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NSTF e-Newsletter

S.E.T. for socio-economic growth

NSTF News

Update on the 2021/2022 NSTF-South32 Awards

[Nomination of candidates](#) for the 2021/2022 NSTF-South32 Awards consists of a two-stage process. Registration of nominations has closed and nominees will have received email notification confirming receipt. The NSTF received over 270 registrations.

Stage 2 of the process involves completing the full nomination form, with the involvement of the nominee. The deadline to submit the completed form/s is 1 March 2022.

Read more about the [criteria](#) and [terms and conditions](#) of the nomination process here.

Special Annual Theme Award: The NSTF is making a special award this year for an outstanding contribution to science, engineering and technology (SET) and innovation arising from research and development in the [basic sciences for sustainable development](#). This is in support of sustainable socio-economic growth in SA. It is also the annual theme of the NSTF for 2022.

Today's research ... tomorrow's innovation



Upcoming Discussion Forum

The NSTF invites you to a free online NSTF Discussion Forum on the [creative economy, science and the 4IR](#) from 2-3 March 2022. The creative economy is important in that it creates jobs and generates income, including through intellectual property rights. It can make important contributions to achieve the sustainable development goals (SDGs).

We are honoured to host the following speakers at this event:

Loadshedding and power cuts Discussion Forum

The NSTF hosted a Discussion Forum on '[Loadshedding and power cuts – what is really going on?](#)'. It was driven by [proSET](#), a sector of the NSTF which represents over 40 [professional societies](#). It ran online from 25-26 October 2021. The media release '[What's really going on with SA's energy supply?](#)' explains the complex issues.

- **Prof Tshilidzi Marwala**, Vice Chancellor of the University of Johannesburg
- **Dr Tegan Bristow**, Senior Lecturer and Director, Fak'ugesi (fakugesesi.co.za), Wits; winner of the 2021 NSTFSouth32 Special Annual Theme Award: Creative Economy for Sustainable Development
- **Dr Audrey Verhaeghe**, CEO of the South African Innovation Summit

There will be other fascinating speakers also.

The sessions will take place from 09:00-13:00 on each day. See the draft [programme](#) and [concept document](#).

Complete the separate registration forms for each day of the event: [Register – 2 March 2022](#): [Register – 3 March 2022](#).

Please direct any queries to [Mr Matome Mphela](#) in the NSTF office.

SET for socio-economic growth

Meet our Brilliants and BEST students

The NSTF celebrates matriculants who excel in physical science and mathematics and who specifically plan to pursue studies related to science, engineering and technology (SET). The NSTF honours and recognises these [Brilliants](#) students at the NSTF-South32 [Awards Gala evening](#) each year. This programme is generously sponsored by South32 and the Department of Science and Innovation.

In 2021, The [Lewis Foundation](#) partnered with the NSTF Brilliants Programme to include awards for nine 'BEST' students ('Biological and Environmental Sciences Top' students), thereby recognising South Africa's future conservation champions. These students' choice of studies related to biology and environment is what further distinguishes them.

Student essays

The Brilliants and BEST students were asked to write short essays on themselves, and why they chose the course of studies that they are doing. This newsletter features three of the inspiring essays from students selected for the NSTF's Brilliants Programme in 2021.

[Gabbi Christians](#) matriculated at Kimberley Girls' High School and is currently studying towards a BEng (Chemical Engineering) degree at Stellenbosch University.

"Engineers contribute a great deal to making new things and finding innovative solutions to problems. As an aspiring chemical engineer, I would be given the opportunity to do just that."

[Dester De Salegn](#) studying towards a BSc Biological Sciences degree at the University of the Witwatersrand (Wits). She hails from Elukwatini in Mpumalanga.

Skills to prepare South Africa for future pandemics

The NSTF hosted a panel session at the Science Forum South Africa on 'Skills to prepare South Africa for future pandemics' under the auspices of the NSTF's [Science Councils and Statutory Bodies sector](#).

You can catch up on the event by listening to the [recording](#) and view the [presentations](#) delivered by the five expert speakers.

Welcome to a new member

The NSTF welcomes a new member:

- The [South African Science Olympiad](#) (SASO) – under the proSET sector.

Visit the [Membership section](#) on the website for more information about the NSTF. Request a membership invitation and application form from [Mr Matome Mphela](#).

