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NSTF e-Newsletter

S.E.T. for socio-economic growth

Energy and other power crises

Message from the NSTF Executive Director, Ms Jansie Niehaus

Power outages have become part of life over the past decade. The parallel situation between South Africa and Venezuela is striking in many ways. But unlike in Venezuela, we live in a democracy and have a functioning judicial system. I give some suggestions of what we should do to keep the lights on in South Africa. [Read](#) the ED's message.

NSTF News

Call for nominations: 2021/2022 NSTF-South32 Awards

The NSTF [calls for nominations](#) for the 24th [NSTF-South32 Awards](#). These prestigious awards focus on science, engineering and technology (SET) and innovation in South Africa (SA). South32 has been the NSTF's co-branding sponsor for the past six years. [Register](#) nominations online by 10 December 2021.

Special Annual Theme Award: The NSTF's theme for 2022 is 'Basic Sciences for Sustainable Development', in support of the international year as proclaimed by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The [Special Annual Theme Award](#) for 2021/2022 will be made for an outstanding contribution to SET and innovation from research and development in the basic sciences for sustainable development. The basic sciences are defined here as the scientific disciplines of mathematics, physics, chemistry, life sciences, earth sciences and astronomy.

Read more about what is new to the Awards this year and the [nomination](#) process.

Today's research ... tomorrow's innovation

NSTF to host a Discussion Forum at Science Forum SA

The [Department of Science and Innovation](#) confirmed that the [Science Forum South Africa](#) (SFSA) will take place from Wednesday 1 to Friday 3 December 2021. The NSTF will, as at past SFSA events, host two panel sessions on 1 December 2021. The title of both is "Skills for pandemic preparedness", hosted in collaboration with the NSTF [Science Councils and Statutory Bodies](#) membership sector. The panel discussions continue the discussions held at the NSTF Discussion Forum on

Twenty years of recognising excellence in physical science and mathematics at school level

Profiling our Brilliants and BEST students

A special 'Society' feature on the winners of the NSTF-South32 Awards, which included the Brilliants and BEST students, was published in *The Star* and *Cape Times* on 29 October 2021. Our sincere thanks to Independent Media that made it possible.

The outcomes of two surveys of the 2021 NSTF-South32 Awards [hybrid gala event](#) made it clear that recognition to these

[‘Preparing for epidemics – human and animal’](#), hosted in February this year. Watch your mailbox for the invitation that will be sent out soon, or subscribe to our newsletter at www.nstf.org.za. See more info about the SFSA below.

Discussion Forum on loadshedding: Videos and presentations now available

A Discussion Forum under the auspices of proSET (a sector of the NSTF representing [professional bodies and learned societies](#)) titled “Loadshedding and power cuts – what is really going on?” took place from 25-26 October 2021. Experts discussed the complexities of managing power supply and how the implemented strategies have (or have not) addressed the electricity crisis in South Africa. The [videos](#) and [presentations](#) of all speakers, including the Q&A sessions of this virtual event are now available on the NSTF YouTube channel and the website.

S.E.T. for socio-economic growth

Science Forum South Africa (SFSA) 2021

The Department of Science and Innovation announced that despite the uncertainty and restrictions related to the Covid-19 pandemic, the [SFSA](#) will take place for the 7th year running from 1 to 3 December 2021.

This event will largely take place on a digital platform. It is, however, envisaged that a small number of events forming part of the SFSA programme will take place at the CSIR International Convention Centre in Pretoria – according to the COVID-19 safety protocols in force at the time.

The SFSA 2021 is a preparatory event for South Africa’s hosting of the [World Science Forum](#) (WSF) in 2022, which will take place in Cape Town from 5-9 December 2022. The theme for the WSF 2022 “Science for Social Justice” will therefore receive special attention at the SFSA 2021, especially with regard to the contribution of science diplomacy.

