



S.E.T. for socio-economic growth

National Science and Technology Forum (NSTF)

eNews

The case for veganism

Opinion piece by the NSTF Executive Director (ED), Ms Jansie Niehaus

A widespread change in eating habits could conceivably make a dramatic difference, in terms of human health, number of animals put through the ordeals of treatment and slaughtering processes, and the tonnage of greenhouse gasses in our atmosphere. [Read](#) the ED's opinion piece.

NSTF News

Call for nominations for the 2024 NSTF-South32 Awards

The NSTF calls for [nominations](#) for the 26th [NSTF-South32 Awards](#). These prestigious awards focus on science, engineering and technology (SET) and innovation in South Africa (SA). [South32](#) has been the co-branding sponsor for the past nine years.

NSTF's theme for 2024: The **Fourth Industrial Revolution (4IR) in South Africa** theme was chosen in response to new developments in technology and its uses throughout the world and in SA, affecting people's lives and opportunities. A [Special Annual Theme Award](#) will be made for an outstanding contribution to SET and innovation through research, development and innovation in 4IR technologies in SA.

New in 2024 – Science Diplomacy for Africa Award: The NSTF is partnering with the Department of Science and Innovation (DSI) and the Council for Scientific and Industrial Research (CSIR) through their Science Diplomacy Capital for Africa (SDCfA) initiative, on a new award for [Science Diplomacy for Africa](#). The award will recognise an outstanding contribution to SET and innovation by an individual or a team in SA which has led to impactful solutions and/or contributions through science diplomacy between and among countries for the benefit of SA and Africa.

For more information on how to register and what is new this year, read the [NSTF Awards](#) media release. [Register nominations](#) online by **14 December 2023**.

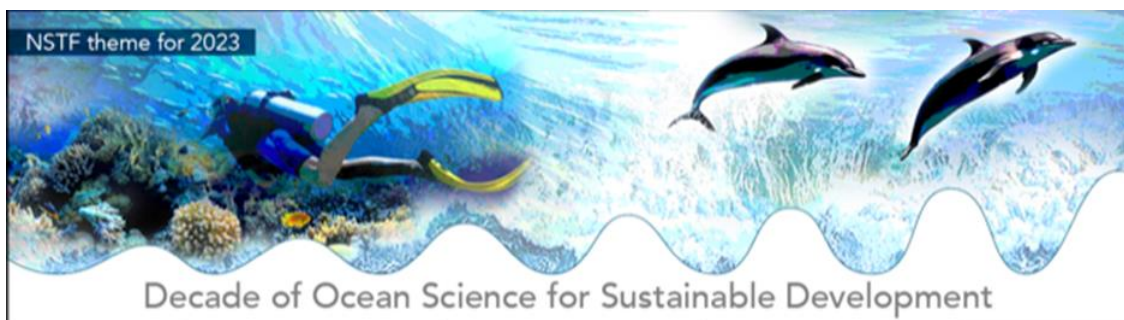
Today's research ... tomorrow's innovation

NSTF Discussion Forum news

- **Research and innovation towards sustainable socio-economic growth:** This hybrid discussion forum, in partnership with the [NSTF Science Councils and Statutory Bodies Sector](#) took place on 17-18 October 2023. The presentations, as well as videos taken at the discussion forum are now available. Click [here](#) to access the material.

- **Videos of previous events now available** – Videos of presentations at two previous NSTF Discussion Forums are now available. [Click here](#) for the videos of the NSTF panel session on **Pitfalls of Artificial Intelligence** at the UNGA78 Science Summit; and [click here](#) for videos of the recent discussion forum on **Transitions in SA's energy provision**.

Make your voice heard and join in!



NSTF at Science Forum South Africa 2023

The [Science Forum South Africa 2023](#) will take place from 6-8 December at the [CSIR International Convention Centre](#), Pretoria, South Africa. The theme for the Forum is *Igniting Conversations About Science – People, Partnerships, Priorities for the Decadal Plan*.

The NSTF will present a [thematic session on Pitfalls of Artificial Intelligence](#) on 07 December 2023 from 11:00 to 12:30. For background, visit the NSTF website with information on a [discussion forum held on this topic](#) in May 2023, and a [NSTF panel session](#) during the UNGA78 Science Summit held in September 2023.

The NSTF will also exhibit and display some of its activities such as [Discussion Forums](#), the [NSTF-South32 Awards](#), youth outreach ([Share 'n Dare](#), [Brilliant Programme](#), [bursary directory](#) and [STEMulator](#)).

We'd love to meet you there!

SET for socio-economic growth!

