Email: enquiries@nstf.co.za | Tel: +27 12 841 3987

How, where and when to dump plastics?

Message from the NSTF Executive Director, Ms Jansie Niehaus

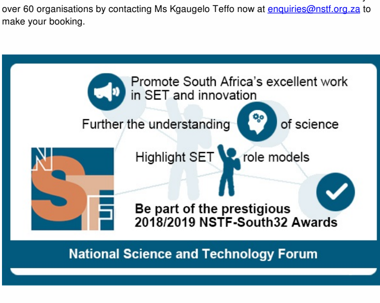
Plastics are ubiquitous in the oceans and reach even the most remote areas of the planet. Making progress on solving these problems is urgent, but the problems are complex and caused by multiple factors. There is no easy way out of the plastics quagmire, but the problems have to be addressed in various ways and by every sector of society. Read the message.

NSTF News

2018/2019 NSTF-South32 Awards – Thursday, 27 June

2018/2019 Finalists announced: The finalists for the 2018/2019 NSTF-South32 Awards, also known as the 'Science Oscars' of South Africa, have been announced. Read more about the categories, finalists and what's new this year.

21st NSTF-South32 Awards gala dinner: Remember to book your tables and seats for the 21st NSTF-South32 Awards gala dinner, which will take place on Thursday, 27 June. The theme is the 'Periodic Table of Chemical Elements'. The winners of the prestigious 2018/2019 NSTF-South32 Awards will be announced at this event. Join the community of over 60 organisations by contacting Ms Kgaugelo Teffo now at enquiries@nstf.org.za to make your booking.



Discussion Forum on sustainable development and the chemical elements

The NSTF Discussion Forum on chemical elements from the perspective of the United Nations (UN) Sustainable Development Goals was held in Midrand, Gauteng on 16 May 2019. The event was hosted by the NSTF in partnership with the Department of Science and Technology and Dow Southern Africa.

The UN proclaimed 2019 the International Year of the Periodic Table of Chemical Elements (IYPT2019). The UN recognises the importance of raising global awareness around chemistry. This includes chemistry's role in solving global challenges within the energy, agriculture, health and other critical sectors.

Media releases: Three media releases from the IYPT2019-themed Discussion Forums are available on the NSTF website:

- Mining the Fourth Industrial Revolution,
- A health journey from soil to nutrition, and
- Systems thinking, sustainable development and chemical elements.

Also available on the website are the presentations and videos from these events.

May Share ʼn Dare activities

Winners of the NSTF-South32 Awards and their representatives have been sharing science, engineering and technology information and inspiring youth and communities around the country with their life stories.

Wendy Collinson of the Endangered Wildlife Trust (EWT), winner of the TW Kambule-NSTF Award: Emerging Researcher gave a talk at the University of Venda. Two Master's students addressed learners at Phomolong Secondary School in Tembisa. They were representing Prof Mmantsae Diale of the University of Pretoria, winner of the Engineering Research Capacity Development Award.

To find out more what happened in May, click here.

The NSTF Share 'n Dare programme was started as part of the NSTF 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.

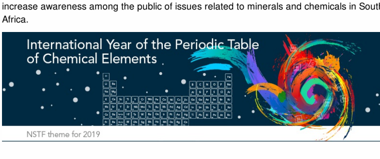
These activities are sponsored by the Carl & Emily Fuchs Foundation.

Special newspaper supplement on the periodic table of chemical elements

Business Report, an NSTF Awards media partner since 2010, will be producing a special supplement on NSTF Discussion Forums focusing on the **Periodic Table of Chemical Elements** (mentioned above). The supplement is due in July.

This NSTF supplement will increase awareness of the issues raised at the two recent Discussion Forums related to chemical elements – e.g. Which minerals are worth mining in South Africa? What is the role of minerals in nutrition? What is the role of minerals in producing healthy crops? Toxic minerals and the dangers of coming into contact with them. What minerals pollute our water? This presents a unique opportunity for companies in the chemical sector to advertise in South Africa's largest daily financial publication, carried in *The Star*, *Pretoria News*, *Cape Times* and *The Mercury*. Contact Ms Wilna Eksteen at enquiries@nstf.org.za for more information.