NSTF 2021 AGM – save the date

The [NSTF AGM](#) for all NSTF member organisations will be a virtual event on 19 November 2021 from 10:00 to 11:30. The NSTF AGM is held to satisfy legal requirements and to update [members](#) on all NSTF activities.

Upcoming Discussion Forum

The [Discussion Forum](#) on the international theme **Creative Economy for Sustainable Development** will take place in March 2022.

deserving students should continue. Of the guests at the two gala dinners, together with the online viewers, 89% rated this youth programme as very good or excellent (averages of 55% excellent and 34% very good).

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 will feature two of the essays in this and more in future issues. Read more about [Marelle Bester](#) and [Phemelo Thapedi Selomane](#).

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 Award Winners

TW Kambule-NSTF Award: Researcher
Professor Bruce Mellado from the University of the Witwatersrand (Wits) [won the award](#) for his contributions to the discovery of the Higgs boson particle with the Large Hadron Electron Collider at the CERN facility and the application of artificial intelligence (AI) in the management of the COVID-19 pandemic. His other contributions include the

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

STEMulator.org

The [STEMulator](#) is growing! We are working on a museum tile in the landscape, for new exciting explorations. The South African National Biodiversity Institute (SANBI) is collaborating with the NSTF proSET sector on the STEMulator to develop this new part of the landscape. The National Scientific Collections Facility (NSCF) under SANBI is working with us to 'stock' a herbarium (a museum and archive of plants) as part of the museum area. The nature tile that consists of mountain and water will also be added to, including new pages for fossils and for living organisms in water. Have a look at [STEMulator.org](#) from time to time to see what new elements there are.

[STEMulator](#) is a proudly South African non-profit interactive learning platform initiated by the NSTF proSET sector to excite young South Africans into 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*.



World Food Day in the news

16 Oct 2021 was [World Food Day](#). *Business Day* celebrated this day with a special insert on 15 Oct 2021 in the printed copy and an online version. Prof Dave Berger from the [Faculty of Natural and Agricultural Sciences](#) at the University of Pretoria (UP), wrote an [article](#) about Artificial Intelligence and Crop Health in this insert. Read the article (pages 12-13), in which he mentions the NSTF [Discussion Forum](#) titled [Plant health in South Africa – threats to biosecurity, biodiversity and food security](#), which took place on 10 and 11 June this year.

oversight of the development and production of a unique 16-layer electronics circuit board; and numerous ones in physics and AI.

“Fundamental sciences are important for society, and we need to invest in developing these skills,” he says. “We look at the fundamental interactions and matter in the universe, which entails solving complex problems.”

Mellado is Research Professor and Senior Scientist: iThemba LABS, Wits; and Co-ordinator: Technology Innovation Platform in AI, iThemba LABS, Wits; and Director: Institute for Collider Particle Physics; and Co-President: Africa-Canada Artificial Intelligence Data Modelling Consortium, York University and Wits; and Assistant Professor: University of Wisconsin-Madison, USA. [Read more](#) about his work.

TW Kambule-NSTF Award: Emerging Researcher

- **Prof Sheetal Silal**, Associate Professor: Department of Statistical Sciences, University of Cape Town (UCT); and Director: Modelling and Simulation Hub, Africa, Faculty of Science, UCT; and Honorary Visiting Research Fellow: Oxford University, UK. She received the Award for her contribution through combining knowledge from biology, clinical medicine, public health and economics to develop mathematical disease models to help shape health policy and improve the health of the people of South Africa. [Read more](#).
- **Dr Boitumelo Innocent Ramatsetse** is Lecturer and Researcher: Engineering Graphics and Design, Educational Information and Engineering Technology, Wits. He received the Award for designing and developing an innovative beneficiation

Berger was awarded the [Special Award](#) in Crop Science and Food Security in celebration of the International Year of Pulses at the 2015/2016 [NSTF-South32 Awards](#).

solution called “Reconfigurable Vibrating Screen” (RVS) for separating mineral particles according to size and volumes as demanded by customers in the mining and mineral processing industries. [Read more](#).

