NSTF e-Newsletter

Idai - A cruel and costly lesson

Cyclone Idai hit Southern Africa in March 2019 (Wikipedia).
Despite the best efforts of development aid, disaster relief, early warning systems, and Mary's very forward thinking mayor, Idai took everyone by surprise, taking lives and destroying the city of Beira and surrounding areas. Climate change is likely to make this pressure more prevalent. What can we do to prevent or mitigate such disasters? Read the message

NSTF News

Nominees for the 2019/2019 NSTF-South32 Awards announced
The 2019/2019 NSTF-South32 Awards for Outstanding Achievement in Science and Technology commenced and the finalists will be announced in May. The NSTF congratulates all the nominees contending for this year's Awards.

Promote South Africa's excellent work in STEI and innovation

Further the understanding of science

Highlight S&T in role models

Be part of the prestigious 2019/2019 NSTF-South32 Awards

National Science and Technology Forum

Two new sponsors join NSTF-South32 Awards
Sibanye Stillwater, which funds conservation and animal welfare projects, has joined the NSTF-South32 Green Economy Awards. The Johannesburg-based mining company for world ranging environmental impact.

The National Intellectual Property Management Office (NIPMO), a specialised service delivery unit of the Department of Science and Technology, is the sponsor of the Small, Medium and Micro Enterprise (SMME) category of the Awards. NIPMO is responsible for implementing the Intellectual Property Rights from Publicly Funded Research and Development Act No. 51 of 2008.

The NSTF welcomes these two sponsors on board. We appreciate your involvement in the prestigious NSTF-South32 Awards.

Attend the 21st NSTF-South32 Awards Gala dinner
The 21st NSTF-South32 Awards Gala dinner will take place on Thursday, 27 June 2019. The attendance of the Minister of Science and Technology, who will host the event, is confirmed.

The dinner, with the theme 'Periodic Table of Champions' celebrates not only the 150th anniversary of the Periodic Table but also the anniversary since Dmitry Mendeleev published his table. The Periodic Table has been designated by the United Nations as the International Year of the Periodic Table (IYPT2019).

To book your table, contact Ms Kgaogelo Tefo at kgaogelo@nstf.org.za.

For sponsorship details, contact Ms Wina Stewart at wina@nstf.org.za.

Discussion Forum presentations and videos available
The presentations and video clips of the March 2019 NSTF Discussion Forum on Chemical Elements for South Africa's Future (IPYIT) are now available on the NSTF website. You can watch the video clips of the presentations by Professor Mike Coleman, Professor Mike Witcomb, Mining the Future (material flexibility), which showed **how elements for new technologies** (transformation) has been released.

The Discussion Forum programme for the rest of 2019 includes:

- **IYPT and Sustainable Development Goals**, in partnership with the Department of Science and Technology (DST). This forum follows up on the one held in March and will take place in mid-May. Details will be in the invitation that will be circulated for RSVP.
- **Advanced Manufacturing** and Smart Factories in partnership with the DST and UNIDO (Vienna Office) on Industry 4 and nanotechnology – 11-13 September. Invitations will be circulated for RSVP in July.
- **Cancer pathways of nanomaterials** in partnership with the NSTF Science Council, sector – October 2019.

The DST has invited us to host another forum in July, and get-togethers will be organised by NSTF Sectors and Forums. Details will be circulated when they are finalised.

Subscribe to the monthly NSTF Mailing to receive invitations to future events. Become a member of the NSTF to participate free of charge in NSTF Discussion Forums.

Bursary Directory
Bursaries for science, engineering and technology (SET) that are currently available, are:

- FAESA Fund Bursary (open)
- Power Group Bursaries (open)
- SANT Bursary Programme (open)
- Wan Ginn Fellowship (closes 30 April)
- CSI Bursary Programme (closes 31 July)
- Portfolio Firm Ctrl's Bursary Programme (closes 30 April)
- Sasol Bursary Scheme (closes 30 April)

Find information on the latest SET bursaries in the NSTF Bursary Directory. The service is sponsored by the Fuchs Foundation.

Share 'n Dare: Award winners announced
The NSTF Share 'n Dare programme provides a platform for NSTF-South32 Awards finalists to share their work and act as role models and ambassadors for SET (science, engineering and technology) and innovation. The programme is sponsored by the Carl & Emily Fuchs Foundation.

