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SCIFEST 2022 – BACK TO THE BASICS

Our theme for 2022 is “Back to the Basics”, inspired by UNESCO’s International Year of Basic Sciences for Sustainable Development 2022. This theme highlights the crucial role of basic sciences (physics, chemistry, biology and mathematics) in sustainable development, and emphasises their contributions to the implementation of the 2030 Agenda and achievement of the Sustainable Development Goals.

In 2021 we celebrated our Silver Jubilee and looked back on our growth over the past 25 years. This year we’ve stripped it “Back to the Basics”, focusing on the goal of making science accessible to all. The role of Scifest Africa is to promote STEM and science engagement to the people of South Africa and the continent, and this year recognises the basic sciences that play a role in our everyday lives, and that provide the building blocks to how we make sense of the world around us.

Scifest® Africa, South Africa’s National Science Festival, is a project managed by the National Arts Festival on behalf of the Grahamstown Foundation and supported by the Department of Science and Innovation.

Published by Scifest® Africa

Programme devised and coordinated by the Scifest Africa Team: Samridhi Sharma, Vusumzi Tsipa, Nomabhelu Mbane, Sibabaliwe Manyube, Steph Dvorak, Nombasa Kunene, Sinclair Bulelwa Mayfield, Emile Hails, Mponyana Mbikanye and Sanelisiwe Kula

Edited by Steph Dvorak and the Scifest Africa Team

Cover Design by Melanie Le Roux and Bad Apple Creative, Port Elizabeth

Design and Layout by Melanie Le Roux and Bad Apple Creative, Port Elizabeth

Disclaimers and waivers: While every effort has been made to ensure the accuracy of the programme, mistakes and unexpected changes can occur. Opinions expressed by lecturers and other contributors at Scifest® Africa 2022 do not necessarily reflect those of the Grahamstown Foundation, its Council, staff, sponsors, or the Scifest® Africa Advisory Committee. Persons who attend Scifest® Africa 2022 and/or participate in any of its events, do so at their own risk, and the Grahamstown Foundation, its Council, staff, and sponsors, or the Scifest® Africa Advisory Committee disclaim liability for any damage, loss, or injury they may suffer.

HOW TO USE THE PROGRAMME

This full pdf programme lists and describes all the events that make up Scifest Africa 2022. The programme is also available online at scifest.nationalartsfestival.co.za

- Each section of the programme is colour coded
- At the beginning of each section there is a schedule of events for the week
- Once you find a show that peaks your interest, click on the title which will link you to the show's webpage, where you can proceed to book your tickets.

For group bookings, you can email the details for your desired shows to boxoffice@scifest.org.za

USING THE WEBSITE

1. Click the category that most interests you on the black menu bar (above) to view the shows. Each show includes a genre list option to help you refine your search before booking.
2. By clicking 'All Shows' on the top menu, you get additional options to view shows by date or as a calendar and see what is happening on the dates you are at the Festival.

REGISTER ON THE SITE

1. If you are a first-time visitor to the website, click on the MY ACCOUNT button on the top menu, choose the registration option and fill in your name, email address and choose a password in the registration box.
2. You will be sent a confirmation email to verify your email address and will be able to use your details to log back in at any time.

I HAVE ALREADY REGISTERED, HOW DO I LOG IN?

1. Click on the MY ACCOUNT button on the top menu.
2. If you have forgotten your password, click 'Lost your password?' and a new one will be sent to your email address. If you haven't received one, check your spam folder.

HOW TO BUY TICKETS

1. Select your shows.
2. Go to the DATES & TIMES dropdown menu on your show.
3. Choose the time and date you prefer.
4. Select the number of tickets you would like and add them to your BASKET
5. You can go to other shows and do the same, adding more items to your BASKET.
6. When you are done, go to your BASKET (click the basket icon on the top menu) and PROCEED TO CHECKOUT, here you will be able to load your payment details or, if they are already loaded, just pay.
7. Your tickets will be emailed to you and will remain in your MY ORDERS tab under MY ACCOUNT so you have them all in one place.
8. For group bookings, you can also email boxoffice@scifest.org.za or click GROUP BOOKINGS on the show page.

DO I NEED TO PRINT MY TICKETS?

No, you can keep your tickets on your phone or just pop back into your MY SHOWS profile to show your tickets to the usher. A Physical Box Office in the Monument Reception is open if you prefer to book and print your tickets directly.

WHERE DO I FIND MY SHOWS?

All the shows you have bought will be listed under ORDERS when you click MY ACCOUNT on the website.

QUICK LINKS

To make the programme easier to use we have added hyperlinks to each section heading and to each Lecture, Workshop, Exhibition and Etc entry which will take you directly to the appropriate web page for booking!

FESTIVAL MESSAGES



SAMRIDHI SHARMA

Scifest Africa Manager



PROFESSOR MIKE BRUTON

Chairman: SciFest Africa Advisory Committee

Welcome to Scifest Africa 2022, where we will be taking you *Back to the Basics*. Our theme for this year allows us to acknowledge and appreciate that the basic elements are human needs, and further allows us to understand the foundation of where science is now. Over 300 years ago, Sir Isaac Newton stated, "If I have seen further, it is by standing on the shoulders of giants", which is now prominently used to signify scientific progress. By going *Back to the Basics*, we want to encourage our youth to be giants for future generations to stand upon.

One thing that COVID-19 taught us whilst hosting the National Science Festival virtually for the past two years was the ability to connect to a global audience and how that can contribute to increasing exposure and making science more accessible. However, the key component of the Science Festival is human interaction which is something we are truly looking forward to! Scifest Africa celebrates 26 years in science engagement with an entirely new Scifest Africa team in place, who have worked extremely hard to bring this Festival back to its live format.

Our key international and local contributors are back with a variety of science shows, exhibitions, workshops, and lectures. We also have a host of new contributors joining us such as Johnson & Johnson powered by Split Second Science Education Foundation; the UK National Space Academy; and Heather Massie from the USA bringing her award-winning theatre show. Whilst our programme is certainly more curated this year, we aim to make it one to remember!

Scifest Africa aims to encourage the future generation of scientists and innovators by exposing them to the diverse fields of STEMI and reassuring them that the goal of having a career in science is attainable. Science is how we make sense of the world around us, and it is important to celebrate the impact Science has made to our everyday lives.

I would like to extend a warm-hearted thank you to my Scifest Africa team, the staff of the National Arts Festival and Grahamstown Foundation, members of the Scifest Africa Advisory Committee, sponsors, contributors, media, and supporters for strengthening and encouraging our vision towards making this Festival a success!

Congratulations to SciFest Africa for surviving the pandemic and emerging stronger than ever. As they say, one should never waste a good crisis and SciFest Africa, our National Science Festival, has used the downtime over the past few years to assess its strengths, analyse its weakness, consider its threats, and maximise its opportunities. The result is that we have a science festival that is stronger than ever and that truly celebrates science, technology, engineering and mathematics in the best possible way, i.e. through the participation of a wide variety of scientists, technologists and science educators from a wide range of disciplines. We not only have contributions from South Africa's many passionate science communicators but also from the ever-reliable Stephen Ashworth from England, stalwart Graham Walker from Australia, and crowd favourite 'Dr Fun', Kenneth Manjero, from Kenya.

There has never been a more important time to celebrate the achievements of science and technology as the world is engulfed in an environmental crisis of alarming proportions and all the inhabitants of the planet, not only humans, have to contend with droughts, floods, sea level rise, coral bleaching and global warming. We have also been warned that Covid will not be the last viral pandemic or health crisis that we will have to face, and the world economy is being destabilised by a totally unnecessary war.

Expect to be surprised, gobsmacked, entertained and informed as you enjoy the extraordinary variety of workshops, talks and 'SciFun' activities that SciFest Africa 2022 has to offer. Let's bring the opportunities and solutions that science and technology have to offer to everyone's attention!

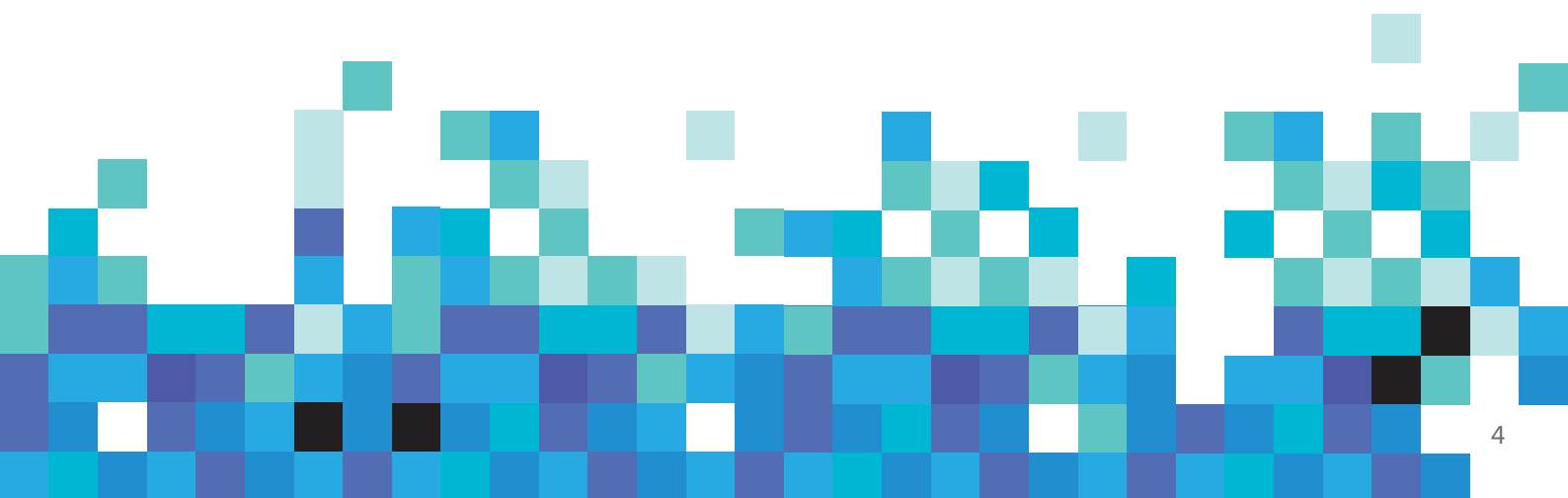
I would like to congratulate the SciFest Africa team, now under the leadership of Samridhi Sharma, for the magnificent effort that they have made in putting this exciting programme together. Let the fun begin!!

