



S.E.T. for socio-economic growth

National Science and Technology Forum (NSTF)

eNews

NSTF News

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 key question asked to the various panels was how do research, development and innovation (RDI) in publicly funded institutions contribute to sustainable socio-economic growth in South Africa (SA)? [View](#) the presentations and watch out for the videos coming soon.

Ocean science for sustainable development

An online discussion forum on ocean science for sustainable development (NSTF's theme for 2023) will be hosted on 15-16 November 2023. The aim is to bring researchers and professionals together to highlight South African scientific work on ocean health, the extent of data gathered through observation systems in SA, as well as gaps and challenges in this regard. Watch your mailbox for the invitation.

Suggest topics for discussion forums in 2024

Suggestions are invited from NSTF members for discussion forum topics and speakers for next year. You are welcome to e-mail your suggestions for [NSTF Discussion Forums](#) for 2024 to enquiries@nstf.org.za.

Make your voice heard and join in!

NSTF 2023 Annual General Meeting (AGM)

The 2023 NSTF AGM with all NSTF member organisations, will be a virtual event on Zoom on Friday, 10 November 2023 from 10:00 to 12:30. The NSTF AGM is held to satisfy legal requirements and to update members on all NSTF activities. The AGM will be followed by a discussion on the funding of science, technology and innovation (STI) in SA based on the [STI Indicators Report](#) by the National Advisory Council on Innovation (NACI). [Register](#) your attendance and click [here](#) for more information and supporting documents.

Members are invited to nominate:

- Adjudicators for the [2023/2024 NSTF-South32 Awards](#)
- The main representative of the [business sector](#) (nominations only from members of this sector) to take up the position of Business representative on the [NSTF Executive Committee](#) (Exco), following a resignation.

2023/2024 NSTF-South32 Awards

Call for nominations to be made soon

The call for nominations for the 26th NSTF-South32 Awards will be made in November together with the announcement of the theme for 2024 and the Special Annual Theme

Award. These prestigious and longstanding awards recognise excellence in science, engineering and technology (SET) and innovation in SA. Look out for the announcement that will be in your inbox soon.

Highlights from the 2023 Awards gala event

The NSTF continued with the hybrid format of the Awards gala event this year, with two gala dinners that took place simultaneously in Cape Town and Johannesburg while broadcasting live to an online audience from both cities. [View](#) highlights from the evening.



Brilliant student stars in Quest magazine

The NSTF partnered with *Quest Magazine* to profile students from the [NSTF Brilliant programme](#). As a result of this partnership, a 2023 Brilliant student, Matimba Manganyi, features on pages 36-39 in [Quest Vol 19.3](#).

[Matimba Manganyi](#) is studying towards a BSc degree in Astronomy and Astrophysics at the University of the Witwatersrand (Wits). He is profiled in the magazine's "Generation Space" edition. He matriculated at Letlolo Secondary School in Gauteng.

"I am inspired by how the universe works and how we can establish laws about physical systems and use those laws to improve our lives and find better and more convenient ways to solve the problems that we have."

The NSTF Brilliant Programme is sponsored by the [Department of Science and Innovation](#) (DSI) and the [South African Council for Natural Scientific Professions](#) (SACNASP).

NSTF acknowledged for its participation in IYBSSD 2022/2023

The [Academy of Science of South Africa](#) (ASSAf), in partnership with the DSI, presented the NSTF with a certificate of appreciation, acknowledging our active

Bursaries available

Visit the NSTF [Bursary Directory](#) for the latest available bursaries in science, engineering and technology (SET). The following 10 bursaries all have a deadline of 31 October 2023:

- [DALRRD Bursary Provider](#)
- [ISFAP Bursary Programme](#)
- [Letsatsi Borutho Trust Bursary Programme](#)
- [Limpopo Department of Public Works Bursary Programme](#)
- [Potatoes South Africa \(PSA\)](#)
- [SAAFOST Bursary Programme](#)
- [Sibona Ilanga Trust Bursary Programme](#)
- [Subtrop Lindsey Milne Bursary](#)
- [Subtrop SAAGA Bursary Programme](#)
- [V3 Consulting Engineers Bursary Programme](#)

Undergraduate bursaries with deadlines in November:

- [Monocle Foundation](#) (Deadline: 10 November 2023)
- [Assmang Khumani Mine](#) (Deadline: 10 November 2023)
- [City of Johannesburg Bursary](#) (Deadline: 15 November 2023)
- [Knysna Rotary Bursary](#) (Deadline: 17 November 2023)
- [Northern Cape Provincial Government Bursary](#) (Deadline: 17 November 2023)

participation and support of the [International Year of Basic Sciences for Sustainable Development](#). South Africa was one of four countries with the most extensive activities.

