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NSTF-South32 Awards

Today's research ... tomorrow's innovation



Winners of the 2020/2021 NSTF-South32 Awards #NSTFawards2021

The live streamed Gala Event of the prestigious [NSTF-South32 Awards](#) took place on Thursday, 30 September 2021. It is the 23rd celebration of South African excellence through this flagship project of the [National Science and Technology Forum \(NSTF\)](#).

Outstanding contributions to science, engineering and technology (SET) and innovation were awarded and celebrated in the following broad areas under 12 [categories](#):

- Scientific research
- Innovation
- SET Management and related activities
- Capacity development in engineering research
- Water research and innovation
- Data for Research
- Science communication for awareness and outreach

This year the [Special Annual Theme Award](#) was made for an outstanding contribution to SET and innovation towards the creative economy for sustainable development. (This is also the NSTF's theme for 2021 aligned with the International Year of Creative Economy for Sustainable Development, as declared by the United Nations.)

About the NSTF and the awards: The NSTF is the most representative multi-stakeholder non-profit forum in South Africa (SA) promoting SET and innovation. The [NSTF-South32 Awards](#) showcase the research and development capacity of our nation. The excellent output of the winners supports SAs advancement, economic growth and the social upliftment of our people.

Why are these awards different? The national NSTF-South32 Awards are the largest SET and innovation awards in South Africa. They are known as the 'Science Oscars' and were the first science awards in the country. An important aspect of the Awards is the showcasing of South African SET to the public, which includes the year-long engagement

programme between NSTF-South32 Award Winners, [students and learners](#), called the [NSTF Share 'n Dare Programme](#). These top scientists share their knowledge and experiences with young people, 'daring' them to follow in their footsteps.

The NSTF [Brilliants Programme](#) recognises at least two outstanding Grade 12 performers in physical science and mathematics from each province exposing them to the Award winning scientists and the world of professional SET work. They are also introduced to the public through the NSTF-South32 Awards [Gala Event](#).

Award winners

The [finalists](#) and awardees were honoured, announced and celebrated via a live hybrid broadcast from Johannesburg and Cape Town simultaneously to the [NSTF YouTube channel](#). This allowed the rest of the SET community and the general public to join in, making the ceremony accessible to many more than the usual 600-700 guests. It is an honour to be [nominated](#), an achievement to reach the [finals](#) and an exceptional milestone of excellence to be a winner.

The NSTF and its [sponsors](#) congratulate the 2020/2021 NSTF-South32 Award [winners](#).

[Lifetime Award](#)

- **Prof Raymond Durrheim** – Chair: Department (Dept) of Science and Innovation (DSI)/National Research Foundation (NRF) South African Research Chairs Initiative (SARChI) in Exploration, Earthquake and Mining Seismology, School of Geosciences, University of the Witwatersrand (Wits) [For the application of his expertise in geophysics and seismology to learn how the Earth works, where to find ore bodies and energy resources, to make mining safer, and how to mitigate the risks of earthquakes.](#)

[TW Kambule-NSTF Award: Researcher](#)

- **Prof Bruce Mellado** – Research Professor and Senior Scientist: iThemba LABS, Wits; and Co-ordinator: Technology Innovation Platform in Artificial Intelligence, iThemba LABS, Wits; and Director: Institute for Collider Particle Physics; and Co-President: Africa-Canada Artificial Intelligence Data Modelling Consortium, York University and Wits; and Assistant Professor: University of Wisconsin-Madison, United States of America [For his contribution in SA through the management of the SA contribution to the Large Hadron Electron Collider at the CERN facility, the oversight of the development and production of a unique 16-layer electronics circuit board and numerous other contributions in physics and artificial intelligence.](#)

[TW Kambule-NSTF Award: Emerging Researcher](#) (two winners)

Prize sponsor: proSET (Professionals in SET), a sector of the NSTF representing professional bodies and learned societies

- **Prof Sheetal Silal** – Associate Professor: Dept of Statistical Sciences, University of Cape Town (UCT); and Director: Modelling and Simulation Hub, Africa, Faculty of Science, UCT; and Honorary Visiting Research Fellow: Oxford University, United Kingdom [For her contribution through combining knowledge from biology, clinical medicine, public health and economics to develop mathematical disease models to help shape health policy and improve the health of the people.](#)
- **Dr Boitumelo Innocent Ramatsetse** – Lecturer and Researcher: Engineering Graphics and Design, Educational Information and Engineering Technology, Wits [For designing and developing an innovative beneficiation solution called “Reconfigurable Vibrating Screen” \(RVS\) for separating mineral particles](#)

according to size and volumes as demanded by customers in the mining and mineral processing industries.

Management Award

- **Prof Stephanie Burton** – Professor: Biochemistry; and Professor: Future Africa; and Immediate Past Deputy Vice-Chancellor (DVC): Research and Postgraduate Education, University of Pretoria (UP) For her work during her nine-year tenure (two terms) as DVC: Research and Postgraduate Education at UP. She has made significant contributions to research development at the university and across SA.

