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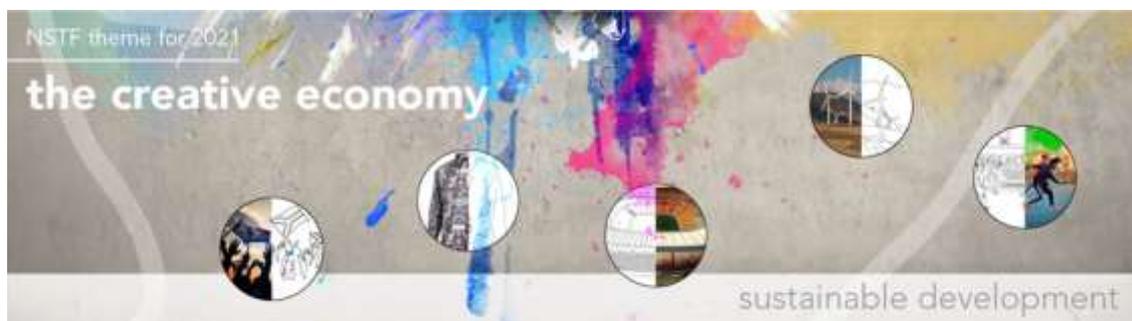
# NSTF e-Newsletter

*S.E.T. for socio-economic growth*

## Elections and the vaccine

*Message from the NSTF Executive Director, Ms Jansie Niehaus*

Will political rallies and the November election day become super spreader events? More vaccinations are our only hope. [Read](#) the ED's message.



## NSTF News

### Celebrating the 2020/2021 NSTF-South32 Awards Finalists and Awardees

The [gala event](#) of the 2020/2021 [NSTF-South32 Awards](#), which will take place on Thursday, 30 September 2021, will be a hybrid event. The public can participate in the live broadcast of the gala dinners during which the finalists will be recognised and the winners announced via the NSTF [YouTube](#) channel. Attendance at the venues in Johannesburg and Cape Town is restricted to only the [finalists](#), [sponsors](#) and the VIP guests. These arrangements were made necessary by the pandemic and the current COVID-19 restrictions in South Africa.

The online broadcast will take place from 17:30 – 20:15. Diarise this date and join NSTF and co-branding sponsor, South32 in celebrating the achievements of science, engineering, technology (SET) and innovation in South Africa. A notification with the link to the broadcast will be provided closer to the event. Watch your mailbox for the link to the broadcast. [Subscribe](#) to the eNews to receive notifications first hand.

**Associate your brand:** The media partners for the NSTF-South32 Awards are the [Mail&Guardian](#) and [Business Report](#). Both newspapers will feature [supplements](#) profiling the winners. The NSTF calls on the community to support both [publications](#) through advertisements. This provides an opportunity to profile your organisation as a key role player, as well as position your brand by association with individuals and organisations in South Africa's national system of innovation. *Please note that the NSTF does not gain financially from these supplements.* Email enquiries to [Jane Mokgwatshane](#) at the NSTF office.

The NSTF's theme for 2021, including the NSTF-South32 Awards, is the **Creative Economy for Sustainable Development**, aligned with the United Nations' [International Year of Creative Economy for Sustainable Development](#).



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

Twenty-one young people who have excelled in science and maths in the 2020 National Senior Certificate exam and who are studying at South African universities will be introduced to participants in the Awards Gala event on 30 September 2021. The recognition of these young people, our [Brilliants](#) students, includes publicity for the students, their schools and provinces.

This year, The [Lewis Foundation](#) partnered with the NSTF Brilliants Programme to include recognition to 9 'BEST' students in 'Biological and Environmental Sciences' to recognise South Africa's future conservation champions. The Foundation will organise a tour for the Brilliants and BEST students in 2022 to the [Wilderness School](#) in the Lapalala Reserve in the Waterberg region of the Limpopo province. The tour will inspire the students to discover the true value of the biodiversity of the natural world and their place within it.

For the past 20 years, the NSTF has been celebrating top learners who specifically go on to pursue studies in science, engineering, technology (SET) or medicine. [Read more](#) about some of the young men and women who were recognised in previous Brilliants programmes. Support these deserving young people with bursaries through the NSTF Bursary Fund. Contact [Mr Matome Mphela](#) to make your donation.

***The NSTF supports SET education with the aim to create the researchers, leaders and innovators for tomorrow's system of innovation.***

## Discussion Forum coming on loadshedding

The [Discussion Forum](#) under the auspices of [proSET](#) (a sector of the NSTF representing [professional bodies and learned societies](#)) will tackle issues about **loadshedding**. It is scheduled for the month of October.

