



Email: enquiries@nstf.org.za | Tel: +27 12 841 3987



NSTF e-Newsletter

S.E.T. for socio-economic growth

Communicating and modelling the spread of the Wuhan virus

Message from the NSTF Executive Director, Ms Jansie Niehaus

In our global village, we know instantly when there is a contagious plague on the other side of the planet. People tend to get confused about the facts or accept wild rumours as true. Communication during epidemics is of utmost importance. [Read the message.](#)



NSTF News

25 years of influencing science, engineering, technology (SET) and innovation in SA

About the NSTF: The [National Science and Technology Forum \(NSTF\)](#)

was formed in 1995 as a broadly representative umbrella stakeholder body for organisations with an interest in science, engineering, technology (SET) and innovation.

The NSTF is the largest, most longstanding and representative [stakeholder body](#) of its kind. It represents more than [110 organisations](#), councils and institutions. It spans both the private and public sectors. The NSTF consists of a formidable gathering of expertise and experience. Members participate under seven sectors across the economy.

What we do: The NSTF is a consultative forum and watchdog for influencing the formulation and delivery of science, engineering, technology (SET) and innovation [public policy](#) in South Africa. Furthermore, the NSTF:

- Provides [information](#) about the SET and innovation community
- Promotes SET and innovation to [youth](#) and the general [public](#)
- Hosts professional platforms for [networking and debate](#) on current SET issues
- Engages with government on SET-related [policy](#) and publishes the outcomes through media releases
- Has been recognising, awarding and celebrating [outstanding contributions](#) to SET and innovation since 1998

- Provides available SET [bursary](#) information and profiles bursary [providers](#)
- Archives [professionals talks](#) by expert speakers on current SET issues
- Provides support to member professional societies under [proSET](#)

The professionals involved in the member organisations have the opportunity to share their insights on NSTF platforms. All projects are typically collaborative in nature and national in their reach.

S.E.T for socio-economic growth...

Closing date is nearing for nomination submissions: 2019/2020 NSTF-South32 Awards

The closing date for submitting nominations for the [2019/2020 NSTF-South32 Awards](#) is **2 March** (#NSTFAwards2020). Do ensure that you receive confirmation of receipt of the nomination and the relevant nomination form from the NSTF office. Only nominations on one of the current NSTF Awards nomination forms will be accepted.

[Click here](#) for more information on what is new in the 2019/2020 round of Awards.

Today's research ... tomorrow's innovation

The graphic features a central blue silhouette of a person with arms raised, surrounded by four circular icons: a megaphone (top left), a brain with gears (top right), a checkmark (bottom right), and a large 'S' with 'NSTF' (bottom left). Text elements include: 'Promote South Africa's excellent work in SET and innovation', 'Further the understanding of science', 'Highlight SET role models', and 'Be part of the prestigious NSTF-South32 Awards'. The NSTF logo is on the left, and the text 'National Science and Technology Forum' is at the bottom.

International Year of Plant Health (#IYPH2020)

The United Nations General Assembly declared 2020 as the [International Year of Plant Health \(IYPH\)](#). The year is an opportunity to raise global awareness on how protecting plant health can help end

Discussion Forum news

NSTF Discussion Forums are platforms that provide constructive interaction and discussion with government and stakeholders on priority areas of concern to the SET and innovation community.

hunger, reduce poverty, protect the environment, and boost economic development.

The NSTF's theme for 2020 is Plant Health, aligned to the United Nations' IYPH2020. As such, the 2020 NSTF-South32 Awards [special theme award](#) will be made for research and development (R&D) and innovation in Plant Health.

Nurture plants, nurture people

The [IYPH website](#) invites businesses, NGOs, the media and regular persons to call for action to improve plant health and build a better future. They provide a brochure, video, banner, web and media graphics to assist with spreading the word.

Bursaries available

Find the latest news on bursaries in science, engineering and technology (SET) in the [NSTF Bursary Directory](#). Currently available are:

- [FMCSA Ford bursary](#) (Open)
- [Power Group bursaries](#) (Open)
- [GAST Bursary Programme](#) (Open)

Visit the directory for information on bursaries, [careers](#) in SET and inspirational [role models](#). This service is sponsored by the [Fuchs Foundation](#).