Make your voice heard!

“I look forward to joining the world of work and getting a better insight into my interests. I am a scientist in the making.”

[Andiswa Gabela](#) is studying medicine at the University of Cape Town. He matriculated at Phillip Ndimande Secondary School in Mpumalanga Province.

“I love helping others. No matter how busy am, I will always create time to help others.”

The NSTF supports [SET education](#) with the aim of creating the researchers, leaders and innovators for tomorrow’s national system of innovation.

Meet our 2020/2021 NSTF-South32 Award Winners

NSTF-Water Research Commission (WRC) Award
(Sponsored by the WRC since 2017)

This Award was made to Professor Paul Oberholster from the University of the Free State to recognise his scientific contribution to water resource management in South Africa over the past 10 years. Special reference was made to the field of biological passive wastewater treatment. His research focuses on using algae to treat acid mine drainage and domestic wastewater to facilitate the effective removal of pollutants. [Read more.](#)

Meet our 2020/2021 NSTF-South32 Award Winners

Data for Research Award

The School of Geosciences at Wits University won the Data for Research Award in recognition for the techniques developed to use legacy data to explore for mineral resources, to support safe and efficient mining, and to assess and mitigate geohazards. Because geological, geophysical and geochemical data is expensive to collect, but essential to the wellbeing of South African mining, the methods developed make a significant difference to data collection, analysis and geohazard mapping.

The team leaders of this project are Professors Raymond Durrheim, Musa Manzi and Glen Nwaila. [Read more.](#)

STEMulator.org

[STEMulator](#) is a proudly South African non-profit interactive learning platform initiated by the NSTF proSET sector to excite young South Africans about the STEM (Science, Technology, Engineering and Mathematics) world and associated studies and careers. STEMulator is a free-to-all, online and off-line, animated, educational application where the youth and those who are young at heart, can *Explore>Discover>Learn*.



Share ‘n Dare outreach

The NSTF [Share ‘n Dare programme](#) provides a platform for NSTF [Award winners](#) to act as role models and ambassadors for science, engineering,

Bursaries available

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

technology (SET) and innovation. They share knowledge with youth and communities, inspiring young people to pursue studies and careers in SET and innovation.

The [2019/2020 NSTF-South32 Special Annual Theme Award](#) was won by Prof Michael Wingfield, Professor: Forestry and Agricultural Biotechnology Institute; and Adviser to the Executive, University of Pretoria.

This award was made for his being globally recognised as a South African plant pathologist; for a lifetime of contributions to the identification and management of plant diseases; as well as his education and mentorship of large numbers of plant pathologists and entomologists globally.

An [interview](#) with Prof Wingfield's titled 'Gesondheid van bome en plante' can be viewed on Plaas TV/Farm TV YouTube Channel and a podcast of a radio talk on RSG Landbou is available [here](#).

- [Ratlou Local Municipality](#) (Deadline: 28 February 2022)
- [Armcor Bursary](#) (Deadline: 27 February 2022)
- [Department of Sport, Art and Culture](#) (Deadline: 25 February 2022)
- [Ford Motor Company of SA](#) (Deadline: Open)

Visit the NSTF [bursary website](#) for more information and articles on inspiring people who work in these areas.

Green business support initiative

The [Green Businesses Support Service Directory](#), managed by [GreenCape](#), is a free public resource that aims to help entrepreneurs better find and access the support services they need.

In order to ensure that the directory continues to provide up-to-date, relevant information on business support services available to green entrepreneurs, the Forum for South African Water and Sanitation Innovator and Entrepreneur Support Initiatives asks its members to register their support services on the site by clicking [this link](#). Services that have already been registered can be updated [here](#).



proSET (Professionals in science, engineering and technology) is a sector of the NSTF representing more than 40 professional and learned societies. This section shares news about [members](#)* and introduces new members of the [proSET sector](#). *Note that this page will be updated on the new NSTF website to be launched soon. In the meantime visit the [current members](#)' page of the website for the full list of members, including proSET members.

- **New member: South African Science Olympiad ([SASO](#))**

The introduction of Olympiads in science (and in many other learning areas) provides the above average and talented learners with greater challenges. While the questions are based on the knowledge gained, they also test other abilities such as understanding, analysis, problem-solving and values.