As South Africa's primary electricity supplier, Eskom's mandate is to ensure security of supply to service the South African economy and society. What is stopping Eskom from carrying out its mandate is a question asked by many South Africans. The effects of

## STEMulator.org

STEMulator is seeking a graduate to fill the position of Research Assistant. The primary function will be to assist and support the management of STEMulator to update and manage the content of the STEMulator; build relevant networks; identify and secure funding opportunities and manage the day-to-day administration of the project. Deadline for application: 24 September 2021. [Read more](#).

[STEMulator](#) is a proudly South African non-profit initiative initiated by the [National Science and Technology Forum \(NSTF\)/proSET](#) to excite young South

loadshedding are crippling to the quality of life in South Africa, from the economy, to education, to the health care system.

The NSTF and proSET will host expert speakers to discuss this complex situation and how the implemented strategies have (or have not) addressed the electricity crisis in South Africa. This Discussion Forum will attempt to bring essential answers to the public, as well as shed light on the possible solutions and steps being taken to solve this problem. Enquiries about participation can be addressed to [Mr Matome Mphela](#) in the NSTF office.

The Discussion Forum will be preceded by a proSET General Meeting.

### Save the date for this Discussion Forum

The [Discussion Forum](#) on the international theme **Creative Economy for Sustainable Development** will take place early in 2022. The NSTF aims to highlight initiatives that bridge the gap between creativity and science/technology, and to discuss significant societal issues relating to these. Please direct any queries to [Mr Matome Mphela](#) in the NSTF office.



proSET (Professionals in science, engineering and technology) is a sector of the NSTF representing about 40 professional and learned societies. This section shares news about [members](#) and introduces new members of the [proSET sector](#).

- **CESA calls on improved collaboration towards the national agenda: “We need to join our hands”**

It has been almost a year since President Cyril Ramaphosa announced South Africa’s Economic Reconstruction and Recovery Plan, with a key objective being to create jobs, primarily through aggressive infrastructure investment. However, little progress has been made despite many industry bodies putting their hands up to aid with state capacity. Consulting Engineers South Africa’s ([CESA](#)) CEO, Chris Campbell comments: “Before we raise our hands, perhaps we should be joining our hands”. [Read more](#).

- **RAPDASA Conference on Digital Manufacturing Industrialising Africa**

The [22nd Annual International RAPDASA Conference](#) on Digital Manufacturing Industrialising Africa will take place in a hybrid format from 3-5 November 2021. The Rapid Product Development Association of South Africa (RAPDASA), joined by RobMech (robotics) and PRASA (pattern recognition), will be presenting the conference. The aim of the organisers of the event, hosted by the CSIR, is to increase the reach and interest of

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*.

Click on [STEMulator Car](#) for an example of what the STEMulator can do.



4IR in the fields of additive manufacturing, robotics, mechatronics, electrical engineering and pattern recognition by connecting industries and key figures in government, academia and relevant enterprises across Africa.

- **The latest issue of IMIESA now available**

The latest issue of [IMIESA](#), the official magazine of the Institute of Municipal Engineering of Southern Africa ([IMESA](#)) is now available. Read about mobilising the opportunities for construction, integrated waste management practice, roads and bridges linking communities and building economies, and more.

- **2021 Edition of Essential Skills for Grade 12 Physical Science Examination Preparation available**

The South African Institute of Physics (SAIP), in collaboration with the Unizulu Science Centre and support from the Philanthropy Initiative with Employees of Allan Gray, has made available the **Physics (Paper 1) Essential Skills for Matric resources**. The “Essential Skills for Matric” series has been upgraded, updated and improved for 2021. It is all free; register to join [online](#). The accompanying booklets are available for download in pdf form, linked to each video. Videos feature dynamic presentations by Dr Derek Fish, an expert in the field, covering theory, exam questions and answers, simulations and inspiring interviews. [Read more](#).

- **WISA Senior Fellow awards**

The [Water Institute of Southern Africa](#) (WISA) Board recently approved the nominations received for the prestigious WISA Senior Fellow awards. The Senior Fellow Award is an exceptional honour. It considers the consistency of support that the nominated member has shown WISA over an extended number of years. It is however not restricted to support for WISA, but also takes note of the contributions the member has made to the enhancement of the Water Sector overall, and the esteem that their actions have brought to the stature of the South African water industry. The following Senior Fellows were nominated: Dr Shafick Adams, Mark Bannister, Eustathia Bofilatos, Prof Faizal Bux, Dr Kirsty Carden, Prof Evans Chirwa, Cyril Gamede, Prof Hamanth Kasan, Prof Bhekie Mamba, Dr Mandla Msibi, Dr Valerie Naidoo, Dr Mthokozisi Ncube, Dr Werner Rossle, Dewald van Staden, Mohammed Vawda, Abri Vermeulen and Achim Wurster. [Read more](#).

