



Email: enquiries@nssf.org.za | Tel: +27 12 841 3987 |
<https://www.nssf.org.za/>



NSTF e-Newsletter

S.E.T. for socio-economic growth

The virus caught us at a bad time

Which is why we need scientists, engineers and educationists

Message from the NSTF Executive Director, Ms Jansie Niehaus

The Covid-19 pandemic is interwoven with complexity in societies. Scientists, engineers and educationists can help; they not only have useful specialist knowledge, but also logical minds. [Read the message.](#)



NSTF News

25 years of serving the science, engineering, technology and innovation community in SA

The [National Science and Technology Forum \(NSTF\)](#) is celebrating 25 years of its existence this year. This [stakeholder body](#) draws together more than 110 organisations, councils and institutions involved in science, engineering, technology (SET) and innovation in South Africa. Its core vision is to be an instrument of democracy, encouraging free speech and critical voices through a transformed society.

The NSTF Awards: 22 years of recognising and celebrating excellence in SET and innovation in South Africa

The [NSTF Awards](#), known as South Africa's 'Science Oscars', were established in 1998 as a collaborative effort with members and stakeholders to recognise outstanding contributions to SET and innovation by SET-related professionals, teams and organisations in South Africa. This includes experienced scientists, engineers, innovators, science communicators, engineering capacity developers, and organisational managers/leaders, as well as data and research managers.

This flagship project of the NSTF has grown steadily over the years – in the number of [winners](#) awarded annually, in the range of [categories](#), and in participation by the community.

Winners: Overall, 233 winners were recognised over 21 years. A total of about 168 individual winners and 65 organisational winners were awarded.

Nominations and finalists: The average number of nominations adjudicated each year is approximately 98. The average number of finalists recognised each year is approximately 47. Over the past 21 years, there have been 984 finalists profiled in all the categories.

Tribute to Dr Xolani Mkhwanazi: It is with great sadness that we started 2020 with the mourning of Dr Xolani Humphrey Mkhwanazi who passed away on 4 January this year. The NSTF announced the first NSTF Ukhozi Award winner in 2018 in celebration of the 20th anniversary of the NSTF Awards. Dr Mkhwanazi was the recipient of this Award for his essential contribution to the NSTF, science and South Africa. Ukhozi means eagle in Zulu, and especially refers to the black eagle here. The black eagle is an inhabitant of Southern Africa and indigenous to the continent, a true symbol to the stature of Dr Mkhwanazi – the black feather of the eagle within the SET community. His passion for South Africa's youth to follow SET careers was evident in his [acceptance speech](#):

**“By passing mathematics and science at school”, he said,
“opens up their horizons in terms of what the opportunities are to their lives.
The more young people we encourage and nurture
to study science and engineering,
the more we open their possibilities, and
the more we take them out of the vicious cycle of poverty.”**
Dr Xolani Mkhwanazi, NSTF Ukhozi Award Winner 2018

Tribute to Neville Comins: It is with great sadness that we bid farewell to another influential person in the science community who recently passed away. See the [NSTF's tribute](#).

Young people are our future innovators: The NSTF promotes SET, including mathematics and innovation among the youth through recognition of top performers at the NSTF Awards, and outreach by NSTF Award Winners every year. Read more about this outreach project in the July issue of NSTF eNews.

Co-branding sponsor: South32 has been a co-branding sponsor since 2016. The awards were previously sponsored by BHP Billiton from 2011-2015. ([South32](#) was established as a result of the demerging of BHP Billiton.) The NSTF supports the principle of collaborative and widely inclusive awards through our [partnerships](#) with the SET community over the years.

Read more about the evolution of the awards, gender and race profiles of winners in the [Who's Who in SET and innovation in South Africa](#) of 2017/2018. The established past winners from 1998-2017 can be found listed on pages 42-47.

Today's research ... tomorrow's innovation



National Science and Technology Forum

2019/2020 NSTF-South32 Awards Finalists announced

We are pleased to announce the finalists for the [2019/2020 NSTF-South32 Awards](#). The full list of [finalists](#) is available on the NSTF website.

Awards Gala Event: The event to honour the finalists and announce the winners is going virtual by means of a live broadcast on the evening of 30 July 2020. Diarise this date and join NSTF and co-branding sponsor, South32 in celebrating the achievements of science, engineering, technology and innovation in South Africa.

2020 Theme: The 2020 [Special Annual Theme Award](#) will be made for research and development (R&D) and innovation in Plant Health. This is in recognition of the United Nations celebration of the '[2020 International Year of Plant Health](#)'.