LECTURES

The high-profile lecture programme lends the festival its trademark international flavour, and proudly welcomes esteemed international and South African scientists and researchers to this celebration of science.

AUDIENCE:	Grade 10+
CAPACITY:	120/200
PRICE:	Free

Start	End	Speaker, Organisation Title	Venue
WEDNESDAY, 7 SEPTEMBER			
13h00	14h00	Anelda Jonker , SA STEM Educators <i>Introducing and Promoting Space Exploration as Part of STEM in Schools</i>	Monument, Olive Schreiner Hall
THURSDAY, 8 SEPTEMBER			
11h00	12h00	Bianca Rhym , NASA Kennedy Space Center (Virtual Lecture) <i>South Africa & USA: Partners in Space Communication</i>	Monument, Olive Schreiner Hall
11h00	12h00	Crystal Warren , Amazwi Museum <i>Putting Science into Fiction</i>	Amazwi Museum, Auditorium
13h00	14h00	Dr Lee-Anne McKinnell , SANSA <i>Protecting Tomorrow's Technology Today</i>	Monument, Olive Schreiner Hall
FRIDAY, 9 SEPTEMBER			
09h00	12h00	OFFICIAL OPENING	
13h00	14h00	Hendrick Tafadzwa Chikwanha , Association for Engineers in Science and Technology <i>Plant Based Biofuels</i>	Monument, Olive Schreiner
13h00	14h00	Crystal Warren , Amazwi South African Museum of Literature <i>Open Mic Featuring the Poems that are Inspired or Influenced by Science</i>	Amazwi Museum, Auditorium
SATURDAY, 10 SEPTEMBER			
13h00	14h00	Professor Jean Greyling , Nelson Mandela University Computing Sciences <i>Unplugged Coding</i>	Monument, Olive Schreiner Hall
SUNDAY, 11 SEPTEMBER			
13h00	14h00	(Dr Fun) Kenneth Monjero , Fun & Education Global Network <i>Covid-19 Depressed Children and Families Rescued to Agri-Covid Gardens</i>	Monument, Olive Schreiner Hall
MONDAY, 12 SEPTEMBER			
09h00	10h00	Mary Cole , East London Museum <i>What Does a Malacologist Do?</i>	Monument, Olive Schreiner Hall
11h00	12h00	Mimi Phuti Mokoale , Petroleum Agency SA <i>Become a Petroleum Geoscientist</i>	Monument, Olive Schreiner Hall
16h00	17h00	Professor Mike Bruton , Mike Bruton Imagineering <i>The Intergration of Indigenous Knowledge Systems (IKS) in Modern Science</i>	Monument, Olive Schreiner Hall
16h00	17h00	Crystal Warren , Amazwi South African Museum of Literature <i>Open Mic Featuring the Poems that are Inspired or Influenced by Science</i>	Amazwi Museum, Auditorium
TUESDAY 13 SEPTEMBER			
11h00	12h00	Goitseona Ramonnye , CSIR (Defense and Security) <i>The ZACube-2 Nanosatellite</i>	Monument, Olive Schreiner Hall



Dr Graham Walker

Australian National University

Getting All Emotional About Teaching Science



Brian Wilmot Lecture

Emotions are a key aspect of effective science education (Alsop, 2001, 2005; Pekrun, Goetz, Titz, & Perry, 2002) communication (Davies & Horst, 2016), but which emotions are critical and what is the underlying mechanism of eliciting them? This keynote come performance will showcase the role of emotions and motivational states including surprise, interest, enjoyment, awe, curiosity and intrinsic motivation, based on the presenters PhD research, and show how the ideas can be applied in the classroom. These psychological states will be dissected into components, giving avenues for teachers to fine tune student's emotional responses to demonstrations and practicals. These sometimes nebulous emotional states will be illustrated via intriguing, entertaining and interactive demonstrations – you will feel the science! – in a performance that fuses science show presenting with insights from emotion and educational psychology.

Dr Graham Walker (@DrGrahams) is a science communication teacher, researcher and practitioner based at the Australian National University, where he convenes the Masters of Science Communication Outreach program. He's interested in capacity building and development, emotional and motivational aspects, and communication of social and environmental issues, particularly in settings like science centres, science shows and hands-on workshops. He loves doing science shows and blowing things up, and often says his greatest life achievement is making a career out of what he used to get in trouble for as a kid.

Please note: This lecture forms part of the Scifest Africa Official Opening

Crystal Warren

Amazwi South African
Museum of Literature

Open Mic featuring the Poems that are Inspired or Influenced by Science

The South African Museum of Literature (Amazwi) presents South African poetry inspired by science, maths and technology.

Putting Science into Fiction: An Introduction to South African Young Adult Science Fiction

Science fiction is a very popular genre in young adult fiction around the world. South African authors also make use of science fiction to imagine the future, with stories of clones, climate change, apocalyptic disasters, dystopic future governments, developments in science and technology, and more.

In this talk Crystal Warren will give an overview of the field, showcasing some of the authors writing science fiction and highlighting the main themes and trends. This talk will be of interest to teachers, teenagers, teachers, librarians or lovers of science fiction.

Crystal Warren has worked as a librarian, literary researcher and museum curator. She is manager of the Curatorial Division at Amazwi South African Museum of Literature. An avid reader and lifelong fan of science fiction, she is currently working on a Masters degree in English Literature, focusing on South African teenage speculative fiction (looking specifically at dystopian and postapocalyptic literature

Mary Cole

East London Museum

What does a Malacologist do?



Firstly, what is a Malacologist? This is one of many specializations in natural science collections dealing with creepy crawlies and the group in question is introduced. The day-to-day work of a museum natural scientist is explained, the fun parts and the tedious parts. The personality attributes that would suit a prospective candidate to this sort of work are mentioned. Examples of applications of natural science collections - who uses such collections and for what purposes – are discussed.

Mary Cole studied Zoology and Entomology at the University of KwaZulu-Natal. She is employed as a curator of a natural science collection at the East London Museum and did an M.Sc. on the fauna of the Nahoon estuary and beach in East London through Mandela University while employed. She completed her PhD through Rhodes University on land snails. She is interested in all fauna and flora, including identifying them, understanding the ecosystems in which they live and their conservation. She enjoys spending holidays in nature reserves and other wild places, and is fortunate to have the beautiful beaches of East London close enough to go walking over weekends and after work with her husband, who is also a natural scientist, and her four rescue dogs.

Dr Lee-Anne McKinnell**South African National Space Agency (SANSA)**

Protecting Tomorrow's Technology Today



Space Weather has been identified as a Global Challenge and South Africa is positioned to contribute meaningfully towards mitigating this challenge.

Space weather can disrupt technological systems and infrastructure, including but not limited to satellite and airline operations, communication networks, navigation systems, oil and gas pipelines, and the electric power grid. As global economies and individual nations become ever more dependent on these technologies, space weather poses an increasing risk to infrastructure and the economy. The South African National Space Agency (SANSA) has led the country on a journey to ensure a regional capability in operational space weather services. SANSA will demonstrate how South Africa has taken on the world and contributed to fixing this global challenge.

Dr Lee-Anne McKinnell is currently the Managing Director responsible for the Space Science Programme and Hermanus Facility of the South African National Space Agency (SANSA). She holds a PhD in Space Physics from Rhodes University, and a MBA from the Business School Netherlands. In her current role Dr McKinnell represents South Africa on a number of international committees and working groups ensuring Africa's interests are maintained in the field of space science and related technology. She is a champion for space weather applications and is leading the SANSA project to develop 24/7 operational spaceweather capability for Africa.

Hendrick Tafadzwa Chikwanha**Association for Engineers in Science and Technology**

Plant Based Biofuels



Plant-based biofuels are a sustainable resource that could be used to displace the oil consumption used in transportation such as motor vehicles and aviation. Biofuels from plants are the most abundant source of renewable fuels, enabling the production of ethanol and butanol (as gasoline additives) and long-chain hydrocarbons from starch, cellulose, hemicellulose, and oils.

Hendrick T Chikwanha holds a BEng in Chemical engineering from the National University of Science and Technology and is the Chief Executive Officer for the Association for Engineering in Science and Technology.

Mimi Phuti Mokoale**Petroleum Agency SA**

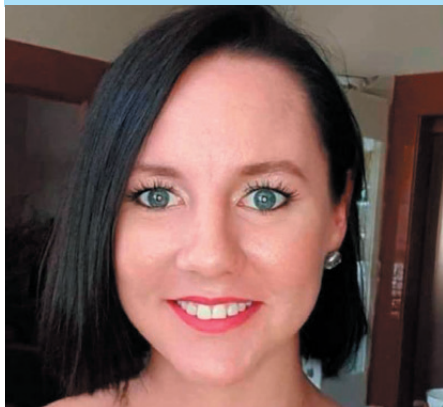
Become a Petroleum Geoscientist



The presentation will elaborate on different career paths in the upstream oil and gas sector, how to become a Petroleum Geoscientist in South Africa and what a day in the life of a petroleum geoscientist looks like.

Salmina is a Petroleum Geoscientist currently working for the Petroleum Agency SA under the Resource Evaluation Department. Her hobbies include photography, content creation and exercising outdoors. She is passionate about Youth Development and eradicating unemployment of youth in South Africa.