Please note: The NSTF does not gain financially from this supplement. The intention is to increase awareness among the public of issues related to minerals and chemicals in South Africa.



Pro*SET* Co-Chair resigns

Mr Reinhard Meyer, the Co-Chair of the NSTF pro*SET* Committee and pro*SET* representative on the NSTF Executive Committee has resigned. pro*SET* represents professional bodies and learned societies in the NSTF.

Since the beginning of, and throughout his professional career, Reinhard was actively involved in the activities and management of several South African earth science related professional societies and other governing bodies.

The NSTF values and appreciates his committed efforts and dedication in furthering the NSTF mission, as well as the objectives of pro*SET*. His excellent contributions played a major role in the establishment of the active pro*SET* community that the NSTF now enjoys. We wish him all the best for the future.

New NSTF members

The NSTF welcomes Cape Bio Pharms, the latest organisation to join us as part of the Business Sector as a Small, Medium and Micro Enterprise.

Cape Bio Pharms is a start-up based in Cape Town aimed at commercialising the plant-based expression of pharmaceutical proteins developed by the University of Cape Towns' Biopharming Research Unit. Their focus is on producing a wide range of re-agents such as antibodies, proteins for diagnostic purposes and eventually therapeutic antibodies, animal and human vaccines.

Become a member of the NSTF to support the mission of the NSTF, a non-profit company that provides a consultative forum for influencing the formulation and delivery of science, engineering and technology (SET) and innovation public policy in South Africa.

New Minister and a Deputy

The NSTF wishes to congratulate Dr Blade Nzimande on his appointment as the Minister of Higher Education, Science and Technology, and Mr Buti Manamela as Deputy Minister.

The amalgamation of the Department of Higher Education and Training and the Department of Science and Technology, as well as the appointment of the Minister and his Deputy were announced by President Cyril Ramaphosa on Wednesday, 29 May 2019.

The NSTF is looking forward to working together with the two political principals who have a wealth of experience in government. The NSTF invited the new Minister to the NSTF-South32 Awards gala dinner taking place on 27 June in Gauteng. We hope to hear his first address to the science, engineering, technology and innovation community there. Don't miss out and book your table/seats at the dinner. Contact Ms Kgaugelo Teffo at enquiries@nstf.org.za.

Bursary Directory

The following bursaries in science, engineering and technology (SET) are currently available in the NSTF Bursary Directory:

- IDC Bursary Programme (Closes 31 July)
- Toyota SA Motors Bursary (Closes 31 August)
- AVI Bursary Programme (Closes 30 September)
- FNB Fund Bursary Programme (Closes 30 September)
- Investec CSI Bursary (Closes 30 September)
- Standard Bank 150 Bursary Programme (Closes 30 September)

This directory is regularly updated with information on available bursaries, the organisations that usually provide bursaries, various SET-related career paths, and inspiring stories of people in SET, including youth. This service is sponsored by the Fuchs Foundation.

SET-related policies currently open for public comment

Policies open for comment allow the science, engineering and technology (SET) community to keep track of the changing regulation environment.

- Electronic Communications Act: Draft: Consumer advisory panel amendment regulations: Comments invited (Comment by 7 June 2019)
- National Environmental Management Act: Procedures to be followed for the assessment and minimum criteria for reporting of identified environmental themes when applying for environmental authorisation (Comment by 10 June 2019
- Tourism Amendment Bill: Tourism Amendment Bill: Comments invited (Comment by 11 June 2019)
- National Health Act: Office of health standards compliance: Enforcement policy: Comments invited (Comment by 12 June 2019)
- National Road Traffic Act: Fees (Comment by 15 June 2019)
- Tourism Amendment Bill: Draft (Comment by 15 June 2019)
- Medical Schemes Act: Regulations: Amendment: Comments invited (Comment by 28 June 2019)
- Marine Living Resources Act: Resource split in traditional linefish and squid fishing sectors (Comment by 28 June 2019)
- National Environmental Management Act: Regulations: Financial provisioning for rehabilitation and remediation of environmental damage caused by reconnaissance, prospecting, exploration, mining or production operations (Comment by 1 July 2019)
- National Water Act: Classes of water resource and resource quality objectives for the Berg Catchment (Comment by 9 July 2019)
- National Forests Act: Intention to declare State Forests Properties as Forest Nature Reserves under section 8(1) of the Act: Comments invited (Comment by 12 July 2019)
- Animal Diseases Act: African horse sickness: Comments invited (Comment by 25 July 2019)
- Accounting Standards Board: Exposure Draft of the proposed Directive on The Application of Standards of GRAP by Public Entities that Apply IFRS Standards. Comments invited (Comment by 31 July 2019)
- Housing Act: Priority housing development areas (Comment by 17 September 2019)

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.