Also see: [New animated film marks International Year of Plant Health 2020](#) (bizcommunity.com)

New COVID-19 radio interviews with NSTF Award winners

Catch up on the following interviews as podcasts by two NSTF-South32 Award [winners](#). Our Awards winners have been popular as knowledgeable speakers on the COVID-19 pandemic.

- **Professor Refilwe Nancy Phaswana-Mafuya**, Deputy Vice-Chancellor Research & Innovation, North-West University (NWU), talks on [Thobela FM](#) on epidemiology and

NSTF welcomes a new member

The NSTF welcomes our new member:

- [Masithu Consulting and Project Managers](#) (MCPM) under the Business Sector for Small, Medium and Micro Enterprises (SMMEs)

If you are interested in joining the NSTF's existing cohort of over [110 member organisations](#) across 7 sectors, visit the [Membership](#) section on the website for more information about the NSTF and [apply online](#).

There is strength in numbers. Together we can ensure a democratic and stronger system of innovation through science, engineering and technology (SET) and innovation – *S.E.T. for socio-economic growth ...*

**Pessimism is rife, optimism naive.
Activism is the best tool for now...
(The Conversation Africa)**

what it takes to become an epidemiologist. Prof Phaswana-Mafuya won the [2016/2017 TW Kambule-NSTF Award: Researcher](#).

- **Prof Anne Grobler**, Head of Research, Austell Laboratories; and former Director, Preclinical Drug Development Platform, NWU, talks on [Kingfisher FM](#) about the current and future projects by SA pharmaceutical company, Austell Pharmaceuticals. She won the [2013/2014 NSTF Management Award](#).

This community outreach service is currently sponsored by the [Fuchs Foundation](#).

Bursaries available

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

- [WBHO Construction](#) (Pty) Ltd (Deadline: 30 June 2020)
- [Absa Bursary Programme](#) (Deadline: 30 June 2020)
- [Jones & Wagener](#) (Deadline: 31 July 2020)
- [Investec CSI Bursary](#) (Deadline: 30 September 2020)
- [Takealot.com Bursary Programme](#) (Deadline: 30 September 2020)
- [South African Radio Astronomy Observatory Bursaries](#) (Deadline: 31 August 2020)
- [Shoprite Bursaries](#) (Deadline: 30 June 2020)
- [FMCSA Ford Bursary](#) (Open)

Visit the directory for information on bursaries, SET [career](#) guidance and inspirational [role models](#) in SET.

Let us know of your bursaries at enquiries@nstf.org.za attention Ms Mosima Mabitsetla. The Bursary Directory is sponsored by the [Carl and Emily Fuchs Foundation](#).

Getting to know the 2018-2019 NSTF-South32 winners

Special Annual Theme Award: Materials for inclusive economic development

Professor Alexander Quandt received the 2018-2019 [Special Annual Theme Award](#) in the NSTF-South32 Awards for his pioneering work in computational materials science with applications to nanomaterials, optics/photonics and renewable energy research. Quandt is Acting Chair: [Materials for Energy Research Group](#); Focus Area Co-ordinator: [Centre of Excellence in Strong Materials](#) at the University of the Witwatersrand.

“Computer experiments have finally established themselves alongside more traditional experimental techniques as a powerful tool to develop novel technologies in a very economical and systematic fashion,” says Quandt.”

My research also points out new applications of chemical elements across the whole periodic table, which might lead to new types of solar cells, batteries and computing devices [being] developed here in South Africa.”

[Read more](#) about his work, and his [commentary](#) in the South African Journal of Science – a research communication partner of the NSTF Awards.

This article is brought to you by the [Mail & Guardian](#), media partner of the [NSTF Awards](#).



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](#).

- **Grassland Society of Southern Africa**

The [Grassland Society of Southern Africa](#) (GSSA) will be hosting its 55th Annual Congress, but due to the Covid-19 pandemic the format had to be changed to a virtual event. Since the Society's inception in 1966 it has never missed an annual conference. The Council has therefore taken the brave decision to go with an online event from 30 June to 2 July 2020, rather than cancelling or postponing the event. Delegates can go to <https://2020gssa.dryfta.com/> to register for the upcoming virtual Congress and the Research Skills Workshop.

