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NSTF e-Newsletter

S.E.T. for socio-economic growth

What is a life worth?

Message from the NSTF Executive Director, Ms Jansie Niehaus

What is a life worth? Why would people who are not taking care of the poor of the earth, want to force every woman in their own country with a foetus inside her to give birth? [Read](#) the ED's message.

NSTF News

Finalists to be announced: 2022 NSTF-South32 Awards

The NSTF will announce the finalists contending for the 24th prestigious [NSTF-South32 Awards](#) in [13 categories](#) later in May. The NSTF-South32 Awards recognise and promote outstanding contributions to science, engineering and technology (SET) and innovation by SET-related professionals, teams and organisations in South Africa.

The Awards are known as the 'Science Oscars' of South Africa. They are the largest, most comprehensive, and most sought-after national awards of their kind in the country. They were also the first science awards in the country.

2022 Awards Gala Event

The 24th annual [Awards Gala Event](#) is taking place on **21 July 2022** as a hybrid event. The event will celebrate the NSTF's annual theme for 2022: Basic Sciences for Sustainable Development. Save the date.

Today's research ... tomorrow's innovation



Welcome to a new member

The NSTF welcomes a new member:

- The [Independent Communications Authority of South Africa](#) (ICASA), under the State Owned Enterprises Sector.

Join over [120 member organisations](#) of the NSTF non-profit company in promoting science, engineering, technology (SET) and innovation in South Africa. Visit the [Membership section](#) on the website for more information about the NSTF. [Apply for membership](#) online.

SET for socio-economic growth!

New material on STEMulator.org

What's new?

A science plaza has recently been added to the [STEMulator](#) platform. It includes animal world, a museum, and an observatory will follow soon. A school is under construction. The transport tile is on the drawing board and will include bridges and trains to join the car and aeroplane.

Anyone with material for these, or any of STEMulator's other pages, is more than welcome to contact [Ms Kgaugelo Pule](#) with ideas and suggestions.

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*.



SET for our future innovators!

Climate Change Just Transition Framework consultation: Media release available

The Presidential Climate Commission (PCC) invited members and stakeholders of the NSTF to comment and submit feedback on the draft [Just Transition Framework](#) (JTF) for South Africa. The [discussion](#), hosted by the NSTF on 8 April 2022, brought together a broad range of stakeholders across public and private sectors to exchange knowledge and ideas. Read the [media release](#).

Brilliants and BEST students

Helping to solve SA's energy problems

Gerben Visser is one of the students recognised in the NSTF's 2021 [Brilliants programme](#) for top marks in mathematics and physical science in the National Senior Certificate Examinations (Grade 12). He is studying BEng Electrical and Electronic Engineering at Stellenbosch University. [Read more](#).

"I chose BEng Electrical and Electronic Engineering because I want to be a problem solver equipped with the skills to perhaps make a difference in some of the most important sectors in South Africa."

Bursaries available

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

- [Sasol Bursary Programme](#) (Deadline: 27 May 2022)
- [Ford Motor Company of SA](#) (Deadline: Open)

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

SET for life!

Share 'n Dare: NSTF-South32 Award Winners inspiring the youth

The [Share 'n Dare programme](#) provides a platform for [NSTF-South32 Award winners](#) to act as role models and ambassadors for science, engineering, technology (SET), and innovation. The following three new videos are now available:

Prof Carolina Ödman is a Swiss-trained engineer turned astrophysicist. In this interview she talks about how she got hooked on physics, fell in love with South Africa, the importance of family, and staying positive when facing cancer. We get insights into her career journey and her work as an Associate Professor at the University of the Western Cape and Associate Director at the Inter-University Institute for Data Intensive Astronomy (IDIA). Prof Ödman is the 2021 NSTF-South32 Communication Award winner. Watch the [video](#).