Nutriaat Africa 2019
The NSTF hosted its March round of Share 'n Dare talks at Nutriaat Africa in Stellenbosch. Three finalists in the NSTF-South32 Awards entered into a dialogue with the audience about their knowledge with the youth, were Ms Nomfundo Ngcobo, Dr Ms Ruth Rathoun Hoskisson and Prof Linda Prozesky of the Stellenbosch University of the Western Cape. Read more

NSTF partners with Innovation Summit and Triple Helix Conference
The SA Innovation Summit will be hosting the 2019 Triple Helix Conference in Cape Town from 1 October to 3 October 2019. The theme of the conference is 'Innovation for Inclusive Africa'. The NSTF is partnering with the Innovation Summit 11-13 September where it will present a Discussion Forum on Advanced Manufacturing and smart factories.

The Triple Helix model presents an opportunity to achieve sustainable solutions for the socio-economic good through collaboration with multi-stakeholders within academia, government and industry. The Triple Helix conference was held in Amsterdam in 1996 and bi-annual conferences has occurred since then.

In 2019, SA Innovation Summit is taking competitions to the next level, a level that might take the winner to open markets further afar, Brisbane, to Singapore and to Silicon Valley. The Summit is partnering with the Thinking Box and the Inventors Garage. Not in 2019, they are adding Social Innovation to the mix and entrepreneur.

Wizard Bright Sparks
Prof Lindsay Greyling, Dr Ms Ruth Rathoun Hoskisson and Ms Nomfundo Ngcobo are finalists in the Wizard Bright Sparks competition of the University of the Witwatersrand.

Wits is one of the first peer-academic that were recognised in the 2017/2018 NSTF-South32 Awards for its work in mathematics and physical science in the National Senior Certificate examination.

Refiloe was retired further those from the top 100 learners in the province last year.

Wits Wizard Bright Sparks is a program, selling to every level, or who is successful, inspires rate because it's a program that is not of what it takes to become an a great gr.

Join the vibrant NSTF community
Become a member of the NSTF community to receive information related to science, engineering and technology, and to be able to participate in NSTF events. Membership of the NSTF is free of charge. Among the many benefits are involvement with other professionals in the SET sector, with government policy dialogues and enhancing the voice of your sector through your participation in the NSTF community, supporting a credible non-profit company which undertakes community service projects.

Your organisation can participate in the NSTF Sectors and Forums, which are aligned with policy-making bodies pertinent to the sector, and which focus on science, engineering and innovation. There is no delegate limit for members. Read more and apply here.

Featured SET policy: Social protection (Chapter 11, NDP)
In a series of articles, the NSTF is unpacking the National Development Plan (NDP), which aims to eliminate poverty and reduce inequality by 2030. This section focuses on Social Protection. Read more

Click here for the complete document of all the previous summaries.

SET related policies currently open for public comment
Policies open for comment about the science, engineering and technology (SET) community, that are currently open for public comment are:

National Environmental Management: Protected Areas Act: Interiors to authorise portions of land declared as part of Kruger National Park (Comments by 9 May 2019)

SET-related policy news

- Consultative Workshop on the Shale Gas Science Action Plan (email us)
- Cabinet nods further financial support for Sasol (engineeringnews.co.za)

Engineering

- Postgraduate Engineering Has Its Future Growth (sawat.co.za)

Environment and climate change

- Protecting the heart of South Africa's water supply (sun.ac.za)
- South Africa needs specific laws to protect strategic water source areas (engineeringnews.co.za)

Medicine and health

- Major battles have been won against TB But they are not over (wits.ac.za)
- What is all about South Africa's unemployed doctors (sciencemag.org)

Agriculture

- South Africa which policies succeed in developing agriculture (farmersweekly.co.za)

4th Industrial Revolution and technology

- Tech giants needs to think ethically and embrace AR (mg.co.za)
- Prof L Wilt the so-called fourth industrial revolution proper (sh.funeralcare.com)
- Prof D. Wilt the so-called fourth industrial revolution proper (sh.funeralcare.com)
- African science effort to take the back seat in one of the most important products of modern science (wits.ac.za)
- Department welcomes Microsoft initiative for artificial intelligence in South Africa (sanews.gov.za)
- Govt commits to build cyber defence skills pipeline (iweek.co.za)