- **IT Prof elected to national body executive**

Professor Lynn Fitcher from the School of ICT at Mandela University has been elected onto the executive of the national Institute of [Information Technology Professionals of South Africa](#) (IITPSA). Lynn is currently the Chairperson of the IITPSA’s Eastern Cape chapter. [Read more](#)



## **SET-related policies currently open for public comment**

*Keep informed and have your say*

- [Draft National Infrastructure Plans 2050](#) (Comment by 17 September 2021)
- [National Nuclear Regulator Amendment Bill](#) (Comment by 20 September 2021)

- [Health Professions Act: Regulations: Names that may not be used in relation to the Profession of Physiotherapy](#) (Comment by 1 October 2021)
- [Pharmacy Act: Primary care drug therapy pharmacist](#) (Comment by 13 October 2021)
- [Pharmacy Act: Pharmacist who provides immunisation services](#) (Comment by 13 October 2021)

## 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.*

### Energy

- [Is the Koeberg life extension going ahead without the nuclear regulator's approval?](#) (energize.co.za)
- [South Africa faces international isolation if it sticks with coal: De Ruyter](#) (techcentral.co.za)
- [Repurposing coal stations: a circular economy energy solution](#) (energize.co.za)
- [Public hearings for Karpowership generation licence applications commence amidst growing opposition](#) (energize.co.za)
- [SA must look beyond N Cape for new renewable energy projects](#) (techcentral.co.za)

### Agriculture

- [Why SA should care about global wheat prices](#) (news24.com)
- [South Africa's master plan for cannabis: rules, regulations, and adding it to the school curriculum](#) (businesstech.co.za)
- [How the South African government can boost its credibility in the agricultural sector](#) (theconversation.com)

### Education

- [Most learners in Grades 10, 11 and 12 are over-age for their grade](#) (sun.ac.za)
- [African languages to get more bespoke scientific terms](#) (nature.com)

### Infrastructure

- [Government's infrastructure plans to 2050 published](#) (energize.co.za)
- [ANC's Mashatile warns against raising taxes, urges govt to accelerate spending on infrastructure](#) (news24.com)
- [Calls for public comment on draft National Infrastructure Plan](#) (infrastructurenews.co.za)
- [The water crisis: it's not a supply issue – it's a demand one](#) (infrastructurenews.co.za)
- [President Ramaphosa addresses the Infrastructure SA Project Preparation Round-Table](#) (eNCA)

### Medicine and Health

- [South Africa will no longer send J&J vaccines to Europe, AU envoy says](#) (cnn.com)
- [Traditional medicines should be equally supported and fairly researched](#) (ufs.ac.za)
- [How one policy change could curb two airborne epidemics in South Africa](#) (bhekisisa.org)
- [Global Fund Results Report Reveals COVID-19 Devastating Impact on HIV, TB and Malaria Programs](#) (theglobalfund.org)

## Climate change and environment

- Legislation preventing the recycling of mining waste ([ReSource, August 2021](#), p. 6)
- [Department commits to addressing water pollution and drinking water quality in SA](#) (infrastructurenews.co.za)
- [The water crisis: it's not a supply issue – it's a demand one](#) (infrastructurenews.co.za)
- [Environmental organisations concerned about SA's no-show at plastics treaty meeting](#) (infrastructurenews.co.za)



