum, which are consistent in all material respects with those applied in the previous year, except as noted below.

The financial statements have been prepared on the historical cost basis and are presented in South African Rand.

Adoption of South African Statements of Generally Accepted Accounting Practice

During the year, the forum adopted the following South African Statement of Generally Accepted Accounting Practice for the first time, AC 133: Financial Instruments recognition and measurement.

AC 133 has introduced a comprehensive framework for accounting of financial instruments. The Forum's detailed accounting policies in respect of such instruments are set out below under the heading 'financial instruments'. The principal effects of the adoption of AC 133 have been that all of the Forum's financial instruments are now carried at fair value or amortised cost, as appropriate. Comparatives have not been restated, as the effect of the change in accounting policy is considered to be immaterial for the financial statements.

Presentation of financial statements

These financial statements are presented in South African Rand.

Revenue

Revenue represents the invoiced value of membership fees and sponsorships received and are recognised at the date of accrual.

Equipment

Equipment is stated at historical cost to the Forum, less accumulated depreciation.

Depreciation is calculated on historical cost using the straight line method over the estimated useful lives of the assets. The method and rates used are determined by conditions in the relevant industry.

Rates of depreciation are as follows:

- Office equipment 16,67% (6 years)
- Computer equipment 33,33% (3 years)

The recorded values of these depreciated assets are periodically compared to the anticipated recoverable amounts if the assets were to be sold. Where an asset's recorded value has declined below the recoverable amount, and the decline is expected to be of a permanent nature, the decline is recognised as an expense. To determine the recoverable amount expected future cash flows are discounted to their present values.

Cash and cash equivalents

Cash and cash equivalents are defined as cash and bank and near-cash financial instruments. Refer to policies on financial instruments below.

Provisions

Provisions are recognised when the company has a present obligation as a result of a past event and it is probable that it will result in an outflow of economic benefits that can be reasonably estimated.

Financial Instruments

Financial assets and financial liabilities are recognised on the Forum's balance sheet when the Forum has become a party to contractual provisions of the instrument. Subsequent to initial recognition these instruments are measured as set out below.

Financial assets

The Forum's principal financial assets are accounts receivable, investments and cash and cash equivalents. Accounts receivable is stated at nominal value and reduced by appropriate allowances for estimated irrecoverable amounts. Investments are stated at cost less any provisions for diminution in value. After initial recognition investments are measured at their fair value. Cash on hand is measured at its face value. Deposits held on call are classified cash and cash equivalents and carried at amortised cost. Due to the short-term nature of these, the amortised cost approximates its fair value.

Financial liabilities and equity instruments

Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. Significant financial liabilities include accounts payable. Accounts payable are stated at cost. Due to the short-term nature of the Forum's accounts payable, the cost approximates its fair value.

Notes to the Annual Financial Statements for the year ended 31 March 2004

	2004 R	2003 R
1. Operating Expenses		
Staff costs	391 691	353 262
Annual awards dinner expenses	391 231	254 347
Other operating expenses	323 426	237 669
	1 106 348	845 278

2. Deficit from Operations

Deficit from operations has been arrived at after inclusion of:

Audit fees		
• Audit fees - current year	13 500	12 442
• Accounting fees - current year	5 400	5 000
	18 900	17 442
Professional services	12 642	9 576
Depreciation:		
• Office equipment	2 370	2 326
• Computer equipment	1 815	10 271
	4 185	12 597

3. Income from Investments

Interest received: bank	29 043	38 022
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4. Equipment

Cost	Opening Balance R	Additions R	Disposals R	Closing Balance R
Office equipment	13 957	350	-	14 307
Computer equipment	45 393	4 463	-	49 856
Totals	59 350	4 813	-	64 163

Accumulated depreciation	Opening Balance R	Current year R	Disposals R	Closing Balance R
Office equipment	9 157	2 370	-	11 527
Computer equipment	44 678	1 815	-	46 493
Totals	53 835	4 185	-	58 020

Notes to the Annual Financial Statements for the year ended 31 March 2004

4. Equipment (continued)

	2004 R	2003 R
Net book value		
Office equipment	2 780	4 800
Computer equipment	3 363	715
Totals	6 143	5 515

5. Investments

Wholesale call deposit	85 000	10 000
32 day notice deposit	186 558	233 618
	271 558	243 618

6. Accounts Receivable

Membership fees receivable	42 450	6 500
Other receivables	1 296	2 278
	43 746	8 778

7. Cash and Cash Equivalents

Standard Bank business account	(56)	43 107
Petty cash	2 000	1 000
	1 944	44 107

8. Accounts Payable

Provisions	9 007	-
Other payables	71 561	56 184
	80 568	56 184

Opening balance R	Additional provision R	Closing balance R
-	9 007	9 007

Provisions movement schedule:

Annual bonus provision

Annual bonus is calculated based on 10% of the employees' annual remuneration and the pro rata portion of entitlement for the year. Bonuses are payable in December every year.