Prof Sheetal Silal is a mathematical modeller and statistician from KwaZulu-Natal. In this interview she talks about her passion for maths, using infectious disease modelling to save lives, traveling the world, and working hard to reach one's goals. We get insights into her career journey and her work as an Associate Professor at the University of Cape Town and Director at the Modelling and Simulation Hub, Africa (MASHA). Prof Sheetal Silal is a 2021 NSTF-South32 TW Kambule-NSTF Emerging Researcher Award winner. Watch the [video](#).

Outlook Foundation, CEO and Founder, Mr Segomotso Kelefetswe learned the importance of civil engineering as a child, having to walk long distances to go to school due to a lack of bridges, roads and infrastructure. He is a civil engineer at the Department of Public Works and Infrastructure. Mr Adolph Mabasa, a mechanical engineer and mentor, also contributes to the talk. Outlook Foundation is a volunteer-led non-profit organisation (NPO). The team is passionate about the development of young people and is a community of professionals with backgrounds in STEM. Outlook Foundation is the winner of the 2021 NSTF-South32 Non-Governmental Organisation (NGO) Award. Watch the [video](#).

SET for knowledge driven solutions!



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 [current members](#) and introduces new members of the [proSET sector](#).

- **GreenMatter is hiring an Executive Director**

The [Greenmatter Partnership](#) is a national non-profit organisation. Its mission is to develop human capacity for environmental conservation and management, and to develop future custodians of South Africa's natural heritage. To view the advert for an Executive Director, click [here](#). Applications close on 30 May 2022.

- **Consulting Engineers South Africa's Platinum Jubilee: Celebrating 70 years of partnering for engineering excellence**

This year marks the 70th anniversary of [Consulting Engineers South Africa](#) (CESA). The Platinum Jubilee celebrates the organisation's remarkable and most enduring history of contributing to the representation and development of the all-important engineering sector within South Africa. [Read more](#) about the celebrations.

- **The Institute of Municipal Engineering of Southern Africa (IMESA) empowering municipal engineers**

The [Institute of Municipal Engineering of Southern Africa](#) (IMESA) has introduced a number of courses compiled specifically for municipal requirements *to empower municipal engineers and engineering staff*. These are based on industry guidelines and best practices. [Read more](#).

- **27th Annual National Congress of the Association for Mathematics Education of South Africa (AMESA) – participation invited**

The theme of the 27th Annual National Congress of the [Association for Mathematics Education of South Africa](#) (AMESA) Congress is 'Digging Deeper: Teaching mathematics for understanding in and beyond the classroom'. For the past ten years and more of the South African National Senior Certificate (NSC) reports, the mathematics national pass rate has never exceeded 60%, thereby limiting the quantity and quality of passes, and the number of learners proceeding to tertiary institutions to successfully complete a qualification in the mathematics, science, engineering, technology and related fields. Demystifying mathematics, bringing mathematics in context, back to basics and many other slogans, are all endeavours to express the belief that we all have to dig deeper, and work harder and smarter to improve the standard and state of mathematics educational achievements in South African schools. [Read more](#).

- **Corrosion Institute of Southern Africa (CISA) Executive Director speaks on fight against corrosion**

Petra Mitchell, President and CEO of Catalyst Connection and Executive Director of the [Corrosion Institute of Southern Africa](#) (CISA) talked on SAFM about the fight against corrosion on World Corrosion Awareness Day, 24 April 2022. Listen [here](#).