*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.*

- [2nd African Nuclear Physics Conference](#) (ANPC): Hoedspruit region, 20-24 September 2021 (date to be confirmed)
- [SAAFoST Virtual Congress 2021](#): 20-22 September 2021. [Click here to register.](#)
- [Sustainability Summit 2021](#): Live virtual event, 21-23 September 2021.
- [SA Innovation Summit 2021](#): Cape Town and online, 21-23 September 2021. This will include the [Southern Africa Innovation Support Programme \(SAIS 2\)](#) with its flagship event, the Annual Southern Africa Innovation Forum (ASAIF) 2021.
- [CertForum 2021](#): The first World Digital Signature Forum, 22-23 September 2021. The Academy of Science of South Africa (ASSAf) joined other academies from the G20 countries to develop and sign two joint statements on pressing global issues to be addressed. The statements entitled [Pandemic preparedness and the role of science](#) and [Crises: economy, society, law, and culture. Towards a less vulnerable humankind](#) will be delivered to the G20 Heads of State and Government. The S20+SSH20 Academic Summit will be hosted by the Accademia Nazionale dei Lincei in Rome, 22-23 September 2021.
- The [Bio2021 Conference](#), Spier Wine Estate, 26-29 September 2021
- ASSAf Roadshows to South African Universities and Science Institutions 2021 Series: Webinar, 30 September 2021, 09:00-10:30. Click [here](#) to register.
- [CESA Infrastructure Virtual Indaba](#): "Engineering the Future Now!" 28-29 September 2021
- [SAIIE32 Conference](#): 32nd Annual Conference for the Southern African Institute for Industrial Engineering, Muldersdrift, Gauteng, 4-6 October 2021
- [WindAc Africa Conference 2021](#): Cape Town, 5-7 October 2021
- [WINDABA 2021](#) with the theme, "Renaissance of the Wind Energy Industry - Delivering Economic Benefits for SA": Cape Town, 7-8 October 2021
- "After the Riots: What really happened? Can we prevent a recurrence?" Invitation to the [7<sup>th</sup> ASSAf Presidential Roundtable](#). Zoom webinar, 29 October 2021, 16:00–18:00.
- [IFAT Africa](#), Africa's leading trade fair for water, sewage, refuse and recycling: Johannesburg, 2-4 November 2021

- Institute of Waste Management of Southern Africa (IWMSA) [Biennial Seminar and Exhibition “Landfill and Waste Treatment 2021”](#), Durban, 3-5 November 2021
- [22nd Annual International RAPDASA Conference](#) (Rapid Product Development Association of South Africa), joined by RobMech and PRASA on Digital Manufacturing Industrialising Africa: Pretoria, hybrid format, 3-5 November 2021
- [IMESA & IAWEEES Joint International Conference](#): Virtual conference, 17-19 November 2021
- [23<sup>rd</sup> International Congress of Zoology](#): Cape Town, 21-25 November 2021
- [World Science Forum](#): Cape Town, 8-10 December 2021
- The 7<sup>th</sup> [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"



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### Science Councils and Statutory Organisations

- [Migration of Internship Programme to the Human Sciences Research Council](#) (nrf.ac.za)
- ASSAF launched a [COVID-19 booklet](#) with essential information for the public. The booklet is available for downloading for free.
- ASSAF launched the new [Quest website](#) during the National Science Week. It is more user-friendly and accessible than before.
- [CSIR receives eStation to utilise Earth Observation data for environmental management](#) (csir.co.za)
- [Wide-area surveillance system to detect human movement in secure areas](#) (csir.co.za)
- [South African Medical Research Council: Leading Research and Innovation in a time of COVID-19](#) (samrc.ac.za)
- [SAMRC Scientist co-leads a study calling for social security with dignity](#) (samrc.ac.za)
- [CSIR co-develops composite material for one of Africa's largest steel pipe companies](#) (engineerit.co.za)

### Tertiary institutions

- [UCT researcher to present novel COVID-19 study at global cardiology congress](#) (uct.ac.za)
- [UCT team nets inaugural agri-entrepreneurship prize](#) (uct.ac.za)
- [Johannesburg tuned into live laboratory to measure 'killer' lightning](#) (wits.ac.za)

- [Are you quantum or not? Wits PhD student cracks the high-dimensional quantum code](#) (wits.ac.za)
- [As universities remodel as businesses, they need to be wary of losing core mandates](#) (dailymaverick.co.za)
- [Exxaro partners with UP in cutting-edge technology programme to drive safer, more sustainable mining](#) (up.ac.za)
- [High Level Accreditation for UKZN's Acclaimed Science Centre](#) (ukzn.ac.za)
- [Wits tackles water crisis through new water research programme](#) (wits.ac.za)

## Space Science and Astronomy

- The [Cosmic Savannah](#) is an exciting new podcast that shares the incredible astronomy and astrophysics research occurring on the African continent with the public. It is released once a fortnight and features a diverse range of young African researchers who serve as role models for the next generation. (Cosmic Savannah is a finalist in this year's [NSTF-South32 Awards](#).)
- [Eavesdropping on the sky: The backstory of MeerKAT and SKA](#) (nrf.ac.za)
- [Partnering with Russia to build the PanEOS antenna](#) (sansa.org.za)
- [SANSA and ZASpace Inc provide platform for Industry engagement](#) (sansa.org.za)

## Palaeontology and Archaeology

- [Pottery dating reveals the origins of Venda](#) (mg.co.za)
- [Fossil of previously unknown four-legged whale found in Egypt](#) (reuters.com)

## Geology

- [Ejecta discovered near site of ancient meteorite impact crater](#) (engineerit.co.za)