Anelda Jonker
SA STEM Educators
 Introducing and Promoting Space Exploration as Part of Stem in Schools



During this session we will:

- Explore space
- Discuss: What is STEM
- Discuss: How to introduce and promote Space Exploration in the classroom
- Talk about: Self enrichment
- Talk about: Forming a plan of action

Ms Anelda Jonker is a passionate technology enthusiast and space advocate who enjoys building technology-focused communities, promoting a culture of innovation, and mentorship sharing. She is skilled as a STEM Subject Head and Certified Microsoft Innovative Educator Master Trainer, with over 15 years of teaching and training skills in high-pressure environments.

Personal topics of interest: Coding, Robotics, Engineering, Cloud, Artificial Intelligence. Currently enrolled for BEng. Robotics Degree at International University of Applied Sciences. She also has a pet Tortoise called Rover and he knows how to operate in 4x4 mode.

Dr Fun (Kenneth Monjero)
Fun & Education Global Network
 Covid-19 Depressed Children and Families Rescued to Agri-Covid Gardens



Was the Covid Pandemic an opportunity of change? Was it a blessing for those who survived it? God forbid! The Virtual Global Network developed during pandemic period has attracted, engaged and empowered over 70 000 learners on food security and self lockdown discipline. Gardens established and mentorship were achieved across the globe.

Kenneth Monjero (Dr Fun), Founder and President of Fun & Education Global Network, Country Coordinator, Design for Change Kenya, Founder and Lead person, Children Science Centre Kenya, Biotechnologist at Kenya Agricultural and Livestock Research Organization

He is passionate about attracting, engaging and empowering learners for development across disciplines. Alumni of University of Nairobi, Technical University of Kenya, Kenya Methodist University, North West University, Stellenbosch University, Cornell University, Arizona State University and Australian National University.

Goitseona Ramonnye
CSIR (Defense and Security)
 The ZACUBE-2 Nanosatellite

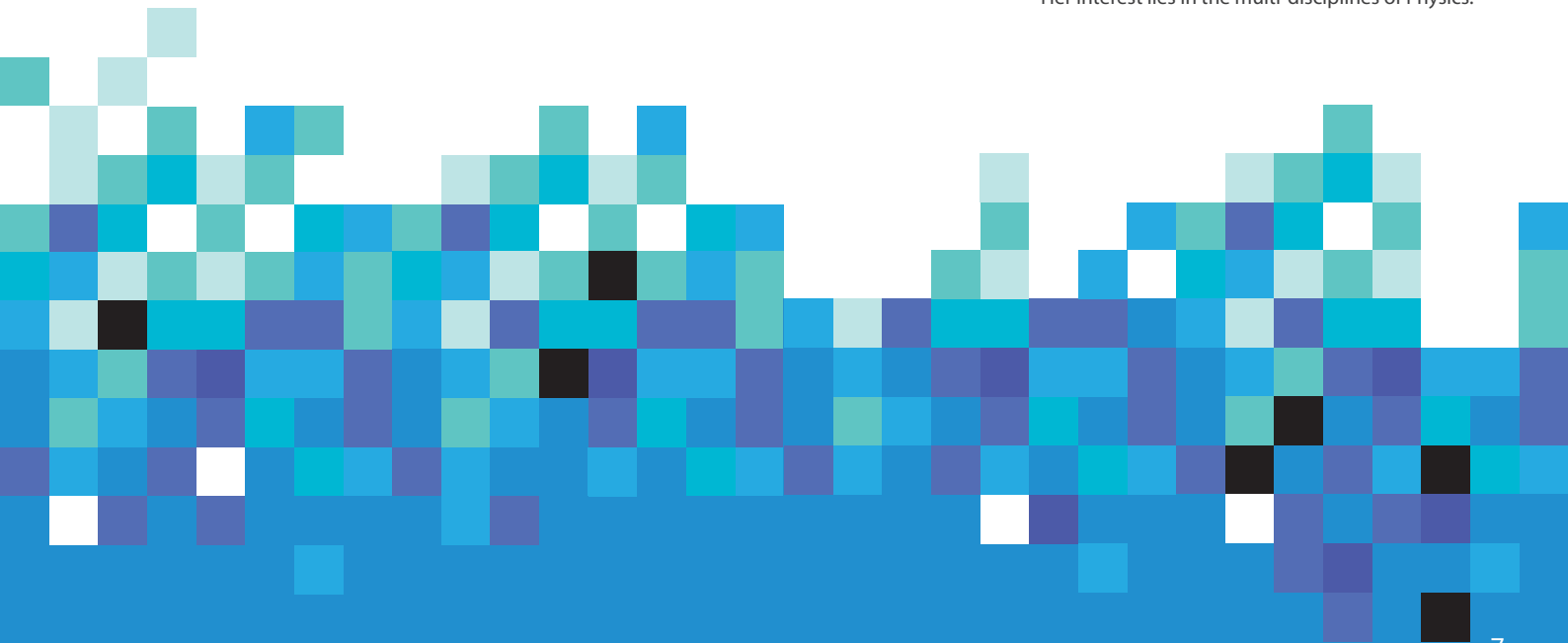


Weighing just 4kg, the ZACube-2 is South Africa's second nanosatellite to be launched into space! ZACUBE-2, described as the most advanced on the continent, provides cutting-edge remote sensing and communication services to South Africa and the continent.

Cubesats are extremely small satellites, in the form of 10 cm cubes and with a mass of up to 1 kg (although there are some made up of two or three such cubes). They provide hands-on experience for engineers and technologists in their design and construction, and, once in orbit, the data needed to support scientific experiments and projects.

ZACUBE-2 has an image sensor that remotely detects potassium traces radiated from burning plants. Until recently, the imagery sensor has not been able to capture images. The work on the presentation will address some of the issues related to this and investigate the solution.

Goitseona just recently completed her MSc in Physics at the University of the Western Cape. She was involved in measurements of radon radio purity present in rubber from a chamber used for experiments aiming to detect neutrinoless double beta decay in collaboration with the nEXO researchers at Laurentian University in Canada. Her interest lies in the multi-disciplines of Physics.



Professor Jean Greyling

Computing Center

Unplugged coding



The Tangible Africa project introduces learners to coding concept without the use of computers. The main tools for this are the coding apps TANKS, RANGERS and BOATS. Since 2017 50000 learners have been reached through coding workshops across the country. The project has been enhanced with various offline lessons plans, coding kits and other resources.

Prof Greyling is an Associate Professor and Head of Department in Computing Sciences at Nelson Mandela University, Gqeberha. He is mainly involved in teaching and research related to programming and undergrad and postgrad level. His other passion is making learners aware of the great career opportunities in computing. Since 2017 he has been coordinating the Tangible Africa coding project (mainly with the TANKS coding app), introducing learners to coding without the use of a computer. The project has reached around 50000 learners across South Africa, targeting disadvantaged schools without computer labs. In April 2022 he received the Distinguished Service in ICT Award from the Institute of IT Professionals South Africa. The project has received various other local, national, and global accolades.

Professor Mike Bruton

Mike Bruton Imagineering

The Integration of Indigenous Knowledge Systems (IKS) in Modern Science



Indigenous Knowledge Systems (IKS) comprise knowledge developed within indigenous societies, independent of, and prior to, the advent of the modern scientific knowledge system (MSKS). However, this does not mean that they aren't crucial to understanding and developing modern science techniques – it's a symbiotic relationship. Join Professor Mike Bruton for an illustrated talk on Indigenous knowledge-based inventions in Africa, their impact and their importance.

Professor Mike Bruton knows very little about chemistry having completed chem at Rhodes University but, has a keen interest in the history of science in the scientific method, and enjoys sharing results of his research with others. As non-formal active science educator he has studied some of the greatest ideas in science and concluded that the Medeeleves peridic table of the the chemical elements must be one of the best, based on its predivtive power. His hobbies include writing, watching fishermen, collecting clothes pegs and not using social media.

Bianca Rhym

NASA Kennedy Space Center

South Africa & USA: Partners in Space Communication



An overview of the past, present, and near-future of fruitful international partnerships and shared success between USA and South Africa in space communications.

Bianca M. Rhym is a member of the Exploration Payloads Branch, Laboratories, Development & Testing Division, Engineering Directorate at the National Aeronautics and Space Administration NASA John F. Kennedy Space Center (KSC). She is KSC's electrical ground processing specialist for the International Space Station (ISS) program. She provides electrical engineering design, test, maintenance, troubleshooting, and support for ISS external payloads and commercial resupply service launch operations to the ISS, including critical late-stow transport and integration of science experiments and cargo into the SpaceX Dragon capsule. In addition to past Radio Frequency engineering support to the Electromagnetics Laboratory, research and technology programs and projects, she also provides electrical engineering supports the Artemis Campaign with integration, testing, and verification for the Human Landing System program and Utilization subject matter expertise for the Lunar Gateway's Deep Space Logistics project.

WORKSHOPS

Workshops are fun, hands-on activities that afford visitors an opportunity to immerse themselves in the practice of science. Activities for learners relate to the revised National Curriculum Statements where possible.