Science Olympiads (natural, life and physical sciences) were initiated under the auspices of SAASTE-KZN (South African Association Science and Technology Educators) in 1997 by a group of science lecturers at the then Springfield College of Education in Durban. These Olympiads were initiated as a means to improve the teaching and learning of the sciences at primary and secondary schools in KwaZulu-Natal.

From 2000, these Olympiads are being offered to learners throughout the country, in 10 grades and three learning areas. At present, Olympiads are offered to learners in: natural sciences for grades 4, 5, 6, 7, 8 and 9; life sciences for grades 10 and 11; and physical sciences for grades 10 and 11. Up to 18 000 learners have participated in these Olympiads annually.

- **Consulting Engineers South Africa (CESA) President calls on industry to step up for SA's economic recovery with 2022 theme: A call to service**

"We have the ability to rewrite the gloomy narrative which has dominated our lives in recent years – the pandemic and its challenges. We can overcome, we can recover. But we have a lot of work to do – as an industry we need to ask ourselves, where do we even begin?" This was the question posed by Olu Soluade, newly appointed president of CESA, at the Presidential Media Address hosted in Johannesburg on 3 February 2022. [Read more.](#)

- **Entomological Society of SA (ESSA) newsletter available**

Rostrum, the newsletter of the ESSA, appears three times a year, in April, August and December, and provides information about people and happenings of interest to members of the Society. Click [here](#) to read the December 2021 issue.



SET-related policies currently open for public comment

Keep informed and have your say

- [Strategic Policy Framework on Disability for the Post-school Education and Training System: Draft framework and guidelines to accommodate students with disabilities](#) (Comments invited)
- [Veterinary and Para-Veterinary Professions Act: Nomination of candidates for election of council members](#) (Nominations invited by 24 February 2022)
- [Independent Communications Authority of South Africa Act: Intention to conduct an inquiry into the Long-Term Spectrum Outlook](#) (Comment by 4 March 2022)
- [Medicines and Related Substances Act: Regulations: Transparent pricing system for medicines and scheduled substances: Dispensing fee for pharmacists](#) (Comment by 17 March 2022)
- [Medicines and Related Substances Act: Dispensing fee to be charged by persons licensed](#) (Comment by 17 March 2022)

- [Plant Breeders' Rights Act: Receipts of applications for plant breeders' rights](#) (Comment by 8 April 2022)

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.

Energy

- [Electricity Regulation Amendment Bill points to far-reaching structural changes](#) (polity.org.za)
- [Government moves to open SA's power grid to competition](#) (techcentral.co.za)
- [Green hydrogen strategy supporting development of R270bn Northern Cape pipeline](#) (polity.org.za)
- [Government talking to investors about green hydrogen projects](#) (techcentral.co.za)
- [Update on the unbundling of Eskom's Transmission division](#) (energize.co.za)
- [Solar Power Africa: Importance of SA's solar PV value chain](#) (energize.co.za)

Agriculture

- [Agbiz supports BUSA's call for the Minister of Transport to review the Regulations relating to high cube containers](#) (agbiz.co.za)
- [South African farming: new policy offers promise, but there's fixing to be done too](#) (theconversation.com)
- [Opening SA agricultural exports to new markets deserves urgent attention](#) (wandilehlobo.com)
- [Sifiso Ntombela | Speed up transformation in farming, or risk an unstable sector](#) (news24.com)
- [Is organized agriculture at fault for low transformation levels in SA agriculture?](#) (wandilehlobo.com)

Education

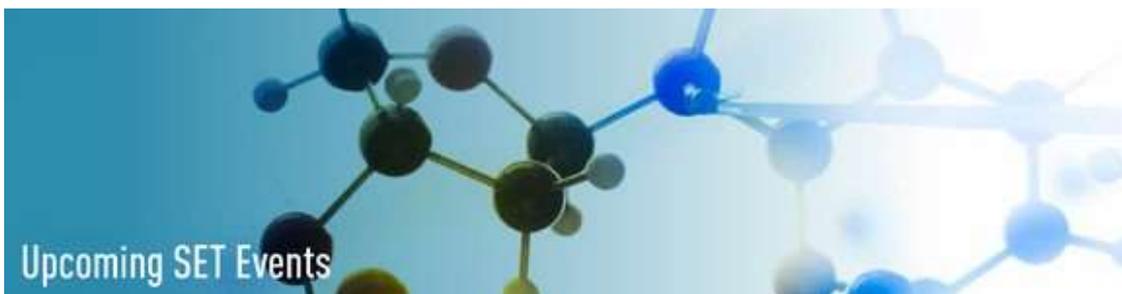
- [Collaboration with maths-and-science project produces future physician](#) (sun.ac.za)