- **Institute of Municipal Engineering of Southern Africa**

According to IMIESA, the official magazine of the [Institute of Municipal Engineering of Southern Africa](#) (IMESA), the construction industry will be convening at Emperors Palace in September to develop a joint action-plan on dealing with the challenges the sector has been facing. This follows the collapse of several large contractors in recent months, which has led to job losses in the construction industry. [Read more.](#)

- **SA Academy of Science and Art**

[Read more](#) about the [SA Academy of Science and Art](#) 's awards winners for 2020.



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 Qualifications Framework Act: Consultative Paper on Proposed Amendments](#) (Comments invited, no deadline given)
- [National Nuclear Regulator Act: Application for nuclear vessel licence: Comments invited](#) (Comment by 22 June 2020)
- [National Environmental Management Act: Submission of written submissions, Scientific Information, Socio-Economic Information or other Relevant Information to Advisory Committee \(High-Level Panel\) on matters related to Elephant, Lion, Leopard and Rhinoceros](#) (No deadline given)

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.

Employment

- [The impact of the COVID-19 pandemic on employment and income in South Africa](#) (statssa.gov.za)

Energy

- [Essentials to meet South Africa's electricity needs](#) (energize.co.za)
- [Bid documents for 2 000-MW emergency power being finalised after Nersa concurrence 'milestone'](#) (polity.org.za)

Environment

- [South Africa's biggest emitters to be exposed to public scrutiny](#) (polity.org.za)

Agriculture

- [Restricting maize imports during a pandemic? Bad idea.](#) (fin24.com)
- [World Nutrition Day 2020: Ending hunger requires political commitment to safeguarding food security, writes UP expert](#) (up.ac.za)
- [Food Disruptions Highlight Importance of Transdisciplinary Research and Action](#) (ukzn.ac.za)

4th Industrial Revolution and technology

- [UN launches global initiative to protect cyber space](#) (itweb.co.za)
- [ICT sector policy and regulation in the time of COVID-19](#) (itweb.co.za)
- [Covid-19 has forced us into the fast lane of the 4IR super-highway](#) (uj.ac.za)

Education

- [Some schools to be supplied with water tanks ahead of the reopening](#) (infrastructurenews.co.za)
- [Getting kids back into school is a priority – but interim learning methods are just as urgent](#) (dailymaverick.co.za)
- [Curro set to establish online-only school](#) (itweb.co.za)
- [The education of children with disabilities risks falling by the wayside](#) (uct.ac.za)
- [International study shows where South Africa's education system needs more help](#) (theconversation.com)

Infrastructure

- [Construction industry welcomes easing of lockdown](#) (infrastructurenews.co.za)
- [Construction industry's September Congress expected to produce action-plan to rescue the sector](#) (infrastructurenews.co.za)
- [Ramaphosa to host project pitches ahead of infrastructure development forum](#) (polity.org.za)

Medicine and Health

- [Covid-19 is a health crisis — but a looming food catastrophe, too](#) (dailymaverick.co.za)
- [Enlisting science and technology in the fight against COVID-19 — and the ongoing struggle for sustainable development](#) (nationalacademies.org)
- [SA's Covid-19 response is hurting other health priorities](#) (dailymaverick.co.za)
- [Between two devils: Why hospitals must act fast to prevent health worker deaths](#) (bhekisisa.org)
- [Dubious remedies will not decolonise Africa](#) (wits.ac.za)

- [If we invested in this today, South Africa could save billions — and fight COVID-19](#) (bhekisisa.org)
- [It takes most foreign-trained doctors months to register in South Africa so how did Cuban health workers do it in just three days?](#) (Bhekisisa.org)
- [The utility of 2009 H1N1 pandemic data in understanding the transmission potential and estimating the burden of COVID-19 in South Africa to guide mitigation strategies](#) (samj.org.za)
- [How Pandemics Leave the Poor Even Farther Behind](#) (imf.org)
- [Past, present and future: What should be shaping Africa's COVID-19 response](#) (bhekisisa.org)
- [COVID-19: Lockdown takes heavy toll on SA's TB response](#) (spotlightnsp.co.za)
- [How the 2009 H1N1 pandemic can give us more insight into Covid-19 in SA, according to scientists](#) (health24.com)



The events posted below are correct as far as we could establish at the time of preparing this newsletter. Please check the relative websites for changes to dates and venues.