Start	End	Organisation Title	Audience	Capacity	Price	Venue
WEDNESDAY, 7 SEPTEMBER 2022						
09h00	10h00	FOSST Discovery Centre <i>Virtual Laboratories</i>	Gr 10-12	30	R30	Monument, Council Chambers
09h00 14h00	10h00 15h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
09h00	10h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
09h00	10h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
09h00	10h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
09h00	10h00	NRF/iThemba Labs <i>I Can See CLEARLY Now</i>	Gr 7-12	30	R30	Amazwi Museum, Activity Room
09h00	10h00	NRF/SAEON <i>Phytoplankton: Secrets of the Ocean Food Web</i>	Gr 7-12	30	FREE	Albany Museum, Education Classroom
10h00	11h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
10h00	11h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehersal Room
10h00	11h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I
10h00	11h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
11h00	12h00	Amazwi STEM Literacy <i>Creatively tackling STEM illiteracy</i>	Gr 9-11	30	R30	Amazwi Museum, Activity Room
11h00	12h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
11h00	12h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
11h00	12h00	SANSA <i>Using Satellites to Enrich Life on a Satellite</i>	Gr 8-12	30	R30	Monument, B2 Arena
12h00	13h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Make Your Own Slime</i>	Gr 3 -7	30	R30	Monument, Rehearsal Room
12h00	13h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
12h00	13h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
12h00 14h00	13h00 15h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
13h00	14h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
13h00	14h00	KwaZulu Natal Museum <i>Gardening - Being Climate Smart</i>	Gr 4-6	30	R30	Monument, Atherstone Room
13h00	14h00	SANSA <i>Concept of Gravity in Our Solar System</i>	Gr 4-7	30	R30	Monument, B2 Arena
13h00	14h00	FOSST Discovery Centre <i>LEGO Robotics</i>	Gr 10-12	30	R30	Monument, Council Chambers
14h00	15h00	NRF/SAEON <i>Phytoplankton: Secrets of the Ocean Food Web</i>	Gr 7-12	30	FREE	Monument, Visitors Centre I
15h00	16h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
15h00	16h00	Natural Science Collections Facility (NSCF) <i>How to Preserve Plants and Animals</i>	Gr 10-12	20	R30	Monument, Visitors Centre II

15h00	▶ 16h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
16h00	▶ 17h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Be a Forensic Scientist</i>	Gr 5-8	45	R30	Monument, Rehearsal Room
THURSDAY, 8 SEPTEMBER 2022						
09h00	▶ 10h00	FOSST Discovery Centre <i>LEGO Robotics</i>	Gr 10-12	30	R30	Monument, Council Chambers
09h00 14h00	▶ 10h00 15h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
09h00 16h00	▶ 10h00 17h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
09h30	▶ 11h00	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
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10h00	▶ 11h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
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10h00	▶ 11h00	KwaZulu Natal Museum <i>Gardening - Being Climate Smart</i>	Gr 4-6	30	R30	Monument, Atherstone Room
10h00 12h00	▶ 11h00 13h00	SANSA <i>Concept of Gravity in our Solar System</i>	Gr 4-7	30	R30	Monument, B2 Arena
11h00	▶ 12h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Make Your Own Slime</i>	Gr 3-7	30	R30	Monument, Rehearsal Room
11h00	▶ 12h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
11h00	▶ 12h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
12h00	▶ 13h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
12h00	▶ 13h00	Natural Science Collections Facility (NSCF) <i>How to Preserve Plants and Animals</i>	Gr 10-12	20	R30	Albany Museum, Education Classroom
13h00	▶ 14h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
13h00	▶ 14h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
13h00	▶ 14h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Amazwi Museum, Activity Room
13h00	▶ 14h00	FOSST Discovery Centre <i>Virtual Laboratories</i>	Gr 10-12	30	R30	Monument, Council Chambers
13h00	▶ 14h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
13h00	▶ 14h00	Bayworld <i>Dissection of a Fur Seal</i>	Gr 7-12	30	R30	Monument, Art Gallery
14h00	▶ 15h00	NRF/iThemba Labs <i>I Can See CLEARLY now</i>	Gr 7-12	30	R30	Monument, Visitors Centre II
14h00	▶ 15h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
14h00	▶ 15h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehearsal Room
15h00	▶ 16h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
15h00	▶ 16h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
16h00	▶ 17h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Be a Forensic Scientist</i>	Gr 5-8	45	R30	Monument, Rehearsal Room

FRIDAY, 9 SEPTEMBER 2022

09h00	▶ 10h00	FOSST Discovery Centre <i>Virtual Laboratories</i>	Gr 10-12	30	R30	Monument, Council Chambers
09h00	▶ 10h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
09h00	▶ 10h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
09h00	▶ 10h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
09h00	▶ 10h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
09h00	▶ 10h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I
09h00 16h00	▶ 10h00 17h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
13h00	▶ 14h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
13h00	▶ 14h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
13h00	▶ 14h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
13h00	▶ 14h00	FOSST Discovery Centre <i>LEGO Robotics</i>	Gr 10-12	30	R30	Monument, Council Chambers
13h00	▶ 14h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
13h00	▶ 14h00	KwaZulu Natal Museum <i>Gardening - Back to Basics</i>	Gr 4-6	30	R30	Monument, Atherstone Room
13h00	▶ 14h00	SANSA <i>Using Satellites to Enrich Life on a Satellite</i>	Gr 8-12	30	R30	Monument, B2 Arena
13h00	▶ 14h00	Natural Science Collections Facility <i>How to Preserve Plants and Animals</i>	Gr 8-12	30	R30	SAIAB
14h00	▶ 15h00	NRF/iThemba Labs <i>I Can See CLEARLY Now</i>	Gr 7-12	30	R30	Albany Museum, Education Classroom
14h00	▶ 15h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
14h00	▶ 15h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
14h30	▶ 15h30	Professor Stephen Ashworth (The Kitchen Chemist) <i>Make Your Own Slime</i>	Gr 3-7	30	R30	Monument, Rehearsal Room
15h00	▶ 16h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
15h00	▶ 16h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
16h00	▶ 17h00	SANSA <i>Concept of Gravity in our Solar System</i>	Gr 5-7	30	R30	Monument, B2 Arena

SATURDAY, 10 SEPTEMBER 2022

09h00 14h00	▶ 10h00 15h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
09h00	▶ 10h00	Amazwi Museum <i>Creative Writing Workshop (Multilingual)</i>	Gr 5-7	30	R30	Amazwi Museum, Activity Room
09h00	▶ 10h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
09h00	▶ 10h00	SANSA <i>Concept of Gravity in our Solar System</i>	Gr 4-7	30	R30	Monument, B2 Arena
09h00	▶ 10h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
10h00	▶ 11h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Make your Own Slime</i>	Gr 3-7	30	R30	Monument, Rehearsal Room
10h00	▶ 11h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I

10h00	11h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Restaurant
10h00	11h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
10h00 14h00	11h00 15h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
11h00 16h00	12h00 17h00	Govan Mbeki Maths Development Centre <i>Maths and Art Hand in Hand</i>	Gr 8-12	20	R30	Monument, Gallery in the Round
11h00	12h00	KwaZulu Natal Museum <i>Gardening - Back to Basics</i>	Gr 4-6	30	R30	Monument, Atherstone Room
12h00	13h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
12h00	13h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehersal Room
12h00	13h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
12h00	13h00	SANSA <i>Using Satellites to Enrich Life on a Satellite</i>	Gr 8-12	30	R30	Monument, B2 Arena
12h00	13h00	NRF/iThemba Labs <i>I Can See CLEARLY Now</i>	Gr 7-12	30	R30	Monument, Visitors Centre II
13h00	14h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
14h00	15h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
14h00	15h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Be a Forensic Scientist</i>	Gr 5-8	45	R30	Monument, Rehersal Room
14h00	15h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
14h00	15h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
14h00	15h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
15h00	16h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery

SUNDAY, 11 SEPTEMBER 2022

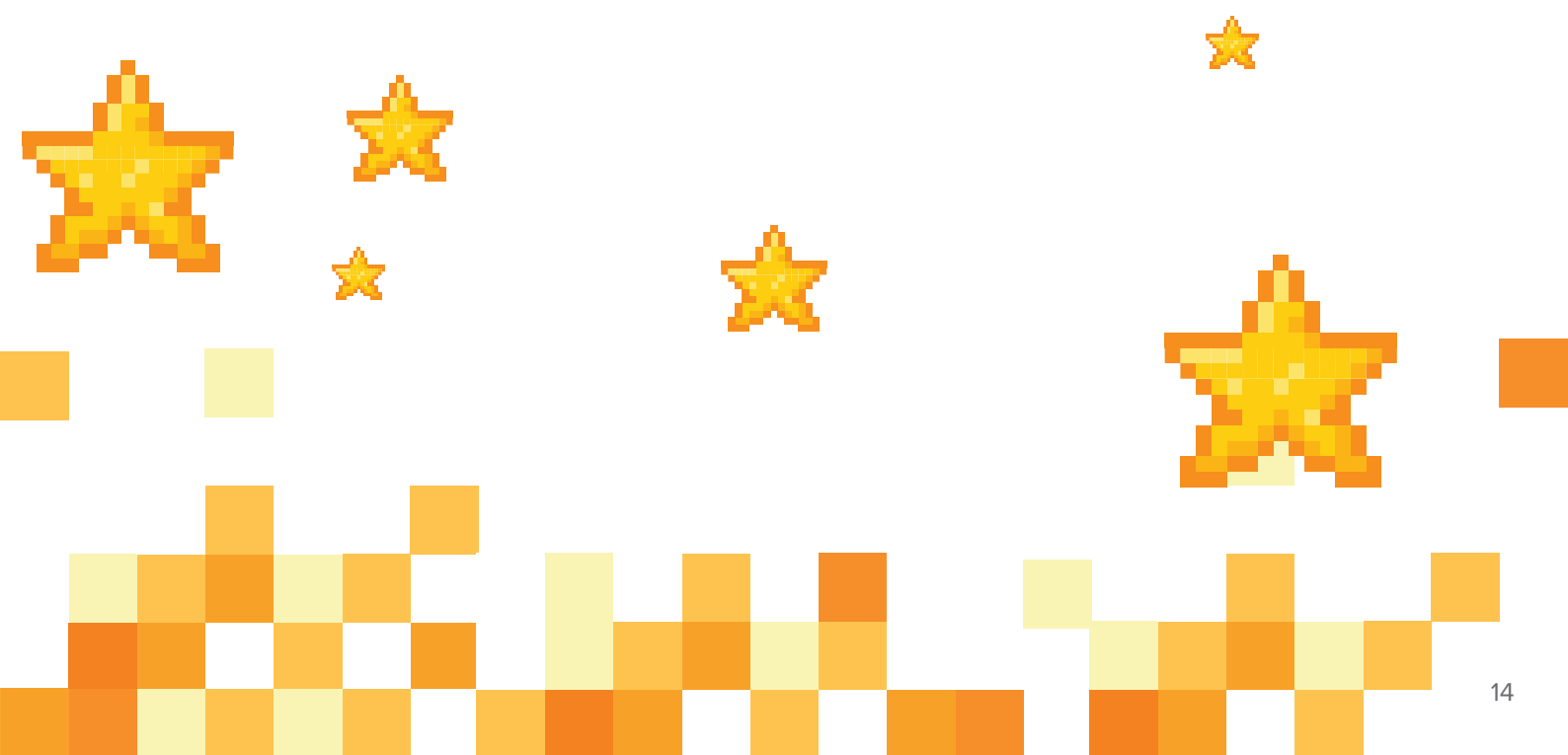
09h00 14h00	10h00 15h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
09h00 14h00	10h00 15h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
09h00 12h00	10h00 13h00	SANSA <i>Concept of Gravity in Our Solar System</i>	Gr 4-7	30	R30	Monument, B2 Arena
09h00	10h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
10h00	11h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehersal Room
10h00	11h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I
10h00	11h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
10h00	11h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
11h00	12h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
11h00	12h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
12h00	13h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
12h00	13h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Make Your Own Slime</i>	Gr 3-7	30	R30	Monument, Rehersal Room