In 2022 the Special Annual Theme Award was made to [Prof Marianne Vanderschuren](#), University of Cape Town (UCT), for her role in improving the quality of life of vulnerable road users using Smart Mobility through research solutions based on the basic sciences. Furthermore, an [NSTF Discussion Forum](#) was held on the theme of Basic Sciences which considered the role of basic sciences that have significant, but indirect, influence on public policies, personal decisions, and communities across the touch-points of energy, conservation, agriculture, health, transportation, communication, defence, economics, leisure, and exploration. And so much more.

The [closing ceremony of the IYBSSD](#) will be held in Switzerland and online on December 15, 2023, 10:00-19:00 (local SA time). Register [here](#) for the event.

- [WAAW Foundation Bursary Programme](#) (Deadline: 17 November 2023)
- [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:

- [DSI-NRF Postgraduate Scholarship](#) (Deadline: 24 November 2023)
- [Department of Water and Sanitation \(DWS\)](#) (Deadline: 30 November 2023)

SET for life!

Meet our Award winners

Management Award

Prof Paxie W Chirwa, Chair and Director: Forest Postgraduate Programme, University of Pretoria (UP) was awarded the 2023 NSTF-South32 Management Award for his contribution, centred on people, to future forestry development in South Africa and training future foresters. His work is aimed at recognising the importance of communities in proximity to the forest resource in sustainable forest management and use. [Read more.](#)

“This loss [of natural plant life] is not from natural calamities. It’s mostly due to human impact. So to me, the idea is to understand why it is so, and how we can actually help people use this resource sustainably.”

Engineering Research Capacity Award

Prof Nosipho Moloto, an inorganic chemistry professor, University of the Witwatersrand (Wits), is the DSI/NRF/Nedbank SARChI Chair in Energy Materials. She won for her contribution to capacity building through finding simple synthetic methods for semiconductor nanocrystals that can be used as essential components in the development of affordable solutions for the production of clean water, renewable and clean energy, rapid diagnostics of diseases and fast and easy to operate sensors. [Read more.](#)

“What I would like to see is that we don’t think of gender; we don’t think of race. We just think: these are all scientists; these are good engineers.”

Prof Onesimo Mutanga, Professor: Remote Sensing, University of KwaZulu-Natal (UKZN); and DSI/NRF/Nedbank SARChI Chair in Land Use Planning and Management won for developing research capacity through the use of remote sensing techniques to support land use management focusing on the development of the science and the application of these techniques for terrestrial ecosystems. [Read more](#).

“By the time they leave my lab, they will have acquired thought-leadership skills, developed skills in funding applications and established international collaboration links.”

NSTF observes World Mental Health Day and World Development Information Day

The NSTF observed [World Mental Health Day](#) with the rest of the country on 10 October. The theme for 2023, set by the World Foundation of Mental Health, was ‘Mental health is a universal human right’.

[Read](#) the media release the NSTF prepared, which also features a Stellenbosch-based non-profit organisation concerned about the mental health of young people, [Community Keepers](#) (CK). CK received the prestigious 2023 NSTF-South32 Non-Governmental Organisation Award for their project to enhance resilience and promote mental health and well-being amongst South African learners, their parents, teachers and community.

In 1972, the United Nations General Assembly designated 24 October as [World Development Information Day](#). This occasion underscores the importance of disseminating information, mobilising public opinion, and raising awareness about development issues, thereby encouraging collaborative efforts to foster growth and development worldwide.

Prof Onesimo Mutanga, [winner](#) of a 2023 NSTF-South32 [Engineering Research Capacity Development Award](#) is a proponent of development and is also passionate about empowering young people. His research is focused on using remote sensing to aid environmental management. [Read more](#).