A special ‘Society’ feature on the winners of the NSTF-South32 Awards appeared in *The Star* and *Cape Times* on 29 October 2021. Our sincere thanks to Independent Media that made it possible.

Share ‘n Dare outreach

The NSTF [Share ‘n Dare programme](#) is linked to the [NSTF-South32 Awards](#). It provides a platform for NSTF [Award winners](#) to act as role models and ambassadors for science, engineering, technology (SET) and innovation. The winners share knowledge with youth and communities, inspiring young people to pursue studies and careers in SET and innovation.

Prof Carolina Ödman, Associate Professor and Associate Director: Development and Outreach, Inter-University Institute of Data Intensive Astronomy, University of the Western Cape received the 2020/2021 NSTF-South32 Communication Award for reshaping how science is communicated to the general public and in particular research into building a scientific vocabulary in African languages. Listen to an [interview](#) with Prof Ödman that took place on 26 October on SAfm.

Professor Musa Manzi, Co-team leader of the School of Geosciences Data Collection and Storage Facility, Wits University appeared on stage for the second time at an NSTF-South32 Awards Gala Dinner. He is the co-recipient of the Research for Data Award this year. In 2017, Prof Manzi received the TW Kambule-NSTF Award: Emerging Researcher through research and its outputs. Listen to an [interview](#) with him on 1 October 2021 on the SAfm Sunrise programme with Stephen Grootes.

Bursaries available

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

- [Department of Mineral Resources and Energy](#) (Deadline: 30 November 2021)
- [Magalies Water Bursary](#) (Deadline: 30 November 2021)
- [Cyril Ramaphosa Education Trust](#) (Deadline: 30 November 2021)
- [Saab Bursary](#) (Deadline: 30 November 2021)
- [Council for Geosciences Bursary](#) (Deadline: 30 November 2021)
- [Industrial Development Corporation Bursary](#) (Deadline: 30 November 2021)
- [HCI Foundation Bursary Programme](#) (Deadline: 15 November 2021)
- [General Electric Bursary Programme](#) (Deadline: 19 November 2021)
- [Esri South Africa Bursary](#) (Deadline: 30 November 2021)

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



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.*

- **proSET General Meeting**

A highly successful virtual [proSET](#) General Meeting (GM) was held on 25 October 2021. Member organisations were updated on activities carried out on behalf of them, and they nominated new members to the Committee.

The two current products being developed by proSET, the [STEMulator](#) and a [booklet profiling member organisations](#), were received favourably by the attendees.

- **Call for proposals for funding: For relevant projects of NSTF proSET member organisations**

The proSET Committee has issued its [seventh call for proposals](#) as per the [proposal form](#), and according to the current guidelines for proposals. The proSET funds are specifically reserved for projects managed by proSET members, which satisfy certain criteria. The funds available are not sufficient to fund substantial projects in totality, but it will be possible to make a contribution to existing successful projects and modestly contribute to their success stories.

To submit your proposal contact the proSET Secretary: Ms [Lebogang Tebeila](#). The deadline for submissions is end of business on Friday, 12 November 2021. The proSET Committee will consider the proposals received at its meeting of 17 November 2021 and the outcomes of decisions will be communicated to those involved before the end of 2021.

- **Winners of 2021 national Programming Olympiad announced**

The winners of the 2021 national [Programming Olympiad](#) have been announced. The Olympiad is a challenge for high school learners who can use a computer programming language. The Olympiad seeks to grow coding skills among young South Africans. The South African Computer Olympiad, an initiative of the Institute of [Information Technology Professionals South Africa](#) (IITPSA), presented the 2021 Programming Olympiad in partnership with Standard Bank. [See full article here](#). *The IITPSA is a longstanding member of NSTF/proSET.*