15h30	▶ 16h30	NRF/iThemba Labs <i>I Can See CLEARLY Now</i>	Gr 7-12	30	R30	Monument, Visitors Centre II
14h00	▶ 15h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
13h00	▶ 14h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
13h00	▶ 14h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
13h00	▶ 14h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
13h00	▶ 14h00	KwaZulu Natal Museum <i>Gardening - Back to Basics</i>	Gr 4-6	30	R30	Monument, Atherstone Room
14h00	▶ 15h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
14h00	▶ 15h00	Amazwi Museum <i>Creatively Tackling STEM Illiteracy</i>	Gr 9-11	30	R30	Amazwi Museum, Activity Room
15h00	▶ 16h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I

MONDAY, 12 SEPTEMBER 2022

09h00	▶ 10h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
14h00	▶ 15h00					
09h00	▶ 10h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehearsal Room
09h00	▶ 10h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
09h00	▶ 10h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
10h00	▶ 11h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I
10h00	▶ 11h00	KwaZulu Natal Museum <i>Gardening - Back to Basics</i>	Gr 4-6	30	R30	Monument, Atherstone Room
10h00	▶ 11h00	SANSA <i>Using Satellites to Enrich Life on a Satellite</i>	Gr 8-12	30	R30	Monument, B2 Arena
14h00	▶ 15h00					
11h00	▶ 12h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
13h00	▶ 14h00					
11h00	▶ 12h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery
12h00	▶ 13h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
12h00	▶ 13h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
12h00	▶ 13h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
13h00	▶ 14h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
13h00	▶ 14h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
13h00	▶ 14h00	NRF/SAAO <i>The science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
14h00	▶ 15h00	NMU Computing Sciences <i>Using Offline Resources to Introduce Coding to Learners</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
14h00	▶ 15h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
15h00	▶ 16h00	NRF/iThemba Labs <i>I Can See CLEARLY Now</i>	Gr 7-12	30	R30	Monument, Visitors Centre II
15h00	▶ 16h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
15h00	▶ 16h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant

15h00	▶ 16h00	Innoeco Lab Solutions <i>Laboratory 4.0: The Digital Transformation of South African Laboratories</i>	18+	50	R30	Monument, Council Chamber
TUESDAY, 13 SEPTEMBER 2022						
09h00	▶ 10h00	NMU Computing Sciences <i>Unplugged Coding</i>	Gr 4-9	40	R30	Monument, Gallery in the Round
09h00	▶ 10h00	Nna le Bokamoso <i>Hail Queen Modjadji!</i>	Gr 4-9	50	R30	Monument, Rehearsal Room
09h00	▶ 10h00	Split Second Science Education Foundation <i>SSSEF CanDo 4IR Proudly Backed by SACNASP</i>	Gr 4-12	30	R30	Monument, Atherstone Room
09h00	▶ 10h00	NRF/SAAO <i>The Science of Telescopes</i>	Gr 5-7	30	R30	Monument, Art Gallery
09h00	▶ 10h00	UK National Space Academy <i>Life In Space</i>	Gr 4-9	30	R30	Monument, B2 Arena
10h00	▶ 11h00	Shuter & Shooter Publishers (Pty) Ltd <i>Does it Matter?</i>	Gr 6-10	50	R30	Monument, Visitors Centre I
10h00	▶ 11h00	Dr Fun (Kenneth Monjero) <i>Boom Covid with Science</i>	Gr 5-7	30	R30	Monument, Visitors Centre II
10h00	▶ 11h00	Natural Zoological Gardens <i>The Basics of Evolution</i>	Gr 9-12	30	R30	Monument, New Gallery
11h00	▶ 12h00	SANSA <i>Using Satellites to Enrich Life on a Satellite</i>	Gr 8-12	30	R30	Monument, B2 Arena
12h00	▶ 13h00	NRF/SARAO <i>Geodesy and the SKA</i>	Gr 6-12	15	FREE	Monument, Restaurant
12h00	▶ 13h30	Split Second Science Education Foundation <i>J&J Can Do Robotics Powered by SSSEF</i>	Gr 4-12	30	R30	Monument, Visitors Centre II
12h00	▶ 13h00	KwaZulu Natal Museum <i>Gardening - Back to Basics</i>	Gr 4-6	30	R30	Monument, Atherstone Room
12h00	▶ 13h30	Academy of Science of South Africa (ASSAF) <i>Floods, Drought and Climate Change</i>	Gr 9-11	30	R30	Albany History Museum, Grahamstown Gallery
13h00	▶ 14h00	Basil Mills <i>Nautical Myths and Legends of the Cape of Storms and Pirates</i>	All Ages	30	R30	Amazwi Museum, Activity Room
13h00	▶ 14h00	Herald Life Academy <i>Chemistry & the Periodic Table</i>	Gr 9-11	30	R30	Monument, Visitors Centre I
14h00	▶ 15h00	Cape Town Science Centre <i>Reach Robotics</i>	Gr 4-6	24	R30	Monument, Art Gallery
14h00	▶ 15h00	SciBono Discovery Centre <i>The World of Microorganisms</i>	Gr 7-12	30	R30	Monument, Restaurant
15h00	▶ 16h00	Cape Town Science Centre <i>Fundamentals of Coding</i>	Gr 7-9	24	R30	Monument, Art Gallery



ACADEMY OF SCIENCE OF SOUTH AFRICA (ASSAF)

FLOODS, DROUGHTS AND CLIMATE CHANGE



VENUE:	Monument, Atherstone Room
AUDIENCE:	Grade 9-11
CAPACITY:	30
PRICE:	R30 Per Person

The Sustainable Development Goals set by the United Nations is a bid to end poverty along with creating economic growth and addressing a range of social needs including education, health, social protection, climate change etc. There are 17 goals that have been identified to transform our world. Goal six is clean water and sanitation. A major challenge to achieving this goal is that flood disasters are increasing in occurrence globally due to human and environmental factors. Recently Durban and surrounding regions in KwaZulu-Natal have experienced catastrophic flooding that resulted in the loss of life, property and damage to crucial infrastructure. The irony is that after the torrential rainfall many are now without access to water due to the damage to already ageing infrastructure. In many areas residents had no access to water for several weeks. Restriction to water is becoming the norm and water-shedding has been drafted and implemented in hard hit regions.

AMAZWI MUSEUM

CREATIVELY TACKLING STEM ILLITERACY



VENUE:	Amazwi Museum, Activity Room
AUDIENCE:	All Ages
CAPACITY:	30
PRICE:	R30 Per Person

The workshop uses STEM topics and terminology as a basis for reading aloud. It challenges teachers and learners, particularly those that focus on what is regarded as content subjects, to dedicate just 10 mins at the start of the lesson, reading aloud and tackling terminology. It also challenges everyone to use creative writing (e.g. poetry, storytelling, short stories or drama) as a basis for learning challenging topics and terms.

CREATIVE WRITING WORKSHOP



VENUE:	Amazwi Museum, Activity Room
AUDIENCE:	All Ages
CAPACITY:	30
PRICE:	R30 Per Person

Science and creativity are closely linked. Creative approaches to science can enhance innovation while science can inspire creativity. This workshop will use concepts and themes from science and technology as prompts for creative writing.

Participants can be of any age, so long as they can write a sentence. Writing can be done in any genre or language.



BAYWORLD

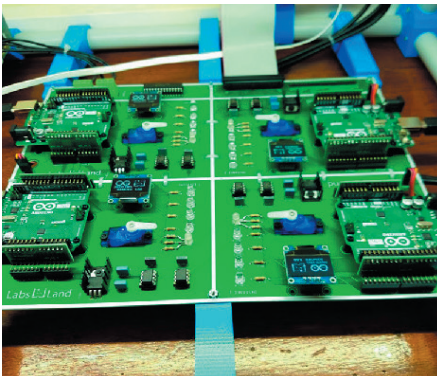
DISSECTION OF A FUR SEAL



VENUE:	Monument, Art Gallery
AUDIENCE:	Grade 5-7
CAPACITY:	30
PRICE:	R30 Per Person

Marine mammals live in an environment that is foreign to humans, one to which they are well adapted. By understanding how those adaptations work we can gain insight into their environment. During this practical demonstration, we will get a chance to examine these adaptations. We will also go through the process of collecting basic data and specimens from the dissected animal, to see what becomes part of a museum collection and why.