- [Triologue CSI webinar](#) – Supporting local government in the midst of a global pandemic: Jun 12, 2020 at 09:30
- [International Agrifood Conference IFAMA 2020](#): Rotterdam, the Netherlands, 15-18 June 2020
- Webinar: "Women and Mercury", the first one in the [HEJSupport Webinar Series](#) on women and chemicals, 17 June at 4p.m. CET (Central European Time) [Register](#)
- [55th Annual Congress of the Grasslands Society of Southern Africa](#): Virtual Congress, 30 June – 02 July 2020
- [2020 Africa Energy Forum](#): Barcelona, Spain, 30 June – 3 July 2020
- [Working World Exhibition 2020](#): Port Elizabeth, virtual exhibition 14-16 July 2020
- [The Water Show Africa](#): Johannesburg, 20-21 August 2020
- [3rd African Symposium on Mycotoxicology](#): Stellenbosch, 6-9 September 2020
- [SA Innovation Summit](#): This will be a virtual edition, 30 September – 1 October 2020
- [25th WasteCon 2020](#): Johannesburg, 6-8 October 2020
- [14th International Conference on CFD In the Oil & Gas, Metallurgical and Process Industries](#): Trondheim, Norway 12-14 October 2020
- [IMESA Conference](#): Cape Town, 28-30 October 2020
- [World Engineering Education Forum - Global Engineering Deans Council Conference](#) (WEEF-GEDC): Engineering for the Sustainable Development Goals, Cape Town, 15-20 November 2020
- [Water Institute of South Africa 2020 Conference](#): Johannesburg, 5-9 December 2020
- [Manufacturing Indaba](#): Midrand, 9-10 December 2020
- [Inaugural South African Clinician Scientists Conference](#): Cape Town, 25-26 February 2021
- [Agbiz Congress 2020](#): Building resilient and sustainable agri-food ecosystems: Sun City, 7-9 April 2021
- [16th International Conference on Space Operations](#): Cape Town 3-7 May 2021
- The 7th [World Conference of Research Integrity](#) is to be hosted by UCT in 2021
- [23rd International Congress of Zoology](#): Cape Town, 21-25 November 2021



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

- [For love or money: Why are black students less likely to study biology?](#) (See page 12 of SAJS)
- [NSFAS students urged to use allowances to support online learning](#) (itweb.co.za)
- [Wits COVID-19 news](#) (wits.ac.za)
- [We think there's a better way to assess the research of African academics: here's how](#) (theconversation.com)

Chemistry

- [Special Elemental Magic: Japanese Scientists Announce a 'Nuclear' Periodic Table](#) (scitechdaily.com)

Science Councils and Statutory Organisations

- [ASSAf's public statement on COVID-10](#) (assaf.org.za)
- [AUDA-NEPAD and CSIR partnership to accelerate Africa's transformation agenda](#) (csir.co.za)
- [The National Research Foundation's new Policy for Postgraduate Student Funding](#) (nrf.ac.za)

Palaeontology, Archaeology and Anthropology

- [What can lead isotopes tell us about ancient diets?](#) (See page 89 of SAJS)
- [The long arm and short legs wars](#) (wits.ac.za)
- [Archaeology is changing, slowly. But it's still too tied up in colonial practices](#) (theconversation.com)
- [What a bone arrowhead from South Africa reveals about ancient human cognition](#) (theconversation.com)

Space Science and Astronomy

- [NASA adds SA to space ground station network](#) (itweb.co.za)
- [Satellites show decrease in air pollution in South Africa during national lockdown](#) (csir.co.za)
- [MeerKAT Observes Interesting Behaviour of X-shaped Radio Galaxy](#) (nrf.ac.za)
- [Hubble Telescope: Celebrating 30 years of discovery](#) (hubblesite.org)
- [Why astronomers now doubt there is an undiscovered 9th planet in our solar system](#) (theconversation.com)

Ichthyology

- [Taxonomic revision leads to description of new Moray Eel species](#) (nrf.ac.za)

Medicine and health

- [Why do some COVID-19 patients infect many others, whereas most don't spread the virus at all?](#) (sciencemag.org)
- [Unusual Symptoms of Coronavirus: What We Know So Far](#) (time.com)
- [Harnessing plant power to curb COVID-19](#) (uct.ac.za)
- [Coronavirus may never go away, even with a vaccine](#) (washingtonpost.com)
- [Urgent mental health intervention needed during COVID-19 pandemic](#) (sun.ac.za)
- [GeneXpert testing platform for TB repurposed to accelerate testing for Covid-19](#) (wits.ac.za)
- [Flu season is bad news for Covid-19 severity, scientists warn](#) (citizen.co.za)