## Medicine and health

- [Neuroscience moves closer to understanding brain development](#) (uct.ac.za)
- [Webinar tackles the challenges of sexual reproductive health and rights of young women with disabilities](#) (samrc.ac.za)
- [SAMRC led consortium to tackle Chronic Kidney Disease in Africa](#) (samrc.ac.za)

## Epidemics – human and animal

- [Why science & research can be hard to swallow: The giant hamburger of trust](#) (Landing page of the Bhekisisa Sputnik V Series)
- [New lineage of SARS-CoV-2: what's known so far](#) (wits.ac.za)
- [Modelling a pandemic shows the importance of data from multiple sources](#) (enigeerit.co.za)
- [Old habits die hard: J&J's failure to deliver COVID jabs to SA is nothing new](#) (bhekisisa.org)
- [Basic Sciences are essential against COVID-19](#) (iybssd2022.org)
- [South Africa will no longer send J&J vaccines to Europe, AU envoy says](#) (cnn.com)
- [The first human case of Marburg virus in West Africa is no surprise: here's why](#) (theconversation.com)
- [Who catches and transmits flu in SA and the implications for vaccination](#) (wits.ac.za)
- [Why SA's children will have to wait for the jab](#) (bhekisisa.org)

## Climate change and Environment

- [KZN Sabotage | Chemical spill in water systems](#) (eNCA.com)
- [New Study finds mangroves among the most vulnerable ecosystems on the planet](#) (nrf.ac.za)
- [Manage growing quantities of hazardous medical waste](#) (infrastructurenews.co.za)
- [A novel green technology to transform the single-use plastic market](#) (csir.co.za)
- [Increased CO2 in the atmosphere makes dung beetles smaller](#) (sciencedaily.com)

## Infrastructure

- [Prioritising gender diversity in construction](#) (infrastructurenews.co.za)

## Energy

- [Lithium batteries - the story of South Africa's missed opportunities](#) (engineerit.co.za)
- [Tough road to net-zero emissions by 2050, but opportunities exist](#) (energize.co.za)
- [Eskom pilots Renewable Energy Tariff programme](#) (itweb.co.za)
- [Helping businesses meet renewable energy commitments](#) (energize.co.za)
- [Training young women to service wind turbines](#) (energize.co.za)

## Agriculture

- [Climate-change report shines spotlight on Africa's agriculture potential](#) (infrastructurenews.co.za)
- [South Africa's agricultural sector is likely to have an unusual period of three consecutive favourable seasons](#) (mg.co.za)
- [How to build credibility in the agricultural sector](#) (wits.ac.za)
- [What honeybees in South Africa need from people: better managed forage](#) (theconversation.com)

## Technology and the 4<sup>th</sup> Industrial Revolution

- [University of Pretoria drives 'digital city' concept in Hatfield](#) (itweb.co.za)
- [Africa Data Centres reveals continent's largest-ever data centre expansion plan](#) (engineerit.co.za)

## Opportunities

- [Request for TIA Seed Fund Applications](#): The South African Medical Research Council (SAMRC) in collaboration with the Technology Innovation Agency (TIA) announced the release of its third SAMRC-TIA Seed Fund call for the 2021/22 FY (SAMRC-TSF) with a focus on Biosimilars and Indigenous Knowledge System related technologies (African Traditional Medicines, Cosmeceuticals, Nutraceuticals and Health infusions). Application deadline: 15 September 2021 (midnight 00h00).
- [Invitation to apply for PhD bursary in agricultural economics for 2022](#). Deadline: 16 September 2021.
- [Request for Expressions of Interest](#): Researchers/Research Institutions to Receive a Donation of Zhejiang Orient Gene Biotech COVID-19 IgG/IgM Rapid Antibody Tests. Deadline: 8 October 2021.
- The [AGTECH Innovation Challenge](#) under the Innovation Bridge Portal is searching for pre/post-revenue startups with a Minimum Viable Product (MVP) ready for or tested in-market, and applied researchers with viable projects to participate in their virtual pitch-day. Deadline: 1 November 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.
- 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.
- **South African Medical Research Council Call for Proposals**: Research to support and guide the effective implementation and monitoring of COVID-19 vaccines and address long term effects of COVID-19 in South Africa. Application closing date: 8 October 2021. [Click here](#) for more information.



- [UCT's Dr Virginie Rozot awarded Wellcome Leap grant for TB research](#) (uct.ac.za)
- [International recognition for computer science Prof's work](#) (mandela.ac.za)
- [SU's Dr Katherine de Villiers awarded for outstanding chemical research](#) (sun.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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