Welcome to two new members

The NSTF would like to welcome our new members:

- [South African National Space Agency](#) (SANSA) – under the Science Councils and Statutory Bodies Sector
- [Vaal University of Technology](#) (VUT) Southern Gauteng Science and Technology Park – under the Higher Education Sector

Discussion Forum planned on Plant Health

The NSTF is planning a [Discussion Forum](#) on Plant Health (aligned with [IYPH](#)) on 6-7 May 2020 in Pretoria. More information will be available in future issues of this newsletter. Be sure to notify your colleagues and contacts and let them subscribe to this eNewsletter on the home page of the [NSTF website](#).

Discussion Forum on career paths of researchers

An NSTF discussion forum titled '[Career paths of researchers – where to in a changing world?](#)' was hosted in partnership with the NSTF Science Councils and Statutory Bodies Sector from 2-3 December 2019. It formed part of the activities of the Innovation Bridge and Science Forum South Africa (IBSFSA). The videos of presentations and panel discussions at this event are now available on the [NSTF website](#).

Seminar on plastics: substitutes and alternatives - videos and presentations available

The videos and presentations of the two speakers at the NSTF seminar on 15 November 2019, Dr Sudhakar Muniyasamy of the CSIR and Ms Annabé Pretorius on behalf of Plastics SA, are now available on the [NSTF website](#).

Here you can also read the [news release](#) on the complexity of plastics pollution and listen to a [radio interview](#) with the NSTF Executive Director, Ms Jansie Niehaus on this topic. The [proceedings](#) of the seminar are also now available.

Strong presence for the NSTF at IBSFSA

The NSTF participated in [IBSFSA](#) at the CSIR International Convention Centre from 4-6 December 2019 on more than one level.

Apart from an [exhibit](#), it hosted the following events:

- A parallel session under the theme: Responsible technology transfer: The North-South divide, titled [‘Manufacturing & minerals processing – 4IR Technologies SA needs to acquire’](#), and
- A discussion forum on [‘Career paths of researchers – where to in a changing world?’](#) (see above).

Photos of the exhibition and the events are available on the [NSTF Gallery](#).

First NSTF CEO passed away

Dr Xolani Humphrey Mkhwanazi passed away on 4 January 2020 after a short illness. Dr Mkhwanazi was the first Chief Executive Officer (CEO) of the NSTF after its formation in 1995. It was under his leadership that the NSTF flagship project, the NSTF Awards (now known as the [NSTF-South32 Awards](#)) was established. On the occasion of the 20th anniversary of the NSTF Awards in 2018, Dr Mkhwanazi was the first recipient of the [NSTF Ukhozi Award](#) (Ukhozi means eagle in isiZulu). The Ukhozi Award was in recognition of his essential contribution to the NSTF, to science and technology, and to South Africa.

The NSTF extends its deepest condolences to his relatives and children, friends and family, his business associates and colleagues. [Read more](#).

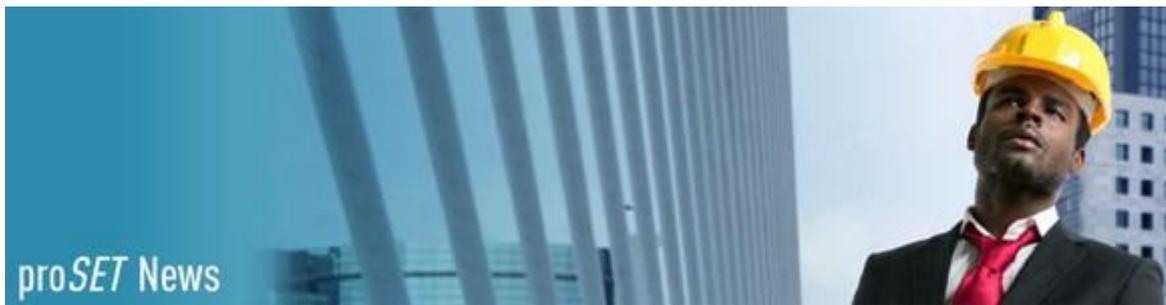
Getting to know the 2018-2019 NSTF-South32 winners:

NSTF-Water Research Commission Award

Prof Martine Visser of the University of Cape Town (UCT) was awarded the 2018/2019 [NSTF-Water Research Commission Award](#) 'for spearheading a project with the City of Cape Town in which behavioural nudges were successfully used to conserve water during the water crisis'.