- **WISA Impact Seminar**

The 7 October 2021 [Water Institute of Southern Africa](#) (WISA) Impact Seminar “Water Reuse, Recycling & Reclamation in South Africa” provided a current overview on the hot topic of water reuse in South Africa. Thirteen presentations from local and international experts explored different water reuse and recycling applications, cutting edge research and technology development. The seminar highlighted the multiple dimensions of water reuse including water quality and risk management, health risks, public acceptance and support, emerging contaminants and monitoring and technology validation. Water re-use in

urban, agricultural, industry and mining applications for both potable and non-potable uses was profiled, emphasising the breadth of the sector and the range of skills involved. [Read more](#). *WISA is a member of NSTF/proSET.*

- **Professor Brenda Wingfield receives prestigious Chancellor Award: Research**

The [Southern African Society for Plant Pathology](#) (SASPP) and its members congratulate Professor Brenda Wingfield for winning the prestigious University of Pretoria (UP) Chancellor Award: Research, which is awarded to a researcher in recognition of exceptional achievement in the field of research aimed at the advancement of science, and the associated promotion of the interests of UP. Prof Wingfield was given the award for her pioneering work in fungal genomics in South Africa. [Read more](#).

Wingfield, Professor and Deputy Dean: Faculty of Natural and Agricultural Sciences, UP was the winner of the [2014 NSTF-BHP Billiton Awards](#) for researchers for an outstanding contribution to SET through research capacity development over the last 5 to 10 years – sponsored by Eskom. She is also a former Chairperson of the NSTF.

- **South Africa on verge of breakthroughs in hydrogen, says new SAIMM president**

Speaking to [Mining Weekly](#), Isabel Geldenhuys, president of the [SA Institute of Mining and Metallurgy](#) expressed the view that all the big mines with big moving machinery will have the opportunity to move away from diesel and switch to a hydrogen-based fuel system because of the contained ecosystem. While the use of green hydrogen is always first prize, Geldenhuys pointed out that many processes have grey hydrogen as a by-product and expressed the view that where grey hydrogen is at the ready, it should be used as an imperfect solution rather than being left to go to waste. [Read more](#).



SET-related policies currently open for public comment

Keep informed and have your say

- [Marine Living Resources Act: Draft Fees for permits, licences and applications, Draft levies on Fish and Products, Draft Harbour Fees](#) (Comment by 15 November 2021)
- [National Energy Regulator Act: Part-Time Member of the National Energy Regulator of South Africa](#): Nominations invited (Comment by 19 November 2021)
- [Skills Development Act: Construction Education and Training Authority \(CETA\) chairperson](#): Nominations invited (Comment by 19 November 2021)
- [National Nuclear Regulator Act: Application for nuclear vessel licence](#) (Comment by 21 November 2021)
- [World Heritage Convention Act: Cape Floral Region Protected Areas World Heritage Site](#) (Deadline for comments extended to 1 December 2021)
- [Hazardous Substances Act: Regulations: Paint or coating materials](#) (Comment by 1 December 2021)
- [Standards Act: Standards matters](#) (Comment by 7 December 2021)

- [Standards Act: Standards matters](#) (Comment by 22 December 2021)
- [National Environmental Management: Protected Areas Act: Intentions to declare land to be part of existing Mountain Zebra-Camdeboo protected environment under the Act](#) (Comment by 30 December 2021)
- [Higher Education Act: Draft revised policy on minimum norms and standards for student housing at public institutions of Higher Learning](#) (Comment by 31 December 2021)
- [Hazardous Substances Act: Declaration of lead in paint or coating material as a Group II Hazardous Substance](#) (Comment by 21 January 2022)
- [Health Professions Act: Regulations defining scope of Profession of Occupational Therapy](#) (Comment by 2 February 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.