- Mentor Youth Symposium, Pretoria, 30 May 2019
- Road to Registration for Mining Engineers, Technologists and Technicians (Johannesburg, 30 May 2019)
- 7th International Annual Conference on Contraceptive Pill Research (Madrid, Spain, 20-22 May 2019
- 7th International Conference on Agroecology Transitioning Agriculture and Food Systems in Africa (Nairobi, Kenya, 10-21 June 2019
- Small Business Indaba (Johannesburg, 28 June 2019
- Manufacturing Indaba: The role of manufacturing in Africa, (Johannesburg, 25-26 June 2019)
- Species on the Move 2019 International Conference Series (Kruger National Park, South Africa, 25-28 July 2019)
- ESSA & ZOSA Combined Biennial Congresses 7-9 July 2017, CSIR-CCI, Pretoria
- International Palaeontology Meeting 2019 (Cape Town, 1st July – 4 August 2019
- SAIAP-UCT Congress 2019 (Johannesburg, 1-4 September 2019
- 13th International Conference on Palaeoceanography (Barcelona, Spain, 2-6 September 2019
- 11th International Tribo Wear Conference, Cape Town, 5-7 September 2019
- 13th Annual SA Innovation Summit (Cape Town, 11-13 September 2019
- The International Society for Ecological Modelling Global Conference 2019 (Salzburg, Austria, 1-5 October 2019
- Kaz2019 Africa 2019 (Johannesburg, 9-10 October 2019
- International Conference on Science, Technology, The Fourth Industrial Revolution and Financial Services, 10-11 October

Members of NSTF in the pro-SET (Professional Societies) section are featured in every newsletter. This month the South African Institution of Civil Engineering and South African Geomatics Institute are profiled.

- The **South African Institution of Civil Engineering** (SAICE) is the learned society for civil engineering in South Africa. It promotes the profession of civil engineering and technology. The organisation strives, among other things, to advance engineering knowledge, to promote the interests of its members and the members' peer, promote and maintain the infrastructure which supports the everyday life and activities of modern society all over South Africa and are involved in projects throughout Africa. SAICE has a wide range of technical publications, including SAICE Journals, their publications, training courses, events, awards and more.
- The **South African Spaceness Research Institute** (SASRI) is a world renowned research institute based in Durban, South Africa. Its mission is to ensure that SASRI is sustained within four multidisciplinary programmes, namely: sensor, improvement, crop protection, crop performance and management, and systems analysis and modelling. Its vision is to be a world-class institute of excellence for researchers and sugarcane farmers. SASRI also offers a range of services, including fertiliser advice, disease diagnosis and education services. Those who have received research focus, sugar cane farming and careers in the field on their website.

proSET members receiving funding from the NSTF proSET fund
The proSET members gain annually for funds from proSET for capacity-building projects. The following members received funding in the past and are now the most learned societies in the NSTF. The list of members benefitting from the fund during the fifth round are:

- Geological Society of South Africa
- The Institute of IT Professionals South Africa
- Graduate Society of Southern Africa
- Water Institute of Southern Africa
- South African Mathematics Foundation
- South African Academy of Engineering

SET education

- Student's 3D printer plan to change education (sun.ac.za)
- SA develops coding, robotics curricula for grade 4-9 (mybroadband.co.za)

Universities and higher education

- Universities must step rising on software to deal with plagiarism (sciencemag.org)
- Climate change is 'must' for MBA curriculum (sun.ac.za)
- UT sets seven prime minister's in the DRC (sun.ac.za)

Science Councils and Statutory Organisations

- CSIR unveils novel online climate risk profiling and adaptation tool (sciencemag.org)
- In bay area sec. CSIR wants to embrace the private sector (businesstech.co.za)

Medicine and health

- Diabetic retinopathy diabetes for authors and professionals (medicalacademies.org)
- UT academic shares significant headway to better diagnosis multidrug-resistant TB (sun.ac.za)
- Distance Ed Call for Moderators and International Developing Experiences for Clinical Users of Hemiplegic Genomic Editing (medicalacademies.org)
- Fuse performs world first mobile lab, transplant using 3D printed kidney (ee.co.za)

Astronomy and space science

- The birth of the SKA Observatory – the largest radio telescope in the world (sciencemag.org)
- University of Pretoria astrophysicist and of them involved in advancing first black hole image (sun.ac.za)
- Another SKA milestone marked with adoption of environmental management plan (sun.ac.za)
- Gravitational waterman's reporting the Illustrated Field article on the Kenya Central Astronomy Monopole Rule regulations (iafr.com.za)
- South Africa's MT has begun grading the universe (sciencemag.org)