Meet our Award winners

NSTF-Water Research Commission (WRC) Award

Sponsored by the WRC since 2017, this award recognises an individual or an organisation for sustainable water management, knowledge generation and solutions over the last five to 10 years. This year, the award was made to the **Centre for Water Resources Research** at the University of KwaZulu-Natal (UKZN) for providing a centre of excellence

Bursaries available

Visit the NSTF [Bursary Directory](#) for the latest available bursaries in science, engineering and technology (SET).

Undergraduate bursaries:

- [Department of Water and Sanitation](#) (DWS) (Deadline: 30 November 2023)
- [Hillary Construction Bursary](#) (Deadline: 30 November 2023)
- [Langeberg Municipality Bursary Programme](#) (Deadline: 30 November 2023)
- [WIPHOLD Bursary Programme](#) (Deadline: 30 November 2023)
- [Magalies Water Bursary](#) (Deadline: 30 November 2023)
- [Siza Water Bursary](#) (Deadline: 30 November 2023)
- [Nkangala District Municipality Bursary](#) (Deadline: 30 November 2023)

Postgraduate bursaries:

- [Department of Water and Sanitation \(DWS\)](#) (Deadline: 30 November 2023)

SET for life!

for cutting edge applied and interdisciplinary research and postgraduate training in water resources-related research and capacity building. [Read more.](#)

“We have for a long time been living with demand for water exceeding the supply and availability, and this has been exacerbated by deteriorating water governance and maintenance of water infrastructure, such as distribution networks and waste water treatment works. At the CWRR we are trying to narrow that gap, by developing improved water management practices and governance,” says director of the CWRR, Prof Jeff Smithers.”

NSTF-SAMRC Clinician-Scientist Award

Sponsored by the South African Medical Research Council (SAMRC)

Prof Salome Maswime, an obstetrician, gynaecologist and head of Global Surgery in the Department of Medicine at the University of Cape Town (UCT) won this award for her contribution through pioneering the field of Global Surgery in Africa as part of a drive for greater equity, and access to, much-needed surgical care. She wants to find measures to reduce the maternal mortality from caesarean sections in SA and to see the African community as a whole receive safe and timely surgical care, especially pregnant women. [Read more.](#)

“Global surgery is about how to capacitate healthcare workers looking after patients, to make better and timely decisions.”

Meet our Brilliant students – top performers in STEM

[Aaron Bobby Kunnath](#) is studying mechatronics engineering at Stellenbosch University. He matriculated at Northern Cape High School in Kimberley, Northern Cape Province. He would like to work in a company that provides robotics solutions to many people across the globe, not only to those who are wealthy and well off.

“The world we live in today requires us to be problem solvers and critical thinkers. These are skills that can be developed and can be used for the betterment of our society”

[Zemfundo Mthembu](#) is studying medicine at the University of Cape Town. She matriculated at Adams College of Education in Amanzimtoti, KwaZulu-Natal. She sees herself combating diabetes and creating awareness of the illness at an international level one day.

“The only barrier between you and your dreams is you. Push yourself to the edge with studying and you will see how far you will go in the end.”

The [NSTF Brilliant Programme](#) is sponsored by the [Department of Science and Innovation](#) (DSI) and the [South](#)

STEMulator shines at Eskom Expo

[STEMulator](#) is thrilled to announce that the [South African Institution of Civil Engineering](#) (SAICE), a valued member of the NSTF, promoted the platform in a prominent double-page spread in SAICE's October magazine, featuring STEMulator's engagement with educators during SAICE's bridge building competition. [Read](#) all about it.

As 2023 comes to a close, STEMulator is gearing up for a strong finish. We are excited about the prospect to showcase our innovative platform at the [Science Forum South Africa](#) (SFSA) taking place from 6-8 December 2023 at the CSIR International Convention Centre in Pretoria. STEMulator eagerly anticipates engaging with attendees and exhibiting at the SFSA.

See our [Careers Booklet](#), which will be available in hardcopy at the SFSA.

The STEMulator team welcomes new ideas, feedback, suggestions, content contributions and partnerships! Contact [Ms Kgaugelo Pule](#) to find out more.

Explore>Discover>Learn – inspiring the next generation of STEM professionals



proSET (Professionals in science, engineering and technology) is a sector of the NSTF currently representing 47 professional and learned societies. This section shares news about [current members](#) and introduces new members of the [proSET sector](#).

- **Latest GSSA newsletter available**

The [October Grassroots](#) issue is now available. A sneak-peak of what this issue contains: Congress 58 highlights, carbon and biodiversity offsets, and an obituary celebrating the life of legendary grassland scientist Prof Neil Tainton. *Grassroots* is the newsletter of the [Grassland Society of Southern Africa](#) (GSSA) and the subscription is free.