Governance

- Blade returns to head up merged science and HE ministry (researchresearch.com)
- Merging of research and education departments spells disaster for scientific inquiry (businesslive.co.za)

Energy

- SA ready to embrace modern electricity generating technologies, minister tells conference (ee.co.za)
- Coal-hungry SA introduces carbon tax (fin24.com)
- Greenpeace Africa welcomes government's plan to boost rooftop solar (infrastructurenews.com)
- Renewable Power Generation Costs in 2018 (polity.org.za)
- 'Blanket deviation' does not exempt 1 MW to 10 MW projects from licensing process – Nersa (engineeringnews.co.za)

Environment and climate change

- SA carbon tax law will pressure big firms to find strategies for sustainable operations (polity.org.za))
- Businesses be warned! Carbon tax laws effective from June (infrastructurenews.co.za)
- SA's marine protection increases (sanew.gov.za)

Medicine and health

- New international commission launched on clinical use of heritable human genome editing (nationalacademies.org)

Agriculture

- SA bans livestock imports from Lesotho (sanews.gov.za)

Engineering and construction

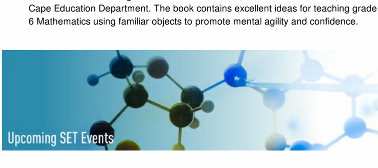
- Construction mafia derailing projects, causing engineers to flee (asaqs.co.za)
- Progressing towards gender equality in the construction industry (bizzcommunity.com

4th Industrial Revolution and technology

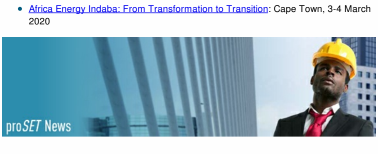
- Release of ethics guidelines for trustworthy AI (ee.co.za)
- Shutting down the internet doesn't work - but governments keep doing it (fin24.com)
- Policy catching up to 5G technology (engineeringnews.co.za)
- Dark Fibre Africa talks 5G opportunity (itweb.co.za)

Education

- An Intermediate Phase Maths book was launched by the Primary Science Programme in April. It was produced in collaboration with Anton Pillay, CEO of Coronation Fund Managers and Granville Stander, Director: Metro South, Western Cape Education Department. The book contains excellent ideas for teaching grade 4-6 Mathematics using familiar objects to promote mental agility and confidence.