STEMulator shines at Eskom Expo

In a remarkable display of scientific prowess, the [Eskom Expo's International Science Fair](#) (ISF) took centre stage from 3-5 October in Boksburg. Drawing a crowd of over 330 aspiring young scientists and educators, the ISF provided a platform for knowledge exchange and innovation. Amidst this vibrant gathering, the [STEMulator](#) – “a revolutionary tool designed to inspire children of all ages to explore the realms of science, technology, engineering, and mathematics (STEM) subjects and careers” ([it-online.co.za](#)) - stood out, captivating the minds of attendees. See the [picture gallery](#) from this event.

The team at [Consulting Engineers South Africa](#) recognised the significance of [STEMulator.org](#) and featured it in their esteemed newsletter. The seeds of collaboration have been sown, promising an exciting journey towards promoting the platform to as many people as possible.

The STEMulator team invites you to join them in their cause and actively participate in the STEMulator project. Your contribution and donations are pivotal in fuelling this transformative journey, enabling us to reach more young minds and unlock their potential in STEM. Together, let us empower the next generation, equipping them for a brighter future. Join us in this collaborative effort and make a lasting impact on the lives of aspiring STEM students. Email [Ms Kgaugelo Pule](#) for more information.

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



Insights from NSTF-South32 Award winners

On 11 September 2023, the NSTF hosted [NSTF-South32 Award winners](#) to engage with the students of the 2023 NSTF [Brilliants Programme](#). The virtual gathering was aimed at informing and motivating students in their studies and for their future careers. The six distinguished speakers made a lasting impression on the students with their thought-provoking talks.

[Read the media release](#) with summaries of the talks. For a more in-depth exploration of motivational and inspirational conversations with award winners and their interactions with Brilliants students, visit the [NSTF YouTube channel](#).

SET for our future 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](#).

- **IITPSA Ethics chair wins David O’Leary Award**

Josine Overdeest, chairperson of the [Institute of Information Technology Professionals South Africa](#) (IITPSA) Social and Ethics Committee, has been named the winner of the IFIP IP3 David O’Leary Award by REDDS Capital. [Read more](#).

- **2nd International Conference on Industrial Engineering, Systems Engineering and Engineering Management**

The [Southern African Institute for Industrial Engineering](#) (SAIIE), in partnership with the International Council on System Engineering (INCOSE SA) and the Graduate School of Technology Management, University of Pretoria (GSTM) held the 2nd International Conference on Industrial Engineering, Systems Engineering and Engineering Management (ISEM2023) from 2-4 October 2023. [Click here](#) for the photos and videos of the highlights, keynote addresses and panel discussion. [Click here](#) for the ISEM2023 Conference Proceedings.

- **CESA calls on National Treasury to adopt a balanced approach to fiscal responsibility and economic growth**

In response to National Treasury’s call for cost containment measures to close the fiscal gap, while [Consulting Engineers South Africa](#) (CESA) understands the need for fiscal responsibility, the organisation is concerned about the potential implications of such proposed measures, says Chris Campbell, CEO of CESA. Investing in infrastructure even during economic downturns plays a pivotal role in stimulating economic growth and development. [Read more](#).

- **SAIMM Mining Exhibition at the Sci-Bono Discovery Centre to be upgraded**

It has been over nine years since the official opening of the [Southern African Institute of Mining and Metallurgy](#) (SAIMM) exhibition at [Sci-Bono Discovery Centre](#). The SAIMM is in conversation with the Sci-bono team regarding upgrading of the facility. Should you or your organisation be interested in supporting this project, through expertise or financial support, contact communications@saimm.co.za or sam@saimm.co.za to pledge support. [Read more](#).



SET-related policies currently open for public comment

Keep informed and have your say

- [Green Paper: Development and Promotion of Tourism in South Africa](#) (Comment by 31 October 2023)
- [South African National Water Resources Infrastructure Agency SOC Limited Bill](#) (Comment by 04 November 2023)
- [Draft Amendments to the Regulations under the National Forests Act](#) (Comment by 16 November 2023)
- [Draft Norms and Standards for Spatial Planning and Land Use Management \(SPLUM\)](#) (Comment by 12 November 2023)

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.

