



And the winners are ... National Science and Technology Forum (NSTF) Science and Technology Awards 2005/6

Friday the 19th of May 2006 will be marked as a day where Science and Technology once again stood proud as some of its stars were honoured at a glittering ceremony in Gauteng. Winners were announced from 110 nominations, and elegant hand-made trophies presented to them by Minister of Science and Technology, Mr Mosibudi Mangena, at the eighth annual awards event held at Emperors Palace, Kempton Park.

In his remarks chief adjudicator, Mr Denis Hunt, said that the awards are made to individuals and organisations to inspire and encourage others to take up science and technology as a career. Some of the criteria used to judge the nominations include whether the work:

- Was developed by the nominee;
- Has been practically applied;
- Has been published and made known to the general public;
- Is sustainable;
- Has made an economic impact;
- Contributed to society's needs; and
- Has been used to further educate and train.



The winner of the award for 'An individual over a lifetime' was Prof Timothy D Noakes of the University of Cape Town and the Sports Science Institute of South Africa. Prof Noakes' contribution to the field of Exercise Science and Sports Medicine has revolutionised the scientific approach in this area. He has contested, sometimes alone, erroneously held practices such as that athletes should drink "as much as tolerable" during exercise. In 1985 he described the world's first case of exercise-associated hyponatraemia (EAH) and concluded that the potentially fatal condition was due to voluntary over-drinking during exercise. His views were vindicated in 2005 by studies in New England and the guidelines revised. He has also driven the development of a novel model known as the Central Governor Model of Exercise for the regulation of bodily function during exercise.



The award for 'Research and its outputs over the last five years or less' went to Prof Gideon P Greyvenstein of the Faculty of Engineering at the University of the North West, Potchefstroom. He created the network Computational Fluid Dynamics code known as Flownex which is used extensively within the Pebble Bed Modular Reactor (PBMR) as the main thermal-hydraulic design code. He also invented a unique cycle concept for application in the PBMR. He initiated the Pebble Bed Micro Model (PBMM) project, did the overall conceptual thermal-hydraulic design of the system and led the project team that built and commissioned the plant in September 2002 to demonstrate the viability of the PBMR itself.



The winner in the category for 'Activities other than research and its outputs over the last five years or less' was Dr Khotso Mokhele, President and CEO of the NRF in Pretoria. Dr Mokhele has engineered South Africa's successful re-entry into the international science community, initiated and developed ongoing international partnerships and brought in substantial overseas funding and Parliamentary support for projects such as the Southern African Large Telescope (SALT), now hailed as a flagship science project. The research funding system in South Africa has been developed under his leadership to support strong, competitive, quality research, to encourage academic and industry collaboration and to facilitate affirmative action. He was recently elected to the position of Vice President for Scientific Planning and Review of the International Council for Science (ICSU) and has served on the board of UNESCO.



The award for 'Corporate organisations over the last ten years' went to the Child, Youth, Family and Social Development Programme (CYFSD) Research Programme at the HSRC. CYFSD studies various aspects of the life course, from infancy to old age, with an emphasis on understanding how contexts and policies shape and distribute life opportunities. It is now the largest multidisciplinary group of social scientists researching these issues on the African continent and is unique in its diffused network of collaborators. Much of the work of the unit has provided essential background to policy and programme initiatives. Examples range from tobacco policy to protect minors and the development of National Family Policy, to understanding teacher workloads and costing programmes for the prevention of mother-to-child transmission of HIV.



The 'Organisation - SMME over the last three years', was Cerdak (Pty) Ltd of Mtunzini in KwaZulu-Natal. Cerdak has developed a revolutionary approach to wound healing. The discovery of the use of the physical properties of ceramic, which can be engineered to control the healing environment of a wound, led to the establishment of the company. Cerdak devices, which exploit this discovery, are now being manufactured under controlled conditions, with the prospect of an enhancement of the quality of life of patients suffering from chronic wounds in hospitals, as well as a reduction in hospital days.



In the category 'Not-for-Profit organisation over the last two years', Mindset Network of Johannesburg carried away the trophy for their work in providing high quality, multimedia educational resources, using a range of delivery strategies to support teaching and learning in under-resourced schools. Mindset Learn aims to provide curriculum-aligned, multimedia content for educators and learners focused on the last three years of formal education. With sponsored receiving equipment, video content is currently broadcast on Mindset Learn to selected high schools and over a million homes in Southern Africa in previously disadvantaged communities via the DStv platform.



The award for 'Male Researcher, for Research Capacity Development over the last 5-10 years' was made to Prof Neil Coville of the Department of Inorganic Chemistry at Wits. Prof Coville has supervised or co-supervised more than 90 students over the past 25 years. More than half of these were either black or female. Over the last 10 years many black students received hands-on training in international laboratories, courtesy of Prof Coville's extensive international associations. He has published over 230 publications during his career.



The 'Female Researcher, for Research Capacity Development over the last 5-10 years' was Prof Candy Lang, Associate Professor in the Department of Materials Engineering and the Department of Mechanical Engineering at UCT. Internationally, few graduate engineering programmes have more than 50% black female graduates. Prof Lang has achieved this consistently and continues to increase her output. She has supervised 16 black postgraduate students, who have produced over 24 scientific publications. The majority of the students are now working in the South African engineering industry, while the remainder are completing their PhD research.



The award for 'Senior Black Male Researcher over the last 5 to 10 years' was made to Prof Phuti E Ngoepe, Director of Mankweng Sovenga, the Materials Modelling Centre at the University of Limpopo. The Centre, founded by Prof Ngoepe in 1995, aims to train a critical mass of black students in applications of computer modelling. These applications include energy storage devices, minerals, polymers, and metal alloys. Graduates include 40 honours students and seven PhD students. More than 20 scientific papers have been published and various local and international conference presentations given.



The winner in the category 'Distinguished Young Black Male Researcher over the last 2 to 5 years' was Prof Deresh Ramjugernath of the School of Chemical Engineering at the University of KwaZulu-Natal. He established the Thermodynamics Research Unit as the leading research group in the country in chemical thermodynamics and separation. His contributions towards equipment, experimental methods, development of theory and human resources have been significant. Some of the theory developed is being adopted as the international standard. Graduates in the last five years include 23 Masters and four PhDs.



The winner of the award for 'Distinguished Young Black Female Researcher over the last 2 to 5 years' was Dr Tania S Douglas, Senior Lecturer, Department of Health Sciences, University of Cape Town. Dr Douglas contributes to addressing major public health problems in South Africa by developing innovative instruments and techniques for the diagnosis of pathologies such as foetal alcohol syndrome (FAS), spinal injuries, adolescent scoliosis, tuberculosis and meningitis. Children have been the main beneficiaries of her work. Commercialisation of her contributions is making these benefits accessible to more people.

Guests at the 2005/6 NSTF Awards Gala Dinner included the Minister of Science and Technology, and school learners, 2005 matriculants, educators and principals of schools, all of whom had excelled in Mathematics and Science.

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