SET-related policies currently open for public comment

Keep informed and have your say

- [Climate Change Bill](#) (Comment by 27 May 2022)
- [Policy Guidelines on the Implementation of Recognition of Prior Learning \(RPL\)](#) (Comment by 29 May 2022)
- [Project and Construction Management Act: South African Council for the Project and Construction Management Professions \(SACPCMP\): Nominations invited](#) (Comment by 6 June 2022)
- [National Integrated Small Enterprise Development \(NISED\) Masterplan](#) (Comment by 10 June 2022)
- [Non-Profit Organisation \(NPO\) Amendment Bill](#) (Comment by 10 June 2022)

- [Hazardous Substances Act: Group I, Category A, hazardous substances: Declaration](#) (Comment by 28 June 2022)
- [Hazardous Substances Act: Group I, Category B, hazardous substances: Declaration](#) (Comment by 28 June 2022)
- [Renewable Energy Independent Power Producers Procurement Programme \(REIPPPP\) Tender No. DMRE/001/2022/23: Request for Qualification and Proposals \(RFP\) under Bid Window 6](#) (Comment by 11 August 2022)
- [Draft Regulations relating to the Surveillance and Control of Notifiable Medical Conditions](#) (Comment by 5 July 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

- [Anglo American to champion development of SA's 'hydrogen valley'](#) (moneyweb.co.za)
- [A national priority project needed to deal with load shedding fast](#) (energize.co.za)

Environment

- South African 2021 [State of Environment Report](#) available.
- [South Africa gearing up to negotiate 'new paradigm' climate finance deal](#) (polity.org.za)
- [Poor planning, corruption leave SA municipalities open to climate disaster](#) (news24.com)

Agriculture

- [Rising atmospheric CO2 may benefit maize crops: first experiment in African conditions](#) (bizcommunity.com)
- [Dairy farmers eye carbon credits while curbing emissions](#) (engineeringnews.co.za)
- [PhD researcher explores producers' plans to exit farming over the next decade](#) (sun.ac.za)
- [Black farmers in South Africa need support: how it could be done](#) (theconversation.com)

Education

- [New Initiative to build ICT skills for South Africa's unemployed youth](#) (dst.gov.za)
- [Classroom reboot with robotics](#) (mg.co.za)

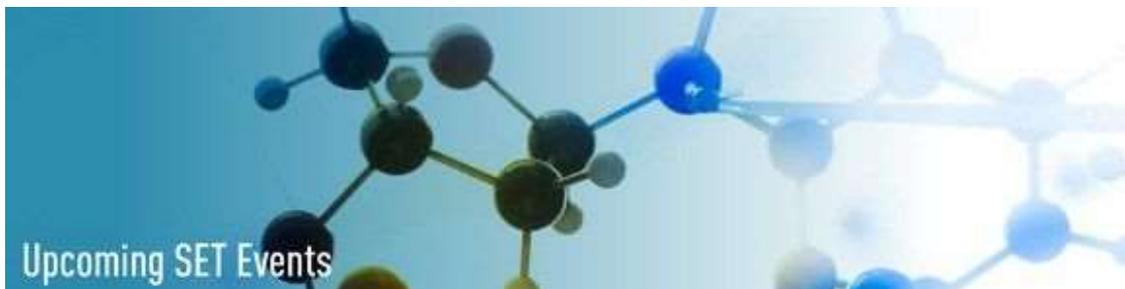
Infrastructure

- [Cabinet approves white paper to develop SA's critical rail infrastructure](#) (infrastructurenews.co.za)
- [Business Unity SA \(BUSA\) statement on Operation Vulindlela's progress](#) (busa.org.za)
- [UK and SA sign agreement to support sustainable infrastructure delivery](#) (infrastructurenews.co.za)
- [Construction industry to remain in recovery despite forecasted growth](#) (infrastructurenews.co.za)

- [Green Drop Programme report highlights SA's sewage problem](http://infrastructurenews.co.za) (infrastructurenews.co.za)