Agriculture

- [Poultry sector in crisis](#) (ufs.ac.za)

Energy

- [Transmission strategy can bring 4 GW of renewables online immediately](#) (energize.co.za)
- [Why we need the energy transition, and how to fund it](#) (energize.co.za)
- [Africa can produce more energy than it requires - Minister Ramokgopa](#) (sanews.gov.za)
- [Finance model for energy projects in Africa needs to change](#) (bizcommunity.com)

Environment

- [Blue Drop Watch Report](#) (dws.gov.za)

Infrastructure

- [Cape Storm: SA needs ongoing investment in infrastructure, and it will cost billions](#) (iol.co.za)

Health and medicine

- [There's Almost No Research on the Health Impact of Plastic Chemicals in the Global South](#) (time.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.

- [CIGRE Southern Africa Regional Conference 2023](#): Pretoria, 24-27 October 2023
- [IMESA Conference 2023](#): Gqeberha, 25-27 October 2023
- [National Digital and Future Skills Conference](#): Theme: “Realising the Digital Economy and Scaling-Up Skills Development to Support Innovation and the Digital Revolution”. East London ICC, 26–27 October 2023
- Opportunities towards Sustainable Food Security in South African Urban Settings: 27 October, 10:00, Zoom Webinar. Click [here](#) to register.
- [Re-Connecting Human Capital with the Discourse of Digital Transformation to Achieve the United Nations Sustainable Development Goals](#): London - United Kingdom, 13-15 November 2023 (in-person and online)
- The African Exploration and Technology Showcase: Johannesburg, 15-16 November 2023. [Register here](#)
- [Southern African Sustainable Energy Conference \(SASEC23\)](#): Gqeberha, 15-17 November 2023
- [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
- [Science Forum South Africa](#): Pretoria, 6-8 December 2023
- [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
- [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:** The [September/October 2023 issue of the South African Journal of Science](#) is now available. Read about the economic impact of South Africa's public universities, the positive effects of physical activity on cardiovascular health, and more.
- **CSIR:** [CSIR deploys Africa's only hyperspectral radiometric buoy in Theewaterskloof Dam](#) (engineerit.co.za)
- **NRF:** [The National Research Foundation and the Energy Mobility Education Trust, sign a partnership agreement on skills development and training of postgraduate students](#) (nrf.ac.za)
- **SABS:** [Celebrating World Standards Day](#) (sabs.co.za)
- **SAMRC:** [An overview of challenges to sustained viral load suppression in the HIV treatment programme in South Africa](#) (samrc.ac.za)
- [Tackling the global problem of alcohol abuse and the slack controls that oil its wheels](#) (samrc.ac.za)
- **SARAO:** [Low-cost radio telescope brings new research and training opportunities for African scientists](#) (sarao.ac.za)

Higher Education Institutions

- [South African universities set for enhanced connectivity to improve research and learning opportunities](#) (engineerit.co.za)
- [Artificial intelligence is disrupting higher education](#) (itweb.co.za)
- [UCT welcomes Dutch delegation for astronomy discussion](#) (uct.ac.za)
- [Official launch of the African Rainbow Minerals Geometallurgy Research Chair](#) (sun.ac.za)
- [UFS leading consortium to build capacity for Climate-Resilient Food Systems in Africa](#) (ufs.ac.za)
- [Colonialism shaped modern universities in Africa – how they can become truly African](#) (theconversation.com)
- **Request for participation** in a survey for a research project by a PhD student at UP that aims to investigate the impostor phenomenon and its influence on work-related outcomes. Click [here](#) for the participant information sheet and link to the survey.