Engineering Research Capacity Development Awards (two winners)

Sponsor: Eskom since 2003

- **Prof Philiswa Nosizo Nomngongo** – Associate Professor and DSI/NRF SARChI Chair: Nanotechnology for Water, Dept of Applied Chemistry, University of Johannesburg (UJ) For her training, nurturing and mentoring students through her research focused on analytical environmental chemistry of organic and inorganic pollutants in environmental, biological and other matrices.
- **Prof Michael Claeys** – Professor: Chemical Engineering, Catalysis Institute, UCT; and Director: DSI/NRF Centre of Excellence (CoE) in Catalysis (c*change), UCT For his lifework on the development of capacity and research capacity in catalysis which lies at the heart of 90% of production processes for chemicals.

NSTF-Water Research Commission (WRC) Award

Sponsor: WRC since 2017

- **Prof Paul Oberholster** – Director: Centre for Environmental Management, University of the Free State For his contribution to water resource management in SA over the last 5 years with special reference to the field of biological passive wastewater treatment.

Data for Research Award

- **School of Geosciences Data Collection and Storage Facility, Wits** – Team Leaders: Professors Raymond Durrheim, Musa Manzi and Glen Nwaila For developing techniques to use legacy data to explore for mineral resources, support safe and efficient mining, and assess and mitigate geohazards.

Innovation Award: Corporate Organisation

- **The Biomimicry Diagnostic Verification Controls Team, Wits** – Chief Executive Officer (CEO): Prof Bavesh Kana, DSI/NRF CoE for Biomedical Tuberculosis (TB) Research, Wits For using biomimicry to verify diagnostic tests for COVID-19 and other infectious diseases.

Innovation Award: Small, Medium and Micro Enterprise

Sponsor: National Intellectual Property Management Office (NIPMO) since 2019

- **Reverse Osmosis/Cooling (ROC) Water Technologies (Pty) Ltd** – Director and Project Co-ordinator: Prof Jannie P Maree, Dept of Water and Sanitation, University of Limpopo For the the research and development of processing of liquid and solid wastes from the mining, power station and fertilizer industries to recover water of drinking quality and saleable products.

Communication Award

- **Prof Carolina Ödman** – Associate Professor and Associate Director: Development and Outreach, Inter-University Institute of Data Intensive

Astronomy, University of the Western Cape For reshaping how science is communicated to the general public and in particular research into building a scientific vocabulary in African languages.

Non-Governmental Organisation (NGO) Award

- **Outlook Foundation** – Team Leader and CEO: Mr Segomotso E Kelefetswe

For organising and rolling out empowerment activities for young people from previously disadvantaged groups through motivational talks, career guidance on SET, mathematics and innovation fields, coaching and mentoring.

Special Annual Theme Award: Creative Economy for Sustainable Development

- **Dr Tegan Bristow** – Senior Lecturer and Director: Fak’ugesi African Digital Innovation Festival, School of Fine Arts, Wits For her contribution to the direction of the Fak’ugesi African Digital Innovation Festival and leading development and research in the digital creative industry in Africa.

Read all about it: The NSTF partners with [Mail & Guardian](#) and [Business Report](#) to publicise the winners and their work since 2009. Both newspapers are media sponsors of the NSTF-South32 Awards.

Buy your copy of the 1 October newspapers of Mail & Guardian and Business Report (the latter is an insert in The Star, Pretoria News, Cape Times and The Mercury). The Mail & Guardian supplement is also available online making the articles accessible throughout and to anyone interested.

These supplements are made possible by advertisements from members of the NSTF and the finalists organisations.

Please note: *The NSTF does not gain financially from this supplement. The intention is to increase awareness among the public of the outstanding work being done in SA by top scientists and related professionals.*

Awards partners and sponsors:

- [South32](#) (co-branding sponsor)
- [Business Report](#) and [Mail & Guardian](#) (media sponsors)
- [Eskom](#), [NIPMO](#) and [WRC](#) (category sponsors)
- [Department of Science and Innovation](#) – DSI (platinum sponsor)
- South32, DSI, [The Lewis Foundation](#) and South African Council for Natural Scientific Professions – [SACNASP](#) (youth outreach sponsors)
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About the NSTF

The National Science and Technology Forum (NSTF), established in 1995, is a broadly-representative stakeholder body for all science, engineering and technology (SET) and innovation organisations in South Africa, which seeks to influence policy formulation and delivery.

The NSTF Awards are unique in SA, recognising the outstanding contributions of individuals and groups to SET and innovation.

The science bursaries page provides information on bursaries and bursary providers for science, engineering and related studies.

STEMulator.org attracts learners and students to the exciting world of science, technology, engineering and mathematics (STEM). It provides a virtual world full of stimulating content to excite and inform the youth, including STEM career guidance. Established under the auspices of the NSTF proSET membership sector (Professionals *in science, engineering and technology*).

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