- **CESA acknowledges SANRAL's shift in Preferential Procurement Policy for infrastructure growth**

[Consulting Engineers South Africa](#) (CESA) acknowledges the recent decision by the South African National Roads Agency Limited (SANRAL) to withdraw its Preferential Procurement Policy. CEO Chris Campbell states: "We believe this move reflects a commitment to advancing our nation's infrastructure development endeavours. It is imperative that we collectively strive for progress in this sector, as it directly correlates with reducing unemployment and enabling the essential growth of our economy." [Read more](#).

ECSA annual stakeholder briefing

The [Engineering Council of South Africa](#) (ECSA) will host its Annual Stakeholder Briefing on Thursday, 30 November 2023 from 09:00-11:00. The Briefing seeks to provide an Annual Report to stakeholders detailing the organisation's performance and progress on the implementation of the revised 2023-2025 ECSA Strategy. The formal invite can be accessed [here](#).

- **ECSA introduces registration application calendar**

ECSA introduces the Registration Application Calendar effective January 2024. The Calendar will impact the registration cycle and will allow for application submission only during certain months of the year. The registration window for the submission of applications in professional and specified categories of registration is available [here](#).

- **Kirstenbosch named best botanical garden in Africa**

The World Luxury Travel Awards has named Kirstenbosch National Botanical Garden the best botanical garden in Africa. The Award acknowledges sustained commitment to excellence and outstanding achievement in global luxury travel. The Kirstenbosch National Botanical Garden is managed and maintained by the [South African National Biodiversity Institute](#) (SANBI). [Read more](#).

- **First assessment of impact of GMOs on biodiversity published**

The SANBI has published its first assessment of the impact on biodiversity by genetically modified organisms (GMOs). The key messages from this first assessment speak to the current knowledge of the impact of GM crops on biodiversity in South Africa; and the needs in terms of improving policy, research and development processes, and access to pertinent information. [Read more](#).



SET-related policies currently open for public comment

Keep informed and have your say

- [2023 Eskom Debt Relief Amendment Bill](#) (Comment by 27 November 2023)
- [Draft Aquaculture Development Bill](#) (comment by 16 January 2024)

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.

4IR and information technologies

- [Govt teams up with Google to drive SA's tourism sector](#) (itweb.co.za)

Agriculture

- [Diseases on farms in South Africa: recent outbreaks point to weaknesses in the system](#) (theconversation.com)

Education

- [Where will the mathematics academics come from?](#) (mailchi.mp)
- [STEM subjects are key to getting South Africa's youth employed](#) (mandela.ac.za)

Energy

- [Just Energy Transition Implementation Plan gets Cabinet nod](#) (itweb.co.za)
- [Eskom unveils largest battery storage project on the African continent](#) (energize.co.za)
- [New approach to grid allocation changes the solar wheeling game](#) (energize.co.za)
- [Eskom confirms new transmission strategy to add more renewables to the grid](#) (energize.co.za)

Environment and climate change

- [Namibia is set to become the first African country to run a decarbonized iron plant](#) (msn.com)
- [Greenhouse Gas concentrations hit record high. Again.](#) (public.who.int)
- [South Africa to miss 2030 emissions goal as it keeps coal plants burning](#) (bizcommunity.com)

Infrastructure

- [SA construction an industry under siege](#) (engineerit.co.za)

Health and medicine

- [The Lancet Countdown on health and climate change](#) (thelancet.com)



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

- [South African Geophysical Association's 17th Biennial Conference & Exhibition](#): Sun City, 28 November – 1 December 2023
- [16th Frank Warren Conference: Securing Africa's Future through organics chemistry research](#): Polokwane, 3-7 December 2023
- [Hydrogen Safety and Hazardous Areas Conference](#): Sandton, 4 and 5 December 2023
- SAIEE webinar: The operational benefits of the Steenbras Pumped Storage Facility: 5 December 2023, 18:00-19:30. Click [here](#) to register.
- [Science Forum South Africa](#): Pretoria, 6-8 December 2023
- The Department of Science and Innovation (DSI) in partnership with the Eureka Network Secretariat under the Turkish Chairship will be hosting a Eureka Network side event along the margins of the Science Forum South Africa (SFSA) 2023, Pretoria, 6 December 2023, 09:00-12:00. [Book a seat](#).
- [The closing ceremony of the IYBSSD](#): Switzerland and online, 15 December 2023, 10:00-19:00. Register [here](#).
- [53rd Congress of the Southern African Society of Plant Pathology](#): Golden Gate National Park, Free State, 21-25 January 2024
- [13th South African Conference on Computational and Applied Mechanics \(SACAM\)](#): Stellenbosch, 22-23 January 2024. The call for abstract submissions is now open.
- [RARE X – Africa's leading conference on rare disease treatment](#): Johannesburg, 14-17 February 2024
- [Africa Energy Indaba](#): Cape Town, 5–7 March 2024. It will feature a focused Hydrogen Forum.
- [2024 Ocean Decade Conference](#): Barcelona, Spain, 10-12 April 2024
- [The XX International Plant Protection Congress \(IPPCATHENS2024\)](#): Athens, Greece, 1-5 July 2024
- [International Astronomical Union \(IAU\) General Assembly 2024](#), Promoting Open, Impactful, and Sustainable Science: Cape Town, 6-15 August 2024
- [GCCE2024 - Global Congress of Chemical Engineering](#): To sustainability and beyond: Cape Town, 6-11 October 2024