4IR and information technologies

- [SA scientists are using AI to improve pollen forecasts](#) (engineerit.co.za)
- [Local CIOs take wait and see stance on ChatGPT](#) (itweb.co.za)
- [New paper shows how AI can accelerate drug discovery in low-resource computational settings](#) (uct.ac.za)

Agriculture

- [Is it safe to consume eggs and poultry during an avian flu outbreak?](#) (msn.com)

- [Tradition and science collaborate to help identify edible grasshoppers](#) (sun.ac.za)
- [Traditional farming knowledge should be stored for future use: the technology to do this is available](#) (theconversation.com)

Biology

- [South Africa's great white sharks are changing locations – they need to be monitored for beach safety](#) (mandela.ac.za)
- [Weevil unleashed to battle invasive plant threat](#) (ru.ac.za)

Energy

- [SA and Egypt leave the rest of Africa in the dust with their wind power pipeline and potential](#) (msn.com)
- [Risk of total shutdown of Eskom's Koeberg nuclear power station continues to increase](#) (energize.com)
- [Innovative electricity solutions from the private sector benefit everyone](#) (energize.co.za)

Environment and Climate change

- [We've been quietly testing drinking water quality in 6 cities for a month. Here's what we've found](#) (news24.com)
- [New Biodiversity Research Project launches in South Africa](#) (nrf.ac.za)
- [Cape Agulhas Should be Declared a Marine Protected Area - UWC Scholar](#) (uwc.ac.za)
- [Papering over the cracks: why negative forestry perceptions are doing our planet a disservice](#) (engineerit.co.za)
- [The Atlantic Ocean's major current system is slowing down – but a 21st century collapse is unlikely](#) (theconversation.com)

Health and medicine

- [Biochemist Investigates Use of Antidepressants to Treat a Variety of Diseases](#) (ukzn.ac.za)
- [Tackling obesity and inactivity can alleviate SA's escalating diabetes crisis](#) (up.ac.za)
- ['We could eradicate malaria by 2040' says expert after revolutionary vaccine is approved by WHO](#) (theconversation.com)

Palaeontology and Anthropology

- [A Scientist Helped to Launch Ancient Human Fossils Into Space, and His Colleagues Aren't Happy](#) (discovermagazine.com)
- [Paleo myth clubbed on the head – 'man the hunter, woman the gatherer' is just not true](#) (dailymaverick.co.a)
- [Ancient diamonds shine light on the evolution of Earth](#) (wits.ac.za)
- [Ancient sea level and climate changes led to major extinctions around South Africa](#) (wits.ac.za)

Science engagement

- **FameLab 2024 bookings now open:** If you would like to showcase the research being done at your institution or organisation, FameLab is a wonderful opportunity. Bookings for science communication workshops and heat events are now open for 2024. [Book here](#).

Space science and Astronomy

- [Final Recommendation of the Space 18th SDG workshop, at United Nations Plaza 777](#), 15 September 2023. [Watch](#) the recorded 15th September Workshop on YouTube. [Sign the petition](#) for #Space18SDG on Change.org.
- [Meteorite discovery: unusual finds by South African farmer add to space rock heritage](#)



- [Obituary: Professor Hoosen Jerry Coovadia](#) (nrf.ac.za)
- [Sabre-tooth cat named after renowned scientist](#) (nature.com) Prof Anusuya Chinsamy-Turan of UCT “deeply honoured and delighted by the recognition”.
- [Master’s student in Chemistry at NMMU wins national competition with hybrid project](#) (mandela.ac.za)
- [University of Pretoria deputy dean to lead the Africa-Europe Multimorbidity Cluster of Excellence](#) (up.ac.za)

Opportunities

- [Applications for Grand Challenge South Africa programme to use the power of Artificial Intelligence to address global health challenges are open](#) Deadline: 07 November 2023
- The **Biodiversa+ programme** has launched the [BiodivNBS Call for Research Proposals](#) on “Nature-based solutions for biodiversity, human well-being and transformative change”. All the details regarding the participating funding organisations and countries are available [here](#). Potential applicants can use the [partner search link](#) to look for a partner or a project to join. Currently, there are 15 projects looking for partners and 75 partners looking for a project to join. This represents 33 countries. Deadline for pre-proposals submission (mandatory): Friday 10 November 2023, 15:00 CET.
- The [Water4All](#) partnership launched its second Joint Transnational Call for research and innovation projects entitled “Aquatic Ecosystem Services” on 12 September 2023. 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.
- Raizcorp looking for entrepreneurs who offer recycling and waste management services to apply for one of our acclaimed sponsored Raizcorp Arize business-development programmes. Click [here](#) to apply.
- Call for Proposals: 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 [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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