FOSST DISCOVERY CENTRE
VIRTUAL LABORATORIES



VENUE:	Monument, Council Chambers
AUDIENCE:	Grade 10-12
CAPACITY:	30
PRICE:	R30 Per Person

Physical distances and lack of resources, especially in historically disadvantaged institutions, disable us from performing experiments and using sophisticated research equipment in a cost-effective way. UFH FOSST DC will be bringing Real Online Virtual Experimental Laboratories (ReVEL) to learners; enabling them to perform an experiment using ultra-concurrent laboratories in collaboration with our international partner LabsLand.

CAPE TOWN SCIENCE CENTRE

REACH ROBOTICS



VENUE:	Monument, Art Gallery
AUDIENCE:	Grade 4-6
CAPACITY:	24
PRICE:	R30 Per Person

Robotics is all around us in our everyday lives. In this hands-on workshop we will demystify the world of robotics and take a closer look at how robots are built and controlled using the novel REACH ROBOTICS.

www.ctsc.org.za

FUNDAMENTAL OF CODING



VENUE:	Monument, Art Gallery
AUDIENCE:	Grade 7-9
CAPACITY:	24
PRICE:	R30 Per Person

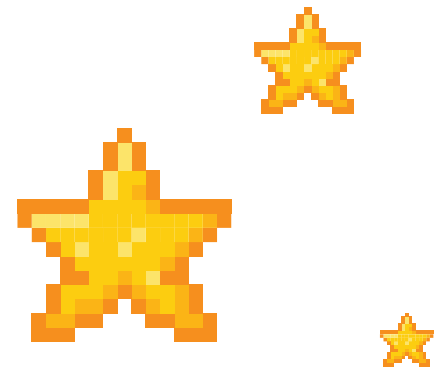
The best thing about coding is that learning one language prepares you to learn another. In this workshop we will be dealing with coding concepts that span across multiple programming languages. Learn the fundamentals of coding that will make you an exceptional programmer. Discover the wonderful world of programming with microsoft small basics.

FOSST DISCOVERY CENTRE
LEGO ROBOTICS



VENUE:	Monument, Council Chambers
AUDIENCE:	Grade 10-12
CAPACITY:	30
PRICE:	R30 Per Person

This workshop is designed to teach learners the basics of building and coding robots using the LEGO Mindstorms system. It gives learners a chance to become the innovators, educators and also researchers for both today and the future. This will create confidence and competence, and close the gap in technical careers. This will offer exposure to mechanical design, electronics and programming, all of which are critical STEM skills.





DEPARTMENT OF SCIENCE & INNOVATION

NRF / Ithemba Labs

I CAN SEE CLEARLY NOW

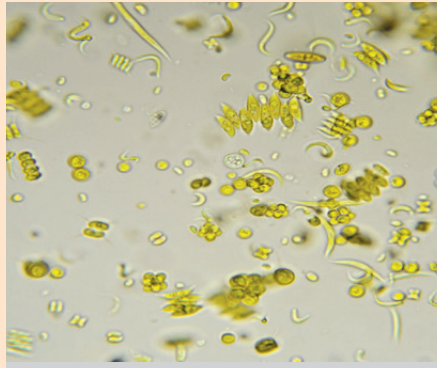


VENUE:	Monument, Visitors Centre II
AUDIENCE:	Grade 7-12
CAPACITY:	30
PRICE:	R30 Per Person

We live in a world made of BIG things. But how do we see small things, and how is our observation affected by the method we use? This workshop explores the differences between CDs and DVDs using optical phenomena (diffraction, trigonometry, measurement).

NRF / SAEON

PHYTOPLANKTON: SECRETS OF THE OCEAN FOOD WEB



VENUE:	Monument, Visitors Centre I
AUDIENCE:	Grade 6-12
CAPACITY:	30
PRICE:	Free

Learners will use their own microscopes to identify and classify microscopic animals and also use light microscopy to zoom into the tiny world of phytoplankton using fresh samples. Activity: "Who eats who?" activity on understanding the ocean food web, and the importance of phytoplankton. Learners will build food webs and to think about the relationships between different organisms in the ocean. This will also show how humans are also part of these relationships.

NRF / SAAO

THE SCIENCE OF TELESCOPES



VENUE:	Monument, Art Gallery
AUDIENCE:	Grade 6-9
CAPACITY:	30
PRICE:	R30 Per Person

Learn more about how the solar system works, and how to build your own telescope!

NRF/SARAO

GEODYSSEY AND THE SKA



VENUE:	Monument, Restaurant
AUDIENCE:	Grade 6-12
CAPACITY:	30
PRICE:	Free

Learn more about Radio Telescopes, Radio Astronomy, and Earth Measurement techniques (Geodessey).

DR FUN (KENNETH MONJERO)

BOOM COVID WITH SCIENCE



VENUE:	Monument, Visitors Centre II
AUDIENCE:	Grade 5-7
CAPACITY:	30
PRICE:	R30 Per Person

This workshop aims to attract and engage learners about the fight against covid on a cloudy gloomy day - using Liquid Nitrogen and balloons! The demo is to teach learners about the importance of vaccination.

GOVAN MBEKI MATHS DEVELOPMENT CENTRE MATHS AND ART HAND IN HAND

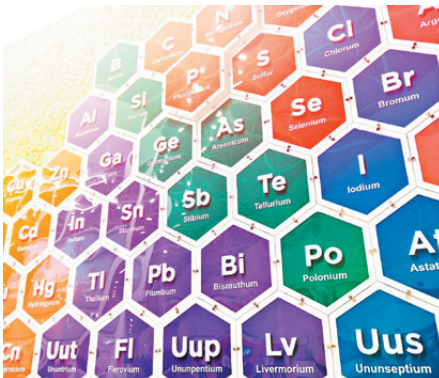


VENUE:	Monument, Gallery in the Round
AUDIENCE:	Grade 8-12
CAPACITY:	30
PRICE:	R30 Per Person

If you are game for some Maths fun and creating something beautiful, then this is the workshop for you. In this hands-on workshop, you will explore the connections between Mathematics and Art. Participants will have the opportunity to plan, draw, create and have fun whilst learning about mathematics as well.

WORKSHOPS

HERALD LIFE ACADEMY CHEMISTRY & THE PERIODIC TABLE



VENUE:	Monument, Visitors Centre I
AUDIENCE:	Grade 9-11
CAPACITY:	30
PRICE:	R30 Per Person

Learn more about atoms and their relationship to the Periodic Table of Elements.

BASIL MILLS

NAUTICAL MYTHS AND LEGENDS OF THE CAPE OF STORMS AND PIRATES



VENUE:	Amazwi Museum, Activity Room
AUDIENCE:	All Ages
CAPACITY:	30
PRICE:	R30 Per Person

Legends have been told by Basil the Buccaneer Captain - The Terror of the Eastern Cape Seas, and Chief Mischief-Maker of Scifest. So AAARH! me Hearties - Join the swashbuckling Pirate Captain and explore science through a Maritime adventure. Partake in activities related to pirates, shipwrecks and cannons. Discover the treasure chest of new discoveries through storytelling. This outrageous adventure is suitable for all ages. So be press ganged by your teacher or friends, and hoist the Jolly Roger flag of fun at the Flagship Amazwi Museum every afternoon.

INNOECO LAB SOLUTIONS LABORATORY 4.0 : THE DIGITAL TRANSFORMATION OF SOUTH AFRICAN LABORATORIES



www.innoeco.solutions

VENUE:	Monument, Council Chamber
AUDIENCE:	18+
CAPACITY:	30
PRICE:	R30 Per Person

With the dramatic improvement of computational power in the 21st century, the pharmaceutical industry is entering a renaissance of innovation that offers new opportunities for future scientists. Innoeco Lab Solutions will take you on a journey to the future of laboratories 4.0 and smart manufacturing of pharmaceuticals. The first of its kind in South Africa, Innoeco Lab Solutions will give you a sneak peak at our launch product Irene. A powerful laboratory information management system created by scientists for scientists. Our talk is perfect for science students and laboratory managers who aim to keep up to date and in the forefront of technology.

NNA LE BOKAMOSO HAIL QUEEN MODJADJI!



VENUE:	Monument, Rehearsal Room
AUDIENCE:	Grade 4-9
CAPACITY:	50
PRICE:	R30 Per Person

Can we speak to the clouds and make it rain? Queen Modjadji is the Balobeduqueen who is known to call rain. Come enjoy this exciting workshop where we will be dancing through (watery matters) using ideas of African and Morden Sciences.

KWAZULU NATAL MUSEUM GARDENING - BEING CLIMATE SMART



VENUE:	Monument, Atherstone Room
AUDIENCE:	Grade 4-6
CAPACITY:	30
PRICE:	R30 Per Person

Gardening not only provides food but reduces carbon dioxide and supplies all living organisms with oxygen which is required for survival. Gardens attract a host of biodiversity whilst reducing our carbon footprint creating a win-win with sustainable living. Gardens have a positive impact on the environment and play an important role in reducing the harsh impacts of global warming. Join this workshop to learn how to use your garden to help the environment. Become a Green Thumb and plant your own "miracle plant", and take up the challenge to fight Climate Change.

NATURAL SCIENCE COLLECTIONS FACILITY (NSCF) HOW TO PRESERVE PLANTS AND ANIMALS



VENUE:	Various
AUDIENCE:	Grade 10-12
CAPACITY:	20
PRICE:	R30 Per Person

As soon as an organism dies, the rotting process begins, breaking down its structure into simpler organic and inorganic matter. For these organisms to be viable for research, we need to prevent or delay the decomposition process by preserving these specimens. In this workshop, we will teach you how to preserve plants and animals.