Environment, climate change and energy

Environment

- [Making concrete bricks out of recycled polystyrene](#) (issuu.com)
- [Building an inclusive circular economy, through reclaiming waste](#) (infrastructurenews.co.za)
- [South Africa to adopt policies to cut down plastic waste](#) (CGTN Africa)
- [CSIR study shows reusable shopping bags have lower environmental impact](#) (infrastructurenews.co.za)
- [Significant reduction in pollution during COVID-19 lockdown – but polluters will still need to pay](#) (infrastructurenews.co.za)
- [How Brits helps recycle 2.7 million plastic bottles every month](#) (brits.co.za)
- [Brits makes filters \(including mask filters\) from PET waste](#) (brits.co.za)
- [Marine plastic debris in South Africa: From sources to solutions](#) (See pages 1 and 16-58 of SAJS)
- [Coke The Secret Formula 4: How this initiative is empowering S.Africans & keeping the earth clean](#) (CNBCAfrica)

Climate change

- [Antarctic ice shelves: research reveals a missing piece of the climate puzzle](#) (theconversation.com)

Energy

- [Microgrid development and deployment in South Africa](#) (energize.co.za)
- [AI might help Eskom function more optimally](#) (energize.co.za)
- [Global wind energy sector sets new supply record](#) (itweb.co.za)
- [Hybrid renewable energy grid-tied hub on the cards](#) (energize.co.za)

Plant pathology

- [Tree diseases can change entire landscapes and must be taken seriously](#) (theconversation.com)

Agriculture

- ["African countries to urgently expand food reserves, keep food supply flowing"](#) (bizcommunity.africa)
- [Looking to science for food security solutions](#) (bizcommunity.com)

Technology and the 4th Industrial Revolution

- [V2X technology to increase road safety](#) (engineerit.co.za)
- [Coronavirus: the first big test of the information age and what it could mean for privacy](#) (stuff.co.za)
- [Facebook to spend \\$1 Billion on Africa sub-marine cable](#) (engineerit.co.za)
- [UCT researcher's COVID-19 dashboard expands globally](#) (uct.ac.za)
- [UV and nanotech to clean face masks](#) (engineerit.co.za)

- [Smart helmet for COVID-19 screening comes to SA](http://itweb.co.za) (itweb.co.za)
- [Bluetooth tracker monitors social distancing](http://engineerit.co.za) (engineerit.co.za)
- [NWU comes up with creative solution to screen pupils for Covid-19 using cellphones](http://polity.org.za) (polity.org.za)

Infrastructure

- [Sewage as a weapon against COVID-19](http://infrastructurenews.co.za) (infrastructurenews.co.za)

Science awareness

- [Why more must be done to fight bogus COVID-19 cure claims](http://wits.ac.za) (wits.ac.za)
- [#theArtofResearch Science Communication Training Now Available Online](#) Presented by Jive Media Africa, winner of the 2009/2010 NSTF-South32 Award for communication for public awareness

Opportunities

- Call for applications: The L'Oréal-UNESCO launched the second edition of the South African national programme to support young female scientists. Five fellowships will be granted to South African PhD students and two to South African postdoctoral researchers. Closing date for applications: 30 June 2020. Visit www.forwomeninscience.com for more information.
- Call for Applicants - Researchers; Science and Health Journalists and Communicators; and Science Advisers: [COVID-19 Africa Rapid Grant Fund](#). Closing date: 17 June 2020.



- [Dr Dalia Saad awarded prestigious FLAIR fellowship](http://wits.ac.za) (wits.ac.za)
- [Wits students' research on cover of leading world optics journal](http://wits.ac.za) (wits.ac.za)
- [Dr Neill Goosen first full-time Director of ARUA Centre of Excellence \(CoE\) in Energy](http://sun.ac.za) (sun.ac.za)
- [SU researchers, alumni honoured by SA Academy](http://sun.ac.za) (sun.ac.za). The award winners are Prof Matilda Burden of the SU Museum, Prof Jan van Vuuren of the Department of Industrial Engineering, Prof Andre Weideman of the Department of Mathematical Sciences, and alumni Theo Busschau and Ruhan Fourie.
- [The Science Academy bestows M.T. Steyn Medal to Prof Ben-Erik van Wyk for exceptional contributions to natural sciences](http://uj.ac.za) (uj.ac.za)
- [UKZN Supercomputing Whizz at NASA and Dell](http://ukzn.ac.za) (ukzn.ac.za)
- [Rhodes University alumni get World Bank top innovation award](http://ru.ac.za) (ru.ac.za)
- [National prestigious award for Prof Danie Hattingh](http://mandela.ac.za) (mandela.ac.za)

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.

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