Medicine and Health

- [SAHPRA Approves Affordable, Locally Developed COVID-19 Antigen Test](#) (dst.gov.za)
- [Smoke and mirrors: What you need to know about the hazy world of the proposed vaping tax](#) (bhekisisa.org)
- [WHO Director-General Visits MRNA Vaccine Tech Transfer Hub In SA](#) (dst.gov.za)
- [6th South African HIV Prevalence, Incidence, Behaviour And Communication Survey](#) (dst.gov.za)

The 4th Industrial Revolution and Information Technologies

- [South Africa's new critical skills list: What it means for the ICT industry](#) (techcentral.co.za)
- [TV digital migration another step closer](#) (engineerit.co.za)
- [Russia to deploy digital attaché in SA](#) (itweb.co.za)



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.

- [EuroScience Open Forum \(ESOF2022\)](#): Crossing Borders, Engaged Science, Resilient Societies, 365-day programme, [Leiden European City of Science](#), Netherlands
- [Africa Energy Indaba \(AEI\) 2022](#): Virtual conference and physical exhibition, Cape Town, 1-3 March 2020
- [IAIASA Course: Surface Water Management In Mining](#): Pretoria, 9 March 2022
- [9th Brasillian Industry Innovation Summit](#): 9-10 March 2022. Free virtual registration.
- mLab and its partners are attempting to host the largest online Artificial Intelligence (IA) lesson, ever. The lesson will be available on-demand from 10:00 on 10 March 2022. All welcome. The lesson will be presented by Professor Tshilizi Marwala, Vice-Chancellor of the University of Johannesburg and AI Thought Leader. Register via: <https://mlab.lightbulbedtech.com/>
- [85th IMESA conference](#): Adapting to our changing world: Gauteng, 2-4 November 2022. Call for abstract closing on 11 March 2022
- [Africa Automation Technology Fair 2023](#): Johannesburg, 9-11 May 2023
- The 7th [World Conference of Research Integrity](#) Cape Town, 29 May – 1 June 2022
- [Agbiz Congress 2022](#): Sun City, 22-24 June 2022
- [XX International Triple Helix Conference 2022](#): Italy, 27-29 June 2022 on the theme "Governing new and traditional partnerships for innovation and development in the post-pandemic world". The abstract and special session submission deadline for this conference has been extended until 28 February 2022
- [Infrastructure Africa Virtual Conference and exhibition](#): 17-18 August 2022
- [5th edition of AI Expo Africa 2022](#): Johannesburg, 27-29th September 2022
- [World Science Forum](#): Cape Town, 5-9 December 2022



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Science Councils and Statutory Bodies

- **ASSAf's South African Journal of Science (SAJS):** The January/February 2022 issue of the *SA Journal of Science* is available online. [Read](#) in this issue about, among other things, the misalignment of conservation priorities; under-researched socio-hydrology in Africa; the second South African Bird Atlas project; and more.
- **CSIR: [CSIR renews Dr Dlamini's contract as the CEO for second term](#)** (csir.co.za)

Higher Education institutions

- [New US scientific seminar series will feature high-level science and encourage collaboration](#) (sun.ac.za)
- [UFS alumna serving on the Namibian 4IR Presidential Task Force](#) (ufs.ac.za)
- [Three NWU alumni appointed to serve on Women in Nuclear South Africa board](#) (nwu.ac.za)

Space Science and Astronomy

- [Minister Nzimande Welcomes South Africa's Hosting Of NASA-Funded Hazardous Asteroid Tracking Telescope](#) (dst.gov.za)
- [New MeerKAT radio image reveals complex heart of the Milky Way](#) (sarao.ac.za)
- [Radio evidence of a minor merger in the Shapley Supercluster](#) (sarao.ac.za)
- [Einstein wins again](#) (sarao.ac.za)