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Science Councils and Statutory Bodies

- **ASSAf**: [ASSAf Science-for-Society Gold Medals for outstanding achievement](#) (assaf.org.za)
- [ASSAf Science-for-Society Gold Medals for outstanding achievement](#) (assaf.org.za)
- **CSIR**: [CSIR receives TV white space gear from South Korea](#) (itweb.co.za)

- [Gizmo – the CSIR buoy keeping track of water at Theewaterskloof Dam](#) (csir.co.za)
- [CSIR honoured for championing plastics pollution research](#) (csir.co.za)
- [CSIR and ACT collaborate to strengthen cybersecurity and telecom research and development](#) (engineerit.co.za)
- **NRF:** [The National Research Foundation and National Nuclear Regulator strategic partnership agreement](#) (nrf.ac.za)
- **SAMRC:** [SAMRC's Environment and Health Research Unit Scientist Prof Caradee Wright becomes the first international \(non-USA\) scholar to be selected for the NIH Climate and Health Scholars Program](#) (samrc.ac.za)
- **SARAO:** [Tesla Minions Triumph at 2023 FIRST Lego League Northern Cape Robotics competition](#) (sarao.ac.za)

Higher Education Institutions

- [Protecting research integrity from predatory journals](#) (uct.ac.za)
- [Blue skies: UCT SARChI Chair leading in the global aviation industry](#) (uct.ac.za)

4IR and information technologies

- [How AI Is Shaping Scientific Discovery](#) (nationalacademies.org)
- [Have we given AI a free pass for too long?](#) (sun.ac.za)
- [Artificial Intelligence, sustainability at forefront as industry turns attention to 2024](#) (engineerit.co.za)

Agriculture

- [Biosecurity breaches are a significant risk to SA's agricultural growth agenda](#) (agbiz.co.za)
- [AI, blockchain and other technologies contributing to the future of local agriculture](#) (engineerit.co.za)
- [Enhanced disease surveillance urgently advocated by agricultural experts](#) (NewzroomAfrica)

Biology

- [Citizen science and satellite data produce insights into what determines bird diversity inside and outside South Africa's largest national park](#) (saeon.ac.za)
- [Research shows there are more warm-bodied sharks than previously thought](#) (up.ac.za)
- [From Aardvark to lhobo-hobo: Zoology and Entomology Department renames six spaces](#) (ru.ac.za)

Energy

- [Why supercapacitors are the future of power storage](#) (energize.co.za)
- [Renewable energy growth is "unstoppable", says IEA](#) (energize.co.za)

Environment and Climate Change

- [How Green Innovation Can Stimulate Economies and Curb Emissions](#) (imf.org)
- [Initiative seeks to combat alien species](#) (bizcommunity.com)
- [Using nanotechnology for biodiversity restoration and ecosystem services](#) (saeon.ac.za)

Health and medicine

- [The anti-HIV jab is coming to SA. Find out when and how](#) (bhekisisa.org)

- [Positive Results Announced in Largest Pivotal Phase 3 Trial of a First-in-Class Oral Antibiotic to Treat Uncomplicated Gonorrhoea](https://www.samrc.ac.za) (samrc.ac.za)
- [PhD research explores precarious balance of sleep, light and sedentarism among gamers](https://www.uct.ac.za) (uct.ac.za)
- [DTTC-led project finds pioneering treatment to prevent multidrug-resistant TB in children and adults](https://www.sun.ac.za) (sun.ac.za)
- [UJ researchers discover new bacterial species with healthcare potential in South African medicinal plant](https://www.uj.ac.za) (uj.ac.za)