Prof Visser is Director: [Environmental Policy Research Unit](#), Professor of Economics, School of Economics; and Research Chair: [African Climate Development Initiative](#) at UCT. The award recognises her role in a project that began with a city-wide randomised control trial in which households were motivated to save water via nudges in their monthly utility bills. As the drought worsened, this expanded into ongoing strategic collaborations with the City to aid in the design and analysis of specific crisis interventions and capacity building.

Novel outcomes from the study included findings on the longevity of nudges, differences in effect depending on the household's profile (low/high-income) and a fresh approach to academic-government collaborations in tackling societal issues. (Source: [UCT News](#), 28 June 2019)



proSET (Professionals in science, engineering and technology) is a sector of the NSTF representing about 40 professional and learned societies. This section shares news about members of the proSET sector.

- **[Three free Computer Olympiads in 2020](#)**

Three free Computer Olympiads will take place this year: the Applications Olympiad for grades 7-12; Computer Talent Search for grades 4-12; and the Programming Olympiad for grades 7-12.

The organisers are keen to broaden the number of schools and learners taking part so as to interest tomorrow's entrepreneurs, leaders and scientists in creative problem solving. Willing teachers are key as they must do the extra work of motivating and registering for their learners to take part. Talent Search does not even require a computer. It is aimed at grades 4-12 and helps a teacher to develop computational thinking in the classroom. For more information read the [Computer Olympiad Newsletter](#).

- **[The Entomological Society of Southern Africa \(ENTSOCSA\)](#)**

The winner of ENTSOCSA's August Rostrum photo competition was Paul Janse Van Rensburg from North-West University with his picture of *Catalebeda cuneilinae* (Lepidoptera, Lasiocampidae). See this image and many other fascinating ones of flying and creepy crawly creatures on the [website](#).

- **[Southern African Society for Plant Pathology \(SASPP\)](#)**

In 2009, Prof John Mildenhall's deep passion for plant pathology prompted him to donate an amount of R50 000 to the SASPP to award commendable PhD students who focus on industrial applications in plant pathology. The money was invested, and the interest earned is used to finance the John Mildenhall Award at the biennial SASPP congress. At the 51st SASPP conference in 2019, Prof Mildenhall, formerly from the University of Fort Hare, announced that he is donating an additional R150 000 towards increasing the value of the original award. This very generous gesture will secure the SASPP's support for PhD students.

- **[Institute of Municipal Engineering of Southern Africa](#)**

The January 2020 issue of [IMIESA](#), the official magazine of the Institute of Municipal Engineering of Southern Africa, is now available. Focusing on infrastructure development, maintenance, utilities management and service delivery, IMIESA reaches construction, service delivery, and industrial professionals in the infrastructure space.



SET-related policies currently open for public comment

Policies open for comment allow the science, engineering and technology (SET) community to keep track of the changing regulation environment.

- [National Environmental Management Act: Procedures to be followed for assessment and minimum criteria for reporting of identified environmental themes when applying for Environmental Authorisation](#). Comment by 10 February 2020
- [National Water Act: Installing of water measuring devices for water taken for irrigation purposes and to monitor compliance for all water users who are not members of an Irrigation Board or Water Users Association](#). Comment by 16 February 2020
- [Independent Communications Authority of South Africa Act: Discussion document on Mobile Broadband Services Inquiry: Deadline for comments extended](#). Comment by 27 February 2020
- [Petroleum Products Act: Guidelines to applicants for new to industry site and retail licences](#). Comment by 10 March 2020
- [Spatial Planning and Land Use Management Act: Draft national spatial development framework](#). Comment by 19 March 2020
- [Marketing of Agricultural Products Act: Request for continuation of SAGIS statutory measures](#) Comment by 30 April 2020

SET-related policy news

Some articles included in the section below are opinion pieces. The opinions expressed in these articles do not necessarily reflect the views of the NSTF Executive Committee, Directors, Secretariat or Members.