NMU COMPUTING
SCIENCE

UNPLUGGED CODING



VENUE:	Monument, Gallery in the Round
AUDIENCE:	Grade 4-9
CAPACITY:	40
PRICE:	R30 Per Person

In the workshop learners will be introduced to the coding apps TANKS and RANGERS, which will be used to teach them introductory coding concepts in a fun way.

NATURAL ZOOLOGICAL
GARDENS

THE BASICS OF
EVOLUTION



VENUE:	Monument, New Gallery
AUDIENCE:	Grade 9-12
CAPACITY:	30
PRICE:	R30 Per Person

This workshop seeks to address the gaps in understanding the basic science of evolution. Learners will be engaged in activities such as paleontological excavation and evolutionary timeline.

SANSA

USING SATELLITES TO
ENRICH LIFE ON EARTH

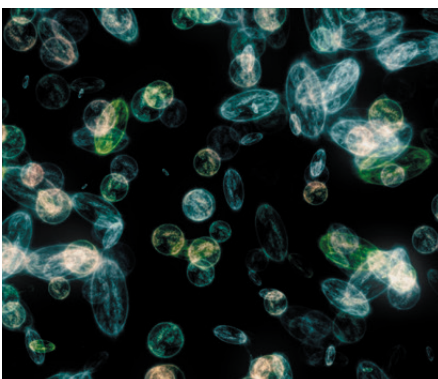


VENUE:	Monument, B2 Arena
AUDIENCE:	Grade 9-12
CAPACITY:	30
PRICE:	R30 Per Person

This workshop will discuss the difference between Natural and Man-made satellites and how man-made satellites are used globally for communication purposes and Navigation (the three satellite orbits). We call satellites our "eyes in the sky" and so visitors to the workshop will learn about how SANSA uses these satellites to enrich South Africa through monitoring all activities and our natural resources. They will learn about how we use satellites for Remote Sensing - the scanning of the earth by satellite or high-flying aircraft in order to obtain information from it.

SCI-BONO DISCOVERY
CENTRE

THE WORLD OF
MICROORGANISMS



VENUE:	Monument, Restaurant
AUDIENCE:	Grade 6-12
CAPACITY:	30
PRICE:	R30 Per Person

Microorganisms are all around us, they are also found inside our bodies. We can't see them with our naked eyes. Some are good and some are bad. Some have shaped our lives for the better with applications in our daily lives, yet some torment us causing us to get sick. Micro-organisms fall within the following categories, viruses, bacteria, protista and Fungi. Let us learn about the different kingdoms and the different ways they have affected our livelihoods.

SHUTER & SHOOTER
PUBLISHERS (PTY) LTD

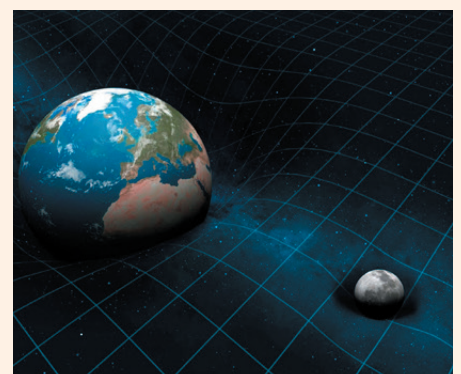
DOES IT MATTER?



VENUE:	Monument, Visitors Centre I
AUDIENCE:	Grade 6-10
CAPACITY:	30
PRICE:	R30 Per Person

Water is a basic human need. Water consists of hydrogen and oxygen. In the right combination, hydrogen and oxygen can explode. So why do you not explode when you drink water? Everything around us is made up of elements. But what is an element? Can you swallow a bit of iron metal instead of taking an iron supplement? Come and find answers to these and other questions. Build models to understand the structure of matter better. Every workshop end with a quiz and there will be a prize for the winner!

THE CONCEPT OF
GRAVITY IN OUR
SOLAR SYSTEM



VENUE:	Monument, B2 Arena
AUDIENCE:	Grade 4-7
CAPACITY:	30
PRICE:	R30 Per Person

Learning about what lies beyond earth gives us context for understanding our own planet and has brought us insights into phenomena such as gravity. The workshop will be based on how gravity maintains the shape of our solar system and how it keeps planets in orbit without them flying off into space

SPLIT SECOND SCIENCE EDUCATION FOUNDATION

CANDO 4IR



VENUE:	Monument, Atherstone Room
AUDIENCE:	Grade 4-12
CAPACITY:	50
PRICE:	R30 Per Person

The programme will focus on creating awareness and understanding of the following topics:

- The links between innovation and sustainable economic development;
- The integration of Indigenous Knowledge Systems (IKS) in modern science;
- Basic science as a global public vehicle to attaining the UN Sustainable Development Goals.

SSSEF proudly backed by SACNASP

J&J CANDO ROBOTICS



VENUE:	Monument, Visitors Centre II
AUDIENCE:	Grade 4-12
CAPACITY:	50
PRICE:	R30 Per Person

The Johnson & Johnson Can Do Robotics powered by SSSEF uses a blended approach of online learning, hands-on demonstrations and practical engagements. This is a hands-on workshop that will provide the basic skills needed to use the CanDo Cube (a state-of-the-art robotics platform) and challenge the learners with a real-world problem by asking them to create a possible solution that would work. The focus would not be on the viability of the solution but rather on the creative process followed.

THE KITCHEN CHEMIST

MAKE YOUR OWN SLIME



VENUE:	Monument, Rehearsal Room
AUDIENCE:	Age 3-7
CAPACITY:	30
PRICE:	R30 Per Person

Plastics and polymers have properties that are very important. You will be able to make and test polymer material using inexpensive materials which are available from a supermarkets, pharmacies, and hardware stores throughout the country (and probably your mother's grocery cupboard – but we will deny saying that), and cheap and easily accessible equipment, to make and test your very own yucky slime.

UK NATIONAL SPACE ACADEMY
LIFE IN SPACE



VENUE:	Monument, B2 Arena
AUDIENCE:	Grade 4-9
CAPACITY:	30
PRICE:	R30 Per Person

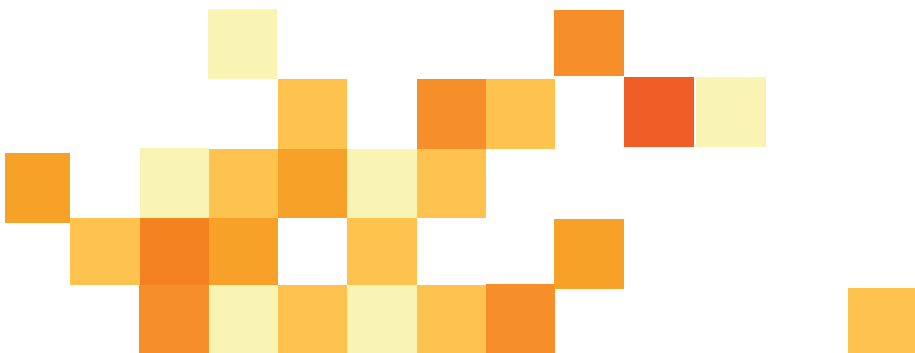
This is an exciting, informative workshop whereby students can find out what it is like to be an Astronaut living and working on the International Space Station. We explain the dangers of carrying out an EVA (spacewalk) and why the different layers of the Spacesuit are necessary to protect the Astronaut. explore topics like why losing pressure in a space suit could be life-threatening and see the devastating effects of increasing kinetic energy.

BE A FORENSIC SCIENTIST



VENUE:	Monument, Rehearsal Room
AUDIENCE:	Age 5-8
CAPACITY:	30
PRICE:	R30 Per Person

Find out whether the lab our agents have discovered is making fake tablets. Your task is to work out whether the white powder we recovered is the real thing or not. Come and see what being a forensic scientist is like.



ETCETERA

All interactive events that refuse to be classified as lectures, workshops or exhibitions are included in the Etcetera section of the official programme. Be rendered speechless by the Laser Show, build a soap box car for the big derby, hunt for treasure on a pirate ship, and witness things that go bubble, boom, bang and occasionally catch fire.

Start	End	Organisation Title	Audience	Capacity	Price	Venue
WEDNESDAY, 7 SEPTEMBER 2022						
08h30 14h00	09h00 14h30	Laser X <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00	10h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall
09h00 10h00 11h00 12h00	09h30 10h30 11h30 12h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
10h00	11h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Kitchen Chemistry</i>	All	930	R30	Monument, Guy Butler Theatre
11h00	12h00	Dr Gletwyn Rubidge <i>Environmental Chemistry</i>	All	213	R30	Monument, Olive Schreiner Hall
12h00	13h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Unizulu <i>Spinning in Space</i>	All	213	R30	Monument, Olive Schreiner Hall
15h00	15h45	Amazwi Museum <i>Indigenous Garden Tour</i>	All	20	FREE	Amazwi Museum, Information Desk
15h30	16h30	Dr Graham Walker <i>Blow Up Science</i>	All	120	R30	Amazwi Museum, Auditorium
THURSDAY, 8 SEPTEMBER 2022						
08h30 16h00	09h00 16h30	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00	10h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
09h00 10h00 11h00 12h00	09h30 10h30 11h30 12h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
10h00	11h00	Dr Graham Walker <i>Blow Up Science</i>	All	930	R30	Monument, Guy Butler Theatre
12h00	13h00	Heather Massie <i>"HEDY! The Life & Inventions of Hedy Lamarr"</i>	All	930	R30	Monument, Guy Butler Theatre
14h00	15h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Kitchen Chemistry</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Unizulu <i>Spinning in Space</i>	All	120	R30	Monument, Olive Schreiner Hall
15h00	15h45	Amazwi Museum <i>Indigenous Garden Tour</i>	All	20	FREE	Amazwi Museum, Information Desk
FRIDAY, 9 SEPTEMBER						
12h00	12h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
13h00	13h30	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
14h30	15h30	Heather Massie <i>"HEDY! The Life & Inventions of Hedy Lamarr"</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Unizulu <i>Spinning in Space</i>	All	120	R30	Amazwi Museum, Auditorium
15h00	15h45	Amazwi Museum <i>Indigenous Garden Tour</i>	All	20	FREE	Amazwi Museum, Information Desk
16h30	17h30	Dr Graham Walker <i>Blow Up Science</i>	All	930	R30	Monument, Guy Butler Theatre