Geology

- [New drilling project in Barberton launched to uncover the history of Earth](#) (midrandreporter.co.za)

Archaeology and Palaeontology

- [Ancient human tracks on South Africa's west coast: 3 reasons they are an exciting find](#) (theconversation.com)

Natural sciences

- [UP study finds that lions hunt particular cattle types](#) (up.ac.za)
- [More than 9 000 tree species yet to be discovered](#) (sun.ac.za)

Science Communication

- The first issue of *Hola MaHigh-School* for 2022 is now available. The science article this month is about the James Webb Space Telescope. There is much more of interest in this magazine for young readers. Read it [here](#).

Medicine and health

- [Novel zebrafish research shows green rooibos tea helps to reduce anxiety](#) (sun.ac.za)

Epidemics – human and animal

- [Excess mortality during the Coronavirus pandemic \(COVID-19\)](#) (ourworldindata.org)
- [As New Variants of the Coronavirus Emerge, Reaching the Vaccine-Hesitant Takes on New Urgency](#) (nationalacademies.org)
- [How to interpret South Africa's Omicron data](#) (bhekisisa.org)
- [COVID infection of three lions and a puma in private South African zoo points to need for wider surveillance](#) (theconversation.com)

- [The inside story of discovering the Omicron variant](https://wits.ac.za) (wits.ac.za)
- [A few pills a day could keep severe COVID away: What you need to know about two new treatments](https://bhekisisa.org) (bhekisisa.org)
- [Covid-19: New tracker for shopping malls](https://wits.ac.za) (wits.ac.za)
- [Preliminary findings from studies in South Africa indicate that omicron has a much higher rate of asymptomatic 'carriage' than other variants of concern](https://samrc.ac.za) (samrc.ac.za)

Climate change and Environment

- [Powering marine pollution busting with engineering excellence](https://uct.ac.za) (uct.ac.za)
- [Climate crisis could kill off the Namaqualand daisy spectacle, study finds](https://dailymaverick.co.za) (dailymaverick.co.za)

Energy

- [Nuclear-fusion reactor smashes energy record](https://nature.com) (nature.com)
- [Eskom: Operational recovery underway, but path to sustainability will be long and hard](https://energize.co.za) (energize.co.za)
- [What can bees teach us about electric reliability?](https://energize.co.za) (energize.co.za)
- [Green hydrogen could help SA's decarbonisation process](https://energize.co.za) (energize.co.za)

Agriculture

- [What is bioengineered food? An agriculture expert explains](https://theconversation.com) (theconversation.com)
- [Joint project looks to enhance the sustainable development of aquaculture in South Africa](https://csir.co.za) (csir.co.za)

The 4th Industrial Revolution and digital technology

- [SA must adopt new spectrum mindset](https://itweb.co.za) (itweb.co.za)
- [Technology to detect forest wildfires early](https://engineerit.co.za) (engineerit.co.za)
- [New Mpumalanga 4IR digital hub promises local technology solutions](https://engineerit.co.za) (engineerit.co.za)
- [Will 2022 sustain the sophisticated cyberattacks developed in 2021?](https://engineerit.co.za) (engineerit.co.za)
- [How to incorporate AI in the enterprise](https://engineerit.co.za) (engineerit.co.za)

Opportunities

- [Post-doctoral Research Fellowship Opportunity in Innovation Studies](https://uj.ac.za): The DSI/NRF/Newton Fund Trilateral Research Chair in Transformative Innovation, the 4th Industrial Revolution and Sustainable Development at the University of Johannesburg seeks to appoint a suitably qualified Post-doctoral Research Fellow. For queries and submissions, contact: Ms Robyn Erin Williams robynw@uj.ac.za



- [Dr Chikwamba recognised as one of the world's 50 most influential people navigating disruption](#) (csir.co.za)
 - [Global research award for UCT's Petrus de Vries](#) (uct.ac.za)
 - [Hat-trick of research accomplishments for Wits digital technologist](#) (wits.ac.za)
- Dr Boitumelo Innocent Ramatsetse received the TW Kambule-NSTF Award: Emerging Researcher in September 2021
- [Surprise sustainability award for UCT A/Prof Jennifer Broadhurst](#) (uct.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.

[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*).

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.

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