Medicine and Health

- [S Africa cuts back vaccine drive amid citizen apathy, may have to destroy doses](http://polity.org.za) (polity.org.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
- [2nd Brazil-South Africa Space Industry Virtual Summit](#): 25-26 May 2022. Register [here](#).
- The 7th [World Conference of Research Integrity](#) Cape Town, 29 May – 1 June 2022
- [Food Safety Summit SA](#): 7-8 June 2022
- [Agbiz Congress 2022](#): Sun City, 22-24 June 2022
- Webinar: Multi-specialty panel tackling type 2 diabetes mellitus (T2DM) for general practitioners and specialists, 23 June 2022 at 19:00. Click [here](#) to register.
- [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".
- [AMESA 27th Annual National Congress](#): Potchefstroom, 27 June – 1 July
- [International Congress of Entomology](#): Helsinki, Finland, 17-22 July 2022
- [57th Annual Conference of the Grassland Society of Southern Africa \(GSSA\)](#): Aldam Resort, Free State, 25-29 July 2022
- [Infrastructure Africa Virtual Conference and exhibition](#): 17-18 August 2022
- [CESA Infrastructure Indaba 2022](#): Johannesburg, 18-19 August 2022
- [Africa Agri Tech Conference and Exhibition](#): Pretoria, 29 August - 2 September 2022
- [Public Health Association of South Africa \(PHASA\) annual conference](#): eThekweni (Durban), 11-14 September 2022
- [IAIA Climate Change Symposium](#): Celsius 1.5 : Impact Assessment & Climate Change: Cape Town, 26-28 September 2022
- [SA Innovation Summit 2022](#): Theme: Innovation goes viral. Cape Town, 27-29 September 2022. Side events will be taking place throughout that week.
- [5th edition of AI Expo Africa 2022](#): Johannesburg, 27-29th September 2022
- [Water Institute of South Africa \(WISA\) Biennial Conference and Exhibition](#): Sandton, 28-30 September 2022
- [33rd SAIIE Conference](#): Zimbali, KwaZulu-Natal, 3-5 October 2022
- [WasteCon 2022](#): Johannesburg, 18-22 October 2022
- [85th IMESA conference](#): Adapting to our changing world: Gauteng, 2-4 November 2022

- [South African Geophysical Association's 17th Biennial Conference & Exhibition](#): Sun City, North-West Province, 28 November – 1 December 2022
- [World Science Forum](#): Cape Town, 5-9 December 2022
- [31st Conference of the Southern African Association for Research in Mathematics, Science and Technology Education](#): Bloemfontein, 17-19 January 2023
- [Africa Automation Technology Fair](#): Johannesburg, 9-11 May 2023



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Science Councils and Statutory Bodies

- **SAMRC**: [SAMRC scientists tallying the cost of COVID-19 mortality and hospitalisation-related utilisation and expenditure](#) (samrc.ac.za)
- **CSIR**: [CSIR to unveil a new technology to support learners with learning difficulties in SA](#) (csir.co.za)
- **ASSAf**: [4th Annual ASSAf Science - Business Leadership Forum: The effects of war in Ukraine on the oil price and SA economy](#). The video recording is now available.
- **SANSA**: [Flood decision support tool developed at SANSA](#) (sansa.org.za)
- **NRF**: [Open letter to Vice Chancellors: Sasols' Energy Transition – Collaboration on the Hydrogen Economy](#) (nrf.ac.za)
- [Dr Mary-Jane Bopape appointed as Managing Director of NRF-SAEON](#) (nrf.ac.za)
- [NRF and MINDS Announce Partnership Agreement for Joint Postgraduate Scholarship and Exchange Programme for Africa](#) (nrf.ac.za)

Higher Education institutions

- [Royal Honour for Wits Vice-Chancellor](#) (wits.ac.za)
- [UJ geoscientist elected to the US National Academy of Science](#) (uj.ac.za)
- [Satellite centre to fast-track new antibiotics discovery as drug resistance rises](#) (uct.ac.za)

Space Science and Astronomy

- [UP part of global research team to present the first image of Sagittarius A*^{*}: Revealing the black hole at the heart of our galaxy](#) (up.ac.za)
- [Wits scientists in the team that made the first image of the black hole in the centre of our galaxy](#) (wits.ac.za)
- [Report Identifies Priority Planetary Science Missions, Planetary Defense Efforts, and Strategic Investments for the Next Decade](#) (nationalacademies.org)
- [Satellite imagery quantifying flood damage in Durban, KZN](#) (sansa.org.za)
- [Combined power of two telescopes is helping crack the mystery of eerie rings in the sky](#) (theconversation.com)