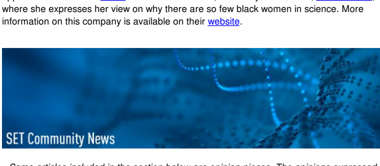
- Getting acquainted with water resource management: Cape Town, 11-12 June 2019
- 1st International Conference on Agroecology Transforming Agriculture and Food Systems in Africa: Nairobi, Kenya, 18-21 June 2019
- Enabling small-scale embedded generation in SA: Sandton, 25 June 2019
- Small Business Indaba: Johannesburg, 26 June 2019
- Manufacturing Indaba: The role of manufacturing in Africa, Johannesburg, 25-26 June 2019
- Launch of Manufacturing Indaba's Black Industrialist Forum: Johannesburg, 25-26 June2019. Email: info@manufacturingindaba.co.za.
- First MeerKAT Site Public Open Day: 3 July 2019
- Annual Malaria Research Conference: Pretoria, 31 July – 1 August 2019
- ESSA & ZSSA Combined Biennial Congress: CSIR ICC, Pretoria, 3-7 July 2017
- SA GeoTech 2019: Unlocking economic value with geotechnologies: Ekurhuleni, 22-23 July 2019
- Species on the Move 2019 International Conference Series: Kruger National Park, South Africa, 22-26 July 2019
- 8th ExtruAfrica: Potchefstroom, 30 July - 2 August
- Annual Malaria Research Conference: Pretoria, 31 July – 1 August 2019
- International Palaeohistology Meeting 2019: Cape Town, 31 July – 4 August 2019
- Getting acquainted with water resource management: Midrand, 22-23 August 2019
- Establishing a viable gas sector: Sandton, 23 August 2019
- Road to registration for mentors, supervisors and HR practitioners: Johannesburg, 27 August 2019
- ICT Infrastructure Conference and Expo: Ekurhuleni, 28-29 August 2019
- SAAFoST Congress 2019: Johannesburg, 1-4 September 2019
- Road to registration for mentors, supervisors and HR practitioners: Cape Town, 3 September 2019
- 13th International Conference on Paleoceanography: Sydney, Australia, 2-6 September 2019
- XVII International Triple Helix Conference: Cape Town, 9-11 September 2019
- 12th Annual SA Innovation Summit: Cape Town, 11-13 September 2019
- 8th World Conference on Ecological Restoration, South Africa: Cape Town, 24-28 September 2019
- The International Society for Ecological Modelling Global Conference 2019: Salzburg, Austria, 1-5 October 2019
- EduTECH Africa 2019: Johannesburg, 9-10 October 2019
- International Conference on Financial Services: The Fourth Industrial Revolution and Financial Services: Durban, 9-10 October 2019
- Flexible power generation – a new paradigm: Sandton, 22 October 2019
- Establishing effective ICT infrastructure: Sandton, 26 November 2019
- World Pulses Day: The Food and Agriculture Organization of the United Nations has established 10 February as World Pulses Day to recognise the importance of pulses as a global food. You can prepare to celebrate this day in 2020 and find many inspiring ideas by visiting the website of World Pulses Day 2019.
- Africa Energy Indaba: From Transformation to Transition: Cape Town, 3-4 March 2020



Members of NSTF in the pro*SET* (Professional Societies) sector are featured in every newsletter. This month the **South African Association of Science and Technology Educators** (SAASTE) and the **Black Women in Science** (BWIS) are profiled.

- SAASTE aims to promote science and technology education by enhancing the quality of teaching and learning of science and technology in South Africa. Among their objectives are to employ strategies to improve science results from Grade 4-12 by 5% annually; and to empower educators to ensure that girls' and black learners' pass rates in sciences increase by 5%. They also encourage schools to participate in the Eskom Expo and Olympiads. The organisation's head office is hosted by the University of KwaZulu-Natal (saaste@ukzn.ac.za), with another office at the North-West University (saaste.nw@gmail.com). Visit the SAASTE website for more information.
- BWIS is a registered Non Profit Company which aims to deliver capacity development interventions that target young black women scientists and researchers.

The organisation was founded in 2015 to develop professional research and science conduct, leadership and mentorship skills for women within all scientific disciplines, in tertiary intuitions and professional environments nationally and internationally. They promote a postgraduate culture amongst African students and improve their academic experience by providing support, training, a professional network and exposure to opportunities. Read an article in *The Conversation*, written by the founder, Ndoni Mcunu, where she expresses her view on why there are so few black women in science. More information on this company is available on their website.



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.

Universities and higher education

- South Africa's Copyright Amendment Bill: Implications for universities (sajs.co.za)
- UP Libraries steps into future as it 'employs' robot to help students (up.ac.za)
- "Big Data" for Science and Society Launch Goes Big! (ukzn.ac.za)
- DST shares new science, technology and innovation plan at Faculty of Medicine and Health Sciences visit (sun.ac.za)
- UP professor proposes new theory for understanding the universe that challenges Big Bang Theory (up.ac.za)
- Stellenbosch reviews research following 'racist' paper outrage (researchresearch.com)
- IEEE, a major science publisher, bans Huawei scientists from reviewing papers (sciencemag.org)

Science Councils and Statutory Organisations

- CSIR launches novel online climate risk profiling and adaptation tool: The Green Book (sajs.co.za)