Innovation

- [Launching UNDP Accelerator Lab in South Africa](#) (dst.gov.za)

Agriculture

- [Agriculture Development Agency to be launched in February](#) (agbiz.co.za)
- [DWS requires the compulsory installation of water meters and monthly reporting of water used for commercial irrigation](#) (agbiz.co.za)
- [Government ignored its own science task team by redefining 32 wild species as farm animals](#) (msn.com)
- [An assessment of the potential risks of the practice of intensive and selective breeding of game to biodiversity and the economy in South Africa](#) – (conservation.co.za, August 2018)
- [Wildlife organisations support parliamentary ban on captive lion breeding](#) (iol.co.za, 12 November 23018)

Climate change and environment

- [Climate tipping points — too risky to bet against](#) (nature.com)
- [Geodetic Infrastructure Needs Enhancements, Continued Maintenance to Answer High-Priority Scientific Questions About Climate Change, Earthquakes, Ecosystems Over Next Decade](#) (nationalacademies.org)
- [Shoprite to produce 100% recyclable plastic shopping bags](#) (infrastructurenews.co.za)
- [Sisulu intervenes in QwaQwa water crisis](#) (infrastructurenews.co.za)
- [SA packaging and plastics industries welcome decision to develop industry-managed waste management plan](#) (infrastructurenews.co.za)

4th Industrial Revolution and technology

- [Comms minister engages 4IR skills programme students](#) (itweb.co.za)
- [Fear, resistance, skills shortages threaten SA's 4IR progress](#) (itweb.co.za)

Energy

- [Businesses will be allowed to produce their own power](#) (infrastructurenews.co.za)
- [Why green energy finally makes economic sense](#) (uct.ac.za)

Education

- [Why South Africa's declining maths performance is a worry](#) (uct.ac.za)
- [School tech: teachers explain what they need to make it work better](#) (theconversation.com)
- [Why Vhembe is producing top matrices](#) (mg.co.za). Article by Prof Azwinndini Muronga. Executive Dean of Science, NMU and [NSTF-South32 Award winner](#).

Infrastructure

- [Government's non-payment culture forcing contractors out of business](#) (infrastructurenews.co.za)
- [Rural infrastructure investment is part of South Africa's growth strategy](#) (agbiz.co.za)
- [New radical plan for smaller towns in South Africa](#) (businesstech.co.za)
- [EThekweni announces multimillion-rand water infrastructure upgrade](#) (infrastructurenews.co.za)

Medicine and Health

- [How the NHI will change the way healthcare is bought, sold and managed](#) (bhekisisa.org)