Environment, climate change and energy

- Functioning toilet system a must for female safety (wrc.org.za)
- Clean water and sanitation: Why it matters (engineer.org)

Climate change

- The human devastation of climate change: Why Cyclone Idai should be a wake-up call for us all (sciencemag.org)

Energy

- Why the farm sparrot this week could pay off handsomely for an energy-dropped SA (thebrews.com)
- Alarak invests in clean energy at its Mogale Mines plant (engineeringnews.co.za)
- South Africans can take control of their household electricity usage and save money at the same time - CSIR energy experts (sun.ac.za)

Agriculture

- Local solutions can boost healthier food choices in South Africa (thecomversation.com)
- Research halted as a 'game changer' for precursor fresh industry (sun.ac.za)
- The Agriculture Research Council first release of the Tradiscantia SA beetle as a biological control agent (arc.agric.za)

Engineering

- Employment within the ICT sector showing growth (engineeringnews.co.za)

Technology and the 4th Industrial Revolution

- Meet Bertha, Africa's first two legged robot (sun.ac.za)
- Shaping the future: topology and big data (sun.ac.za)

Science communication

- Why science matters so much in the era of fake news and fallacies (thecomversation.com)
- World-first cases of SKA highlights "Women in Science" (wajs.co.za)
- Craft and Tradeschoolers Science (sciencefair.co.za)

Opportunities

- The Department of Science and Technology (DST) calls for nominations for the Ministerial Awards for Outstanding Achievement (MAOA). Closing date for nominations: Friday, 31 May 2019.
- Product Development with specialisation in Materials and Manufacturing. Chinese Academy of Sciences Visiting Scholarship. Contact: Mr Jonathan Ndlovu, International Relations Officer, Tel: 012 392 9000, Email: Jndlovu@dst.gov.za
- Innovation Fund competitions, we provide the space to life one, ... the entrepreneur... with creativity, to contract you to the funding you need to scale your business (innovationfund.co.za)
- Cap intellectual property creations to be recognised (dst.gov.za)
- Minister to launch new initiative to support grassroots innovators (dst.gov.za)
- Across Research Fellowship Program: Postdoctoral researchers can submit their applications and research proposals in all fields of science and technology for a 3 year fellowship. Deadline: 30 April 2019. Contact: across@nrf.ac.za
- Call for expression of interest for institutional representatives to attend the first cohort of the Across Leadership Development Programme. Deadline: 30 April 2019. Contact: across@nrf.ac.za; Phone: 012 481 4000

- Geoscience Sydney Brenner, who made tiny worm a scientific legend, dies (nature.com)
- Twenty top young scientists selected for prestigious Lindau (sawat.co.za)
- World support for South African, recorder women scientists (thebrewers.co.za)
- Polymer scientist receives international lifetime achievement award (sun.ac.za)
- FAMRIZ Fellowship for UKZN Academics (ukzn.ac.za)
- New Editor for S&JG

Please forward this e-mail to your colleagues, business contacts and all interested parties!

Send us your news

Send us your news, events, opportunities, or job vacancies for our SET and Innovation mailing lists, post them on our Facebook or twitter pages, or add them to our calendar of events! Send us your news, events, opportunities, or job vacancies for the 2019 edition of the NSTF e-newsletter at the beginning of the following month, to newsletter@nstf.org.za.

Feedback

We welcome any comments or suggestions on how we can improve the newsletter, please e-mail the editor at newsletter@nstf.org.za.

About the NSTF

The National Science and Technology Forum (NSTF), established in 1993, is a totally representative stakeholder forum for all science, engineering and technology (SET) practitioners and organisations. It plays a pivotal role in SET advocacy.

The NSTF, South32, Awards are unique in SA, recognising the outstanding contributions of individuals in the SET community to society.

The National Intellectual Property Management Office promotes and supports intellectual property mainstreaming and research results.

Disclaimer

We do not take care of unsolicited mails and we ensure that the material contained in this newsletter is accurate. The NSTF reserves the right to modify the contents of this newsletter at any time without prior notice.

Information details provided to the NSTF will be treated confidentially and will only be used by NSTF to communicate with members and other interested parties.

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