Income Statement and Balance Sheet for the year ended 31 March 2004

2004
R

2003
R

9. Reconciliation of Surplus (deficit) for the year to Cash Utilised in Operations

Surplus (deficit) for the year	14 989	(44 284)
Adjusted for:		
Depreciation	4 185	12 597
Income from investments	(29 043)	(38 022)
Operating deficit before working capital changes	(9 869)	(69 709)
Working capital changes:	(28 584)	(10 837)
(Increase) decrease in accounts receivable	(34 968)	24 992
Decrease in amounts received in advance	(18 000)	(12 000)
Increase (decrease) increase in accounts payable	24 384	(23 829)
Cash utilised in operations	(38 453)	(80 546)

10. Cash and Cash Equivalents

Cash and cash equivalent included in the cash flow statement comprise the following balance sheet amounts:

Current account and petty cash	1 944	44 107
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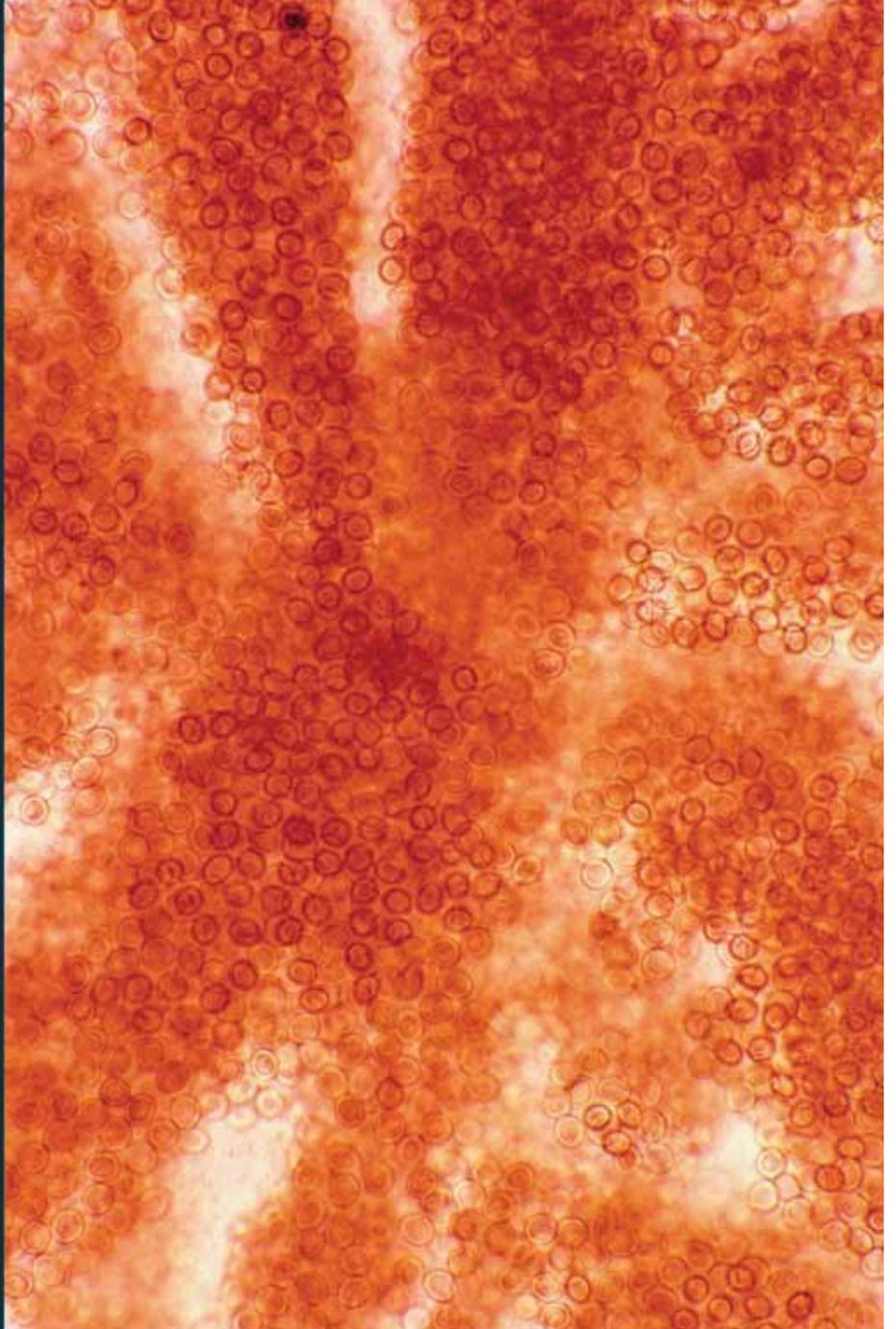
11. Financial Instruments

The forum's credit risk is attributable to its accounts receivable. These mainly consist of member fees outstanding. There is not significant credit risk attributable to these receivables.

The forum's cash resources are placed with a high credit quality financial institution with good reputation.

Detailed Income Statement 31 March 2004

	2004 R	2003 R
Operational revenue	420 543	370 322
Membership fees	391 500	332 300
Income from investments	29 043	38 022
Project sponsorships and expenses	(11 130)	(15 077)
Sponsorships received	-	-
Project expenditure	(11 130)	(15 077)
Science & Technology awards and dinner	320 693	191 402
Sponsorships received	711 924	445 749
Science & Technology awards and dinner expenditure	(391 231)	(254 347)
Total net revenue	730 106	546 647
Operational expenditure	715 117	590 931
Audit fees	13 500	12 277
Bad Debts	15 350	17 100
Bank charges	3 337	2 165
Communication and marketing (website)	26 964	27 558
Courier services	-	278
Depreciation	4 185	12 597
Exco meeting	3 884	717
Gifts	5 399	1 340
Maintenance	564	9 904
News letter and annual report	49 729	36 575
Petty cash	-	843
Plenary meetings	31 411	15 795
Postage	12 023	287
Photocopies	1 000	8
Refreshments	2 540	3 124
Rental - offices	47 705	26 035
Service fee consultants (accounting fees)	18 042	14 576
Salaries	391 691	359 862
Stationary	8 795	8 244
Sundry expenditure	492	7 740
Telephone	41 097	22 774
Transport claims	14 632	14 560
Travel and accommodation	22 777	3 007
Surplus (deficit) for the year	14 989	(44 284)



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