Archaeology and Palaeontology

- [NWU's IKS Centre collaborates with Wits University to explore indigenous paleo-knowledge](#) (mg.co.za)

Geology

- [Geologists explain why most basaltic magma chambers are roofless](#) (wits.ac.za)
- [How geology put a South African city at risk of landslides](#) (theconversation.com)

Energy

- [A world first, Anglo American launches 2MW nuGen hydrogen-powered haul truck](#) (bizcommunity.com)
- [Waste plastic could beat coal as an energy source](#) (groundup.org.za)

4IR and Information Technologies

- [How Shoprite uses AI, machine learning to tackle food waste](#) (bizcommunity.com)
- [Newly launched i2i helps young researchers negotiate IP process](#) (uct.ac.za)

Medicine and health

- [SA healthcare workers lack critical knowledge on new ARV](#) (uct.ac.za)

Epidemics – human and animal

- [Climate Change Will Boost Viral Outbreaks](#) (scientificamerican.com)
- [First evidence of J&J vaccine effectiveness in health care workers](#) (samrc.ac.za)
- [Upsurge in concentrations of SARS-COV-2 in wastewater in certain parts of South Africa](#) (samrc.ac.za)
- [Vaccine perceptions among South Africans: How do we get more people vaccinated?](#) (hsrc.ac.za)
- [Making COVID vaccines in Africa: advances and sustainability issues](#) (theconversation.com)

Women in science

- [African women scientists key to research and development](#) (nature.com)

Climate change and Environment

- [Climate solutions: A balance between economic development and sustainable use of environmental resources](#) (sun.ac.za)
- [Microbes in African oceans are the service providers and the critical link in the food chain](#) (dailymaverick.co.za)
- [Saving the near-extinct estuarine pipefish means protecting estuary health](#) (saiab.ac.za)
- [Removing alien plants can save water: we measured how much](#) (theconversation.com)

Infrastructure

- [Bitumen faces an uncertain future](#) (infrastructurenews.co.za)

- [Turning Joburg's organic waste into cleaner bus fuel](#) (resource)

Opportunities

- The University of Pretoria is inviting applications the position of lecturer/senior lecturer (Environmental Science) in the Department of Geography, Geoinformatics and Meteorology. For more information contact [Ms A Hlatshwayo](#) and Prof S Coetzee, Tel: (012) 420 3823 for enquiries relating to the post content.
- The SECTEC - Sector of Science, Technology and Innovation of the Embassy of Brazil in Pretoria - announced that registrations for the 4th edition of the São Paulo Innovation and Science Diplomacy School (InnSciDSP-TWAS 2022) are open until 31 May. Organised by the University of São Paulo, the course, entitled "School of Advanced Science on Science Diplomacy and Innovation Diplomacy Innovation and Science Diplomacy School", will be held virtually, on August 1-5. For more information click [here](#).
- [African researchers invited to apply for JWO Research Grant](#) (polity.org.za)
- **Call for applications:** Postdoctoral positions in epidemiology, genomics and bioinformatics at CERl and KRISP. The Centre for Epidemic Response and Innovation (CERl) and the Kwazulu-Natal Research Innovation and Sequencing Platform (KRISP) are looking to appoint three postdoctoral fellows who will work with some of the world's best genomics and bioinformatics scientists to identify pathogen and human genomic variations associated with the transmission and virulence of pathogens and the development of diseases. The closing date for applications is 1 June 2022. For more information, [click here](#).



- [International recognition for ASSAf Executive Officer](#) (dst.gov.za)
- [Marié Botha appointed as the president of the Aeronautical Society of SA](#) (csir.co.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.

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