Economy

- [Seven Charts that Show Sub-Saharan Africa at a Crucial Point](#) (imf.org)
- [Presentation to the Nedlac Trade And Industry Chamber: Threats to Industrialisation and Economic Recovery](#) (agbiz.co.za)

Energy

- [Minister reveals BW5 successful bidders, announces IRP revision](#) (energize.co.za)
- [Feasibility Study Gives Green Light For South African Hydrogen Valley](#) (dst.gov.za)
- [SANEA's 2021/2022 energy risk report has been published](#) (energize.co.za)
- [SA to get 25 green energy projects at record low prices](#) (businesslive.co.za)
- [South Africa must approach its energy transition pragmatically](#) (mg.co.za)

Agriculture

- [Rising input costs spell the end of the party for farmers](#) (businesslive.co.za)
- [The EU Green Deal: how will it impact South African agricultural exports?](#) (econ3x3.org)
- [Agriculture is Key to Boosting Growth in South Africa](#) (wilsoncenter.org)

Education

- [Pass rates for school leavers in South Africa are failing students and universities](#) (theconversation.com)
- [Online teaching and learning is not just for pandemics and it can help solve old problems](#) (theconversation.com)

Infrastructure

- [Citizen Satisfaction Index drops to a 5-year low](#) (infrastructurenews.co.za)

Medicine and Health

- [Combating Antimicrobial Resistance Globally Requires Maintaining Safety of Available Antibiotics and a Robust Pipeline; Animal and Environmental Health Strategies Also Needed](#) (nationalacademies.org)
- [South African Medical Research Council and National Department of Health announce Sisonke 2 or the Sisonke boost study for health workers](#) (samrc.ac.za)

- [Disorganised documents: How bad record keeping will set back the NHI](http://bhekisisa.org) (bhekisisa.org)

Climate change and environment

- [Decarbonising South Africa's mining, petrochemical and chemical sectors](http://energize.co.za) (energize.co.za)
- [Maloti-Drakensberg Part Of Global Research Project On Impact Of Climate Change On Alpine Ecosystems](http://dst.gov.za) (dst.gov.za)
- [COP26 I US and Europe to give South Africa R131 billion to reduce coal power dependency](http://SABC News) (SABC News)
- [South Africa's power utility Eskom: how does it stack up in the pollution stakes?](http://theconversation.com) (theconversation.com)



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

- [CESA webinar: Consulting Engineers Protecting Lives and Livelihoods](#) Webinar - Episode 4: 17 November 2021, 11:00-12:30
- [IMESA & IAWEEES Joint International Conference](#): Virtual conference, 17-19 November 2021
- [23rd International Congress of Zoology](#): Cape Town, 21-25 November 2021
- 5th Green Hydrogen Webinar for Southern Africa, facilitated by EE Business Intelligence, and co-hosted with the European Union Delegation to South Africa: 24 November 2021, 12:00-14:30. Free of charge. [Register](#) to attend.
- Intelligence Transfer Centre's 12th Annual [Women in Engineering Convention](#): Johannesburg, 24-26 November 2021
- [2nd Drone Users Conference](#): Conservation and Agriculture: Stellenbosch, 29 November-1 December 2021
- [Science Forum South Africa \(SFSA\)](#): SFSA will largely take place on a digital platform. A small number of events forming part of the SFSA programme might take place at the CSIR International Convention Centre in Pretoria, 1-3 December 2021
- [27th Congress of the South African Society of Biochemistry and Molecular Biology](#): Virtual event, 23-26 January 2022
- The 7th [World Conference of Research Integrity](#) Cape Town, has been postponed to 29 May – 1 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"
- [World Science Forum](#): Cape Town, 5-9 December 2022



SET Community 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.

Science Councils and Statutory Bodies

- MINTEK is inviting applications from interested and suitably qualified persons for appointment to the position of post-doctoral researcher (image analysis, software development, data analytics, modelling) for a three year contract. (Ref: MPG/2021) Closing date: 15 November 2021. Click [here](#) for more information.
- [2021 NRF Awards Honour and Celebrate South Africa's Top Researchers and Scientists](#) (nrf.ac.za)
- [World academies launch an action plan to combat both climate change and biodiversity decline](#) (assaf.org.za)
- [Government, Industry establish a forum enabling participation by organised labour in SA's mining modernisation research agenda](#) (csir.co.za)
- [ASSAf Science-for-Society Gold Medals for outstanding achievement](#) (assaf.org.za)
- [Top Scholars in South Africa Honoured](#) (assaf.org.za)