- [World Pulses Day](#): The Food and Agriculture Organization of the United Nations has established 10 February as World Pulses Day to recognise the importance of pulses as a global food. You can prepare to celebrate this day in 2020 and find many inspiring ideas by visiting the website of [World Pulses Day 2020](#).
- [1st Nanotechnology Symposium in Health, Safety and Environment](#): Pretoria, 10 February 2020
- [HSRC Book Launch and Seminar: The Controversial Cut](#): Rolling out mass male circumcision in Eswatini: Livestream in Pretoria, Durban and Cape Town, 17 February 2020
- [HSRC Seminar: Voices, Arguments and influence in social policy: Young People and the Future of Work](#): Livestream in Pretoria, Durban and Cape Town, 18 February 2020
- [HSRC Seminar: The great transformation: Young people and the future of work](#): Livestream in Pretoria, Durban and Cape Town, 19 February 2020
- HSRC Seminar: The African Continental Free Trade Agreement: Opportunities and Threats, Livestream in Pretoria, Durban and Cape Town, 20 February 2020
- [Institute of Waste Management of Southern Africa \(IWMSA\) Waste Legislation Course](#): Midrand, 25-26 February 2020
- [36th International Geological Congress](#): Delhi, India, 2-8 March 2020
- [Africa Energy Indaba: From Transformation to Transition](#): Cape Town, 3-4 March 2020
- [Animal Feed Manufacturers Association \(AFMA\) Forum 2020](#), Sun City, 3-5 March 2020
- [Skills Summit](#): Vision 2030: Building SA's Economy through Skills Development: Pretoria, 4-5 March 2020
- [Congress of the Mediterranean Phytopathological Union](#) entitled "Safeguarding Mediterranean Plant Health", Limassol, Cyprus, 23-27 March 2020
- [Scifest Africa 2020](#): Makhanda (formerly Grahamstown), Eastern Cape, 15-21 April 2020
- [Working World Exhibition 2020](#): Port Elizabeth, 21-23 April 2020
- [16th International Conference on Space Operations](#): Cape Town 18-22 Mat 2020
- [Water Institute of South Africa 2020 Conference](#): Johannesburg, 31 May – 4 June 2020
- [14th International Conference on CFD In the Oil & Gas, Metallurgical and Process Industries](#): Trondheim, Norway 9-11 June 2020
- [XVIII Triple Helix Conference](#): Tampere, Finland, 15-17 June 2020.
- [International Agrifood Conference IFAMA 2020](#): Rotterdam, the Netherlands, 15-18 June 2020
- [Agbiz Congress 2020](#): Building resilient and sustainable agri-food ecosystems: Sun City, 15-17 July 2020. Registration now open.
- [23rd International Congress of Zoology](#): Cape Town, 19-24 July 2020
- [25th WasteCon 2020](#): Johannesburg, 6-8 October 2020
- [IMESA Conference](#) Cape Town, 28-30 October 2020
- The 7th [World Conference of Research Integrity](#) is to be hosted by UCT in 2021.



SET Community News

Some articles included in the section below are opinion pieces. The opinions expressed in these articles do not necessarily reflect the views of the NSTF Executive Committee, Directors, Secretariat or Members.

Universities and higher education

- [South Africa's university pass rate shocker](https://www.businessstech.co.za) (businessstech.co.za)
- [Sharp rise in PhDs in SA under review](https://www.biznews.com) (biznews.com)
- [Meet the Researchers without Borders](https://www.uct.ac.za) (uct.ac.za)
- [University of Pretoria's Department of Materials Science and Metallurgical Engineering ranked number one in South Africa](https://www.up.ac.za) (up.ac.za)

Science Councils and Statutory Organisations

- [CSIR and TIA collaborate to accelerate technology development in South Africa](https://www.csir.co.za) (csir.co.za)

Medicine and health

- [Scientists are unraveling the Chinese coronavirus with unprecedented speed and openness](https://www.washingtonpost.com) (washingtonpost.com)
- [New estimates show 14.8 million children globally are HIV-exposed but uninfected](https://www.theconversation.com) (theconversation.com)
- [HIV vaccine trial stopped after jab found ineffective](https://www.bhekisisa.org) (bhekisisa.org)

Community wealth/poverty

- [Tourism and poverty in rural South Africa: A revisit](https://www.sajs.co.za) (sajs.co.za)

Astronomy and space science

- [The South African National Space Agency \(SANSA\) wins the 2019 GEO SDG Award](https://www.sansa.org.za) (sansa.org.za)
- [South Africa's MeerKAT peers deep into the Universe](https://www.sarao.ac.za) (sarao.ac.za)
- [SND 2019 confirms big economic opportunity in SA space sector](https://www.sansa.org.za) (sansa.org.za)
- [ZASpace Inc launched](https://www.zaspaceinc.org) (zaspaceinc.org)
- [Astronomers are riding the heatwave: tracing the energy from an accretion burst](https://www.sarao.ac.za) (sarao.ac.za)

Archaeology and Palaeontology

- [Early modern humans cooked starchy food \(rhizomes\) in border cave, South Africa, 170 thousand years ago](https://www.dst.gov.za) (dst.gov.za)

Environment, climate change and energy

Environment

- [Plastic'bricks' provide temporary solution for South Africa's trash](https://www.reuters.com) (reuters.com)