Palaeontology and Anthropology

- [Crocodiles' origin story: how slow and steady won the race](https://www.nature.com) (nature.com)
- [Paleo myth clubbed on the head – 'man the hunter, woman the gatherer' is just not true](https://www.dailymaverick.co.za) (dailymaverick.co.za)

Science engagement

- With support from The Kavli Foundation, the Journal of Science Communication (JCOM) is preparing a special issue about communicating basic, discovery science. The journal invites researchers, practitioners, policymakers and funders to submit contributions to science communication research, practice and training specifically relevant to discovery science. Deadline for abstracts: 1 February 2024. Find the [full call for abstract here](#).
- [Emerging scholar takes top honour for pioneering sustainable housing research](https://www.wits.ac.za) (wits.ac.za)

Space science and Astronomy

- [The transformative power of Earth observations benefits communities worldwide](https://www.dst.gov.za) (dst.gov.za)



- [Professor Sunil Maharaj honoured by Malmö University's Faculty of Technology and Society in Sweden](https://www.saiee.org.za) (saiee.org.za)
- [Prof Richard Cowling and Prof Glenda Gray receive 2023 ASSAf Science-for-Society Gold Medals](https://www.dst.gov.za) (dst.gov.za)
- [Local Astronomer from Cradock Lands Top Science Job in Paris](https://www.saa0.ac.za) (saa0.ac.za)
- [UCT's Dr Petra Holden wins AXA XL Climate Water Nexus Award](https://www.uct.ac.za) (uct.ac.za)
- [PhD candidate awarded coveted Women in Science prize](https://www.sun.ac.za) (sun.ac.za)
- [Entomologist takes on mosquitoes, malaria, wins award](https://www.wits.ac.za) (wits.ac.za)
- [Mandela University doctoral student takes first prize with cancer research](https://www.mandela.ac.za) (mandela.ac.za)

Opportunities

- **EU-funded PhD opportunity in South Africa in Wine Science Communication:** Opportunity for a full-time PhD student to join a three-year 'Eco2Wine' Doctoral Network Programme, starting in 2024. This research programme will focus on closing the gap between microbiomics, winemakers and the public. The student will be based at Stellenbosch University, but will also spend time with project partners in other wine-growing regions of the world. Find [more information here](#).
- **Startup-Culture in partnership with GrowthWheel and 4th Industrial Revolution Incubator** is calling for young entrepreneurs to join a 4 - 6 months

High Growth Renewable Energy Accelerator programme. The programme aims to build 30 Gauteng-based businesses to focus on the installation and maintenance of solar energy and energy management products in the City Regions of Gauteng Province. Closing date: 30 November 2023. [Click here](#) to apply.

- **The [Water4All](#) partnership launched its second Joint Transnational Call** for research and innovation projects entitled "Aquatic Ecosystem Services". The Call for proposals closes on 30 November 2023. Potential applicants can use the [partner search link](#) to look for a partner or a project to join.
- **The Technology Innovation Agency (TIA) is calling for applications from grassroots innovators** looking for funding, technical assistance and support for developing a new product or process up to prototype and proof of concept stage. Closing date: Friday, December 15, 2023. [Click here](#) to register and apply.
- **TIA Call for Proposals in agroprocessing:** Strengthening the adaptation capacity of industry for a green and resilient economy in South Africa. The Technology Innovation Agency (TIA) invites local innovators with cutting-edge Growth-Stage climate change adaptation technology solutions focusing on the agroprocessing sector at large. [Read more](#).
- **CSIR/TIA/DSI Industrial Biocatalysis HUB (IBH) is calling for an [expression of interest](#) from SMMEs** entering the biocatalysis sector as well as established companies to grow and expand biomanufacturing capacity to meet market demands. Closing date: 29 March 2024 or when programme reaches capacity.

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
- gathers stakeholders around burning issues of national and global interest, across the public and private sectors, including matters of public policy
- includes a network of professional societies in SET and STEM education (STEM = science, technology, engineering and mathematics) - the NSTF proSET membership sector.
- recognises, awards and profiles the outstanding contributions of individuals and groups to SET and innovation through the prestigious NSTF Awards
- runs and supports collaborative projects and youth outreach, including recognition of top performance in mathematics and science, role modelling, bursary and STEM career information
- runs and supports the STEMulator.org which attracts youth and educators to Explore>Discover>Learn the world of STEM including careers. (Established by NSTF proSET)

For more information

www.nstf.org.za

E-mail: enquiries@nstf.org.za

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Non Profit Company Registration Number: 2007/029165/08

NPO Registration Number: 92042

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