Higher Education institutions

- [UKZN appoints SA business and transformation leader Reuel Khoza as its new Chancellor](#) (mg.co.za)
- [Plan for Africa's first synchrotron light source starts to crystallize](#) (nature.com)
- [UCT VC becomes inaugural Illustrious Visiting Professor at Bristol](#) (uct.ac.za)
- [UWC's Water Project to be presented at Berlin Science Week in November](#) (uwc.ac.za)
- [New Wits laboratory will advance African genetics research](#) (wits.ac.za)
- [UP vet team gives macaw new lease of life with 3D-printed beak](#) (up.ac.za)

Space Science and Astronomy

- [SA Space Industry shines on the global stage](#) (engineerit.co.za)
- [The Cosmic Savannah: Episode 43: The search for hidden hydrogen](#) (thecosmicsavannah.com)
- [South Africa to get a new space-junk tracking facility – part-owned by Russia](#) (businessinsider.co.za)
- [Radio Frequency Interference Testing of HIRAX Correlator Completed](#) (ukzn.ac.za)
- [New Report Charts Path for Next Decade of Astronomy and Astrophysics: Recommends Future Ground and Space Telescopes, Scientific Priorities, Investments in Scientific Community](#) (nationalacademies.org)

Palaeontology and Anthropology

- [A child of darkness](#): Meet Leti, a Homo naledi child discovered in the Rising Star Cave System that yielded Africa's richest site for fossil hominins (wits.ac.za)
- [Paleo-climate simulations of Namibia's quiver tree populations show significant range shift over past 22 000 y](#) (sun.ac.za)

Geology

- [West Africa should prepare for strong earthquakes, UP scientists warn](#) (up.ac.za)

Ichthyology

- [Explaining the super-groups of humpback whales on the west coast of South Africa](#) (uct.ac.za)

Science Communication

- [How to be a good science communicator](#) (nature.com)

Medicine and health

- [High mental health burden for Africa's youth](#) (nature.com)
- [Large-scale African psychiatric genetics study takes top award](#) (uct.ac.za)
- [The smoking gun](#): This tool can identify cause of death by fatal lightning strike in skeletonised remains (wits.ac.za)
- [Technological advances helping in the fight against emerging infections](#) (sun.ac.za)
- [Major GC Africa research grant for discovery of new antimicrobial agents](#) (sun.ac.za)
- [Breast cancer among South African women increasing](#) (ufs.ac.za)
- [Maintaining the momentum for rotavirus immunization in Africa](#) (samrc.ac.za)

Epidemics – human and animal

- [Your questions about COVID jabs & pregnancy answered](#) (bhekisisa.org)
- [Trials for Israeli COVID-19 vaccine pill set to kick off in South Africa](#) (timesofisrael.com)
- [Toxic Effects from Ivermectin Use Associated with Prevention and Treatment of Covid-19](#) (nejm.org)
- [Competition regulator expects to act soon on high cost of Covid-19 tests](#) (businesslive.co.za)
- [MSD to seek regulatory approval for its Covid-19 pill in SA](#) (businesslive.co.za)
- [SA's disproportionate number of deaths by natural causes likely linked to COVID-19](#) (uct.ac.za)
- [Is one better than none? Why SA's teens are only getting half a COVID jab](#) (bhekisisa.org)
- [Needle-Free COVID-19 Vaccine Shows Promise – Protection via a Single Pain-Free "Click"](#) (scitechdaily.com)
- [Nothing new about science behind jab](#) (samrc.ac.za)
- [Farmers vs. pharmacists: How South Africa's ivermectin use slips through the cracks](#) (bhekisisa.org)

Climate change and Environment

- [Expansion of wind and solar power too slow to stop climate change](#) (energize.co.za)
- [UCT alum wins Earthshot prize for restoring coral reefs](#) (uct.ac.za)