- [Massive waste sorting operation underway at Breede Valley Local Municipality](#) (infrastructurenews.co.za)
- [Eskom seeks exemption from air pollution rules](#) (infrastructurenews.co.za)
- [Estuaries: super-ecosystems under threat](#) (csir.co.za)
- [Adidas to make even more of its sneakers from plastic waste](#) (infrastructurenews.co.za)
- [South Africa needs a fresh approach to managing invasive trees like Eucalyptus](#) (theconversation.com)
- [Bioplastics are not the same as biodegradable plastics](#) (infrastructurenews.co.za)
- [A revised approach for estimating informally disposed domestic waste in rural versus urban South Africa and implications for waste management](#) (sajs.co.za)

Climate change

- [Is rapidly thawing permafrost speeding up climate change?](#) (infrastructurenews.co.za)
- [Permafrost collapse is accelerating carbon release](#) (nature.com)
- [Greenland is losing ice at fastest rate in 350 years](#) (nature.com)

Energy

- [A solar power plant in Upington unveiled](#) (infrastructurenews.co.za)
- [ANALYSIS: South Africa has huge 'green fuels' potential. But it needs to act now](#) (up.ac.za)
- [A blueprint for an energy-grid for South Africa's rural communities](#) (csir.co.za)

Agriculture

- [Water-use efficiency under the spotlight in IFC report](#) (ifc.org)
- [Honeybush research for sustainable socio-economic benefits](#) (dst.gov.za)

Technology and the 4th Industrial Revolution

- [SA teen innovators to showcase AI-based applications](#) (itweb.co.za)
- [How art and technology helped bring faces of the dead to life](#) (theconversation.com)
- [Fibre communications on steroids: Wits student breaks the code](#) (wits.ac.za)
- [Pioneering the digitalisation of the SA mining industry](#) (csir.co.za)

Science awareness

- [Academics must reach out to the public](#) (mg.co.za)
- [SANSA Science Centre unveils new space exhibits at 15-year celebration](#) (sansa.org.za)
- [Biobanking and me: The book that brings genomics to the people](#) (mrc.ac.za)
- [Women have been written out of science history – time to put them back](#) (theconversation.com)

Opportunities

- [Fulbright scholarship applications open](#). The United States Government has invited South Africans interested in pursuing a Master's or Doctoral degree to apply for a Fulbright scholarship to study at any accredited tertiary institution in the US. Applications and more information: za.usembassy.gov/Fulbright. The closing date for submission of applications for scholarship is 31 March 2020 and applicants are encouraged to start the application process as soon as possible.

- South Africa/China Joint Research Programme: The 11th Call for 2020 Joint Research Project Proposals (JRP) and 3rd Call for 2020 Joint Flagship Projects (FP). The NRF Online Submission System will open the 1st week of February 2020 for submission of applications. Researchers must consult their institutions for internal closing dates. The projects will be supported for a period of two years (starting in early 2021) for both the JRP and FP. Closing date for applications: Chinese Ministry of Science and Technology: 27 November 2019; the NRF: 30 March 2020. For queries contact Ms Nombuso Madonda, Tel: +27 (0) 12 481 4285; email: Nombuso.madonda@nrf.ac.za.



- [The passing away of Professor Reinhard Richard \(Rein\) Arndt](#) (uj.ac.za)
- [In remembrance of Prof. Ben Turok](#) (aims.ac.za)

About the NSTF

The National Science and Technology Forum (NSTF), established in 1995, is a broadly-representative stakeholder body for all 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 <http://www.nstf.org.za/bursary/> provides information on bursaries and bursary providers for science, engineering and related studies.

Disclaimer

The NSTF has taken all practical measures to ensure that the material contained in this newsletter is correct. The NSTF reserves the right to make changes as it deems necessary.

Privacy

Registration details submitted to the NSTF will be treated confidentially and will only be used by NSTF to communicate with its members and subscribers.

For more information

www.nstf.org.za

E-mail: enquiries@nstf.org.za

Tel: [+27 12 841 3987](tel:+27128413987)

Non-Profit Company Registration Number: 2007/029165/08

NPO Registration Number: 92042