Medicine and health

- Killing mosquito larvae can contribute towards malaria elimination (theconversation.com)
- SANBS to deliver blood using drones (jacarandafm.com)
- Benefits of breastfeeding can last a lifetime (news.uct.ac.za)
- Unique SA dataset reveals number of HIV deaths before antiretrovirals (wits.ac.za)
- SU researchers study resistance to 'protect' anti-TB drug (sun.ac.za)
- Health Exhibition showcases local medical devices, services (sanews.gov.za)
- Fungus with a venom gene could be new mosquito killer (sciencemag.org)

Astronomy and space science

- SAAO 1.0m Telescope pivotal in the discovery of a 'Forbidden' Planet in the 'Neptunian Desert' (nrf.ac.za)
- Astronomers confirm 'exoplanet hell' with SAAO telescope (engineeringnews.co.za)

Palaeontology, archaeology and anthropology

- South African cavemen ate carbs, new research shows (businessinsider.co.za)

Environment, climate change and energy

Environment

- Joburg's waste-pickers help SA's recycling rate rival some in Europe (infrastrucurenews.co.za)
- Research pinpoints SA's largest water users (csir.co.za)
- How we found out that rat poisons are killing wildlife in Cape Town (theconversation.com)
- Bark harvesting in indigenous forests impacts forest birds (sun.ac.za)
- New study proves penguins are key indicators of ocean health (news24.com)
- These tiny microbes are munching away at plastic waste in the ocean (sciencemag.org)

Climate change

- UN gives 12-year deadline to crush climate change (scidev.net)

Energy

- Many businesses are considering generating their own energy (infrastructurenews.co.za)
- Considerations for the next generation of concentrating solar power systems (ee.co.za)
- Energy sector can contribute towards economic growth (infrastructurenews.co.za)

Agriculture

- How combining and fermenting grains can help nutrition in Africa (theconversation.com)

Engineering

- SPRAS: The new approach to wastewater (infrastructurenews.co.za)
- Open letter on the boiler and mill problems at Medupi and Kusile (ee.co.za)
- KZN Floods: What the Engineers have to say (saice.org.za)
- Deeper research is needed to prevent fatal mining disasters (wits.ac.za)

Technology and the 4th Industrial Revolution

- From research to real quantum computing? (ee.co.za)
- SA is 'safe haven' for cyber criminals (ngopulse.org)
- Elon Musk's company has just launched 60 satellites that can provide most of the Earth with high-speed internet access (ngopulse.org)
- Speed up education in Africa with 5G (mg.co.za)
- Young entrepreneur Nkululeko Tunzi creates innovative walking aid for blind people (city-press.news24.com)

Metrology

- Mass movement: scientists adopt new kilogramme definition (mg.co.za)

Opportunities

- Green Sector Consultant – Biomass to Sustainable Aviation Fuel: Fetola has a part time position available for a sector specialist to contribute to and work with the project management team on the implementation phase of the EU funded Waste To Wing project. The project aims to prove the feasibility of a waste-based sustainable aviation fuel (SAF) industry in South Africa. Click here to apply.
- Entries for the Winetech Pitching Den will be accepted until 9 June 2019. Finalists will go through to the Winetech Pitching Den which will take place on 12 September at the 2019 SA Innovation Summit in Cape Town.
- ANDZA Entrepreneur Competition: SA's top start-ups to compete for R10m in investment funding & acceleration. Entries close on 19 July 2019.

- Young UCT scientist selected for international leadership initiative (news.uct.ac.za)
- There are no limits, says Cape Town nuclear boffin hitting the heights (sowetanlive.co.za)

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

Send us your news

The NSTF invites all our members, as well as all SET and innovation role players, to send us information on meetings, conferences and activities of interest to the broader S&T community. Please send us your news by the 20th of the month, for distribution at the beginning of the following month, to enquiries@nstf.org.za

Feedback

If you have any comments or suggestions on how we can improve this newsletter, please e-mail the NSTF Secretariat at enquiries@nstf.org.za

About the NSTF

The National Science and Technology Forum (NSTF), established in 1995, is a broadly-representative stakeholder body for all SET and innovation organisations in South Africa, which seeks to influence policy formulation and delivery.
The NSTF-South32 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.

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.

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