- [Coal ash for amelioration of sewage impacted soil](http://energize.co.za) (energize.co.za)
- [Good news about the Southern Ocean's role in carbon drawdown during winter — but it may still not be enough to save us](http://dailymaverick.co.za) (dailymaverick.co.za)
- [Road impacts on ecosystems in sub-Saharan Africa](http://uct.ac.za) (uct.ac.za)
- [Cape Town fights alien trees threatening its water supply, biodiversity](http://reuters.com) (reuters.com)
- [Supermarket trolley crowned recycled product of the year](http://infrastructurenews.co.za) (infrastructurenews.co.za)
- [UCT researcher in line for climate film award](http://uct.ac.za) (uct.ac.za)
- [Climate change: are fishes migrating to colder waters?](http://sun.ac.za) (sun.ac.za)
- [What would the world be like at 3°C of warming?](http://energize.co.za) (energize.co.za)

Energy

- [Solar wheeling project launches a new era for SA electricity provision](http://energize.co.za) (energize.co.za)

Biophysics

- [Exposing the secrets of desert extremophiles](http://physicstoday.scitation.org) (physicstoday.scitation.org)

Agriculture

- [Making a digital farm a working reality](http://engineerit.co.za) (engineerit.co.za)
- [New handbook focuses on fertilisation of citrus trees in SA](http://sun.ac.za) (sun.ac.za)

The 4th Industrial Revolution and digital technology

- [More fibre, less copper in upgrading HFC networks](http://engineerit.co.za) (engineerit.co.za)

Opportunities

- Request for Applications: [Healthy Life Trajectories Initiative \(HeLTI\) Supplementary Studies](#): Understanding and addressing non-communicable diseases and early development in a cohort spanning pre-conception to early childhood. Closing Date: 16 December 2021. SAMRC will host a briefing session for interested parties on Wednesday 17 November 2021 from 13:30-14:30. Register for this briefing session [here](#).
- [Bongani Mayosi National Health Scholars Programme](#) (BM-NHSP) is an initiative by the National Health Research Committee (NHRC) and a partnership between the National Department of Health (NDoH), the Public Health Enhancement Fund (PHEF) and the South African Medical Research Council (SAMRC). The objective of the BM-NHSP is to fund the training of 1000 PhDs in health and clinical research over the next 10 years. Applications are invited for PhD scholarships tenable in South African universities. Deadline: 15 November 2021.
- The Board of the [Nature's Valley Trust](#) (NVT) is looking to appoint a new Director who will lead the organisation in delivering on the purpose of the organisation and implement key strategic initiatives. Applications close on 12 November 2021. The NVT is also looking for an enthusiastic, dedicated, and professional person to develop, facilitate and coordinate [Environmental Education and Community Engagement Programmes](#) in the Natures Valley area. Applications close on 3 December 2021.
- The Milken Institute and the Motsepe Foundation have launched the [Milken-Motsepe Innovation Prize](#) in AgriTech, a multi-year initiative to focus global innovators and entrepreneurs on developing technological solutions that accelerate progress towards implementing the United Nations' Sustainable Development Goals (SDGs), with a spotlight on the African continent. The

winning team will receive a \$1 million grand prize, with \$1 million in additional prizes. Closing date: 08 December 2021.

- Special collection [call for papers](#): The rise of artificial intelligence in drug discovery: Challenges and opportunities. Deadline for submission: 31 December 2021. Manuscripts should be prepared according to the [guide for authors](#) and should be submitted online.



- [UJ's Dr Thandiwe Sithole appointed as Board Member of the Platinum Incubator](#) ([uj.ac.za](#))
- [Dr Faiçal Azaiez Elected Fellow of the American Physical Society](#) ([nrf.ac.za](#))
- [Dr Fulufhelo Nelwamondo Appointed to the Belmont Forum](#) ([nrf.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.

For more information

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Non Profit Company Registration Number: 2007/029165/08

NPO Registration Number: 92042