SATURDAY, 10 SEPTEMBER 2022

08h30 14h00	09h00 14h30	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00	10h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
10h00 11h00 14h00 15h00	10h30 11h30 14h30 15h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
10h00	11h00	Dr Graham Walker <i>Blow Up Science</i>	All	120	R30	Amazwi Museum, Auditorium
10h00	11h00	Heather Massie <i>"HEDY! The Life & Inventions of Hedy Lamarr"</i>	All	930	R30	Monument, Guy Butler Theatre
11h00	12h00	Unizulu <i>Spinning in Space</i>	All	213	R30	Monument, Olive Schreiner Hall
12h00	13h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Kitchen Chemistry</i>	All	120	R30	Monument, Guy Butler Theatre
16h00	17h00	Dr Graham Walker <i>Blow Up Science</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall

SUNDAY, 11 SEPTEMBER 2022

08h30 16h00	09h00 16h30	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00	10h00	Unizulu <i>Spinning in Space</i>	All	213	R30	Monument, Olive Schreiner Hall
10h00 11h00 14h00 15h00	10h30 11h30 14h30 15h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
11h00	12h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall
11h00	13h00	Soap Box Derby	All	120	R30	Monument (Outside)
10h00	11h00	Professor Stephen Ashworth (The Kitchen Chemist) <i>Kitchen Chemistry</i>	All	930	R30	Monument, Guy Butler Theatre
14h00	15h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
15h00	16h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall

MONDAY, 12 SEPTEMBER 2022

08h30 15h30	09h00 16h00	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00 10h00 11h00 12h00	09h30 10h30 11h30 12h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
12h00	13h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
13h00	14h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall
14h00	15h00	Unizulu <i>Spinning in Space</i>	All	120	R30	Amazwi Museum, Auditorium
15h00	15h45	Amazwi Museum <i>Indigenous Garden Tour</i>	All	20	FREE	Monument, Amazwi Museum

TUESDAY, 13 SEPTEMBER

08h30 14h30	09h00 15h00	LaserX <i>Laser Show</i>	All	930	R30	Monument, Guy Butler Theatre
09h00	10h00	Unizulu <i>Spinning in Space</i>	All	213	R30	Monument, Olive Schreiner Hall
09h00 10h00 11h00 12h00	09h30 10h30 11h30 12h30	Basil Mills <i>Pirates of the Kowibean</i>	All	30	R30	Monument, Fort Selwyn
10h00	11h00	Sci-Bono Discovery Centre <i>Science is in the Air</i>	All	930	R30	Monument, Guy Butler Theatre
13h00	14h00	Living Maths <i>Mathematical Mayhem</i>	All	213	R30	Monument, Olive Schreiner Hall
15h00	15h45	Amazwi Museum <i>Indigenous Garden Tour</i>	All	20	FREE	Monument, Amazwi Museum

KITCHEN CHEMISTRY



VENUE:	Monument, Guy Butler Theatre
AUDIENCE:	All Ages
CAPACITY:	930
PRICE:	R30 per person

The Kitchen Chemist returns to Scifest Africa! Professor Stephen Ashworth's original show is an entertaining window into the chemistry that goes on all around us. Using readily available materials and simple equipment, take a look at chemistry that you can do at home.

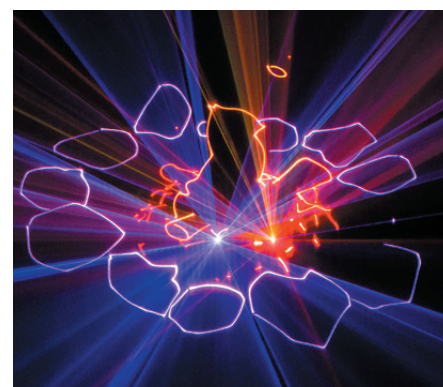
DR GRAHAM'S BLOW-UP SCIENCE



VENUE:	Monument, Guy Butler Theatre
AUDIENCE:	All Ages
CAPACITY:	930
PRICE:	R30 per person

Can you really launch marshmallows out of a vacuum cleaner, make rockets from common household items, or launch teddy bears using liquid nitrogen? Prepare yourself for some seriously mind-bending science, as Dr Graham explodes his way through the chemistry and physics of things that go bubble, boom, bang and occasionally catch on fire. With loads of audience involvement, laughs, exciting experiments, brain-rattling explosions, and learning, this action-packed show is a celebration of the fun in science!

LASER SHOW



VENUE:	Monument, Guy Butler Theatre
AUDIENCE:	All Ages
CAPACITY:	930
PRICE:	R30 per person

Let LaserX take your breath away as they recreate the best of the laser show using a dramatic combination of lasers, ice fog and live performers.

www.laserx.co.za

Please note: Ticket sales for this event close 30 minutes prior to each show. Audiences should be seated 5 minutes before the start of the performance, respectively for the morning and afternoon show. No latecomers will be allowed entry into the venue.

SCIENCE IS IN THE AIR



VENUE:	Monument, Olive Schreiner Hall
AUDIENCE:	All Ages
CAPACITY:	213
PRICE:	R30 per person

How well do you know the air you breathe? What is your understanding of the different gases in the we breathe in and out? How does understanding our atmosphere help us in the scientific community and how is it helpful to you? Join us as we have a look at how basic science has helped us understand our atmosphere and how the different gases interact with each other.

SPINNING IN SPACE



VENUE:	Various
AUDIENCE:	All Ages
CAPACITY:	Venue Dependent
PRICE:	R30 per person

Unizulu Science Centre presents a head-spinning science show – from planets, and the moon, to pulsars: nature's super spinners! A feast of fascinating facts and dynamic demonstrations delivered by Nsikelelo A. Malinga who will effortlessly blend space science and Indigenous Knowledge Systems at Scifest Africa this year.

A THEATRICAL CELEBRATION OF WOMEN IN SCIENCE!



VENUE:	Monument, Guy Butler Theatre
AUDIENCE:	PG13
CAPACITY:	930
PRICE:	R30 per person

A True Story of Hollywood Glamour & Scientific Genius - followed by Q&A with the artist. Fulbright Specialist & New York City Actor Heather Massie presents her award-winning show: Heather Massie in "Hedy! The Life & Inventions of Hedy Lamarr"

"Hedy Lamarr, glamorous siren of the silver screen, was more than just 'the most beautiful woman in the world'. She invented the Frequency-Hopping Spread Spectrum Technology that makes the world of wireless communication tick. From Austria to Hollywood, WWII, torpedoes, ingenuity, and intrigue, to the very cell phone in your pocket, Hedy Lamarr is there! Communicating science through theatre, the show celebrates the unexpected scientific genius of Hollywood screen siren and inventor Hedy Lamarr. Known for being glamorous, Lamarr defied expectations by inventing technology for torpedoes during WWII. Known as Frequency-Hopping Spread Spectrum Technology her invention is used in today's cell phones, WiFi, GPS, and Bluetooth. Massie enchants the audience as Hedy Lamarr, along with Jimmy Stewart, Bette Davis, Louis B Mayer, and more! Hedy is summoned to unearth the truth behind how a glamorous actress could create an invention which launched today's wireless technology revolution!

"Captivating" – Huffington Post

PIRATES OF THE KOWIEBEAN



VENUE:	Monument, Fort Selwyn
AUDIENCE:	All Ages
CAPACITY:	30
PRICE:	R30 per person

"Ahoy here" me Mateys! Buccaneer Captain Basil needs a crew of land-lubbers to become pirates on his scale replica sailing ship – The Sea Wolf – which was one of Sir Frances Drake's galleon raiders. It was wrecked in the mouth of the Kowie River while loading bartered Khoi cattle. Enter through the cave of Skull Rock to have some swashbuckling fun, from learning the ropes by using the climbing barnacles and clambering over the shipwreck obstacle course. Come and learn about Pirates and the Scallywags that sailed off the Eastern Cape coast.

AMAZWI MUSEUM INDIGENOUS GARDEN TRAIL



VENUE:	Amazwi Museum
AUDIENCE:	All Ages
CAPACITY:	20
PRICE:	FREE

The Amazwi Museum's Indigenous Garden Trail was designed to educate the public on the importance of environmental education, and to show the close link between the environment, art, storytelling and literature. One of Amazwi's most arresting architectural feature is its large indigenous roof-top garden. Visitors can also view the Literary heritage of South Africa here with permanent tempering and traveling exhibitions.

LIVING MATHS



VENUE:	Monument, Olive Schreiner Hall
AUDIENCE:	All Ages
CAPACITY:	213
PRICE:	R30 per person

Steve is the Chief Imagination Officer of the STEAM based NGO, Living Maths. He feels that it is his destiny to spread the joy of mathematics, science, engineering, edtech, numbers, problem solving and creative thinking to anyone who is willing to listen and even to those who are not. He is a 2020 recipient of the Global Teacher Award, 2 x Tedx speaker, A Mote Certified Educator, Kahoot Ambassador and verified educator, Microsoft Innovative Educator Expert, Executive Member of the Global Education Network, Space Foundation's International Teacher Liaison, the outreach officer for the annual Humans to Mars Summit, Coordinator of one of the world's largest maths Olympiads, chief organiser of the annual Living Maths Space Tour and one of only 2 Skype Master Teachers in South Africa. He knows Karate, Ju-jitsu and 2 other Japanese words and he has a black belt in buffet.

ENVIRONMENTAL CHEMISTRY



VENUE:	Monument, Olive Schreiner Hall
AUDIENCE:	All Ages
CAPACITY:	213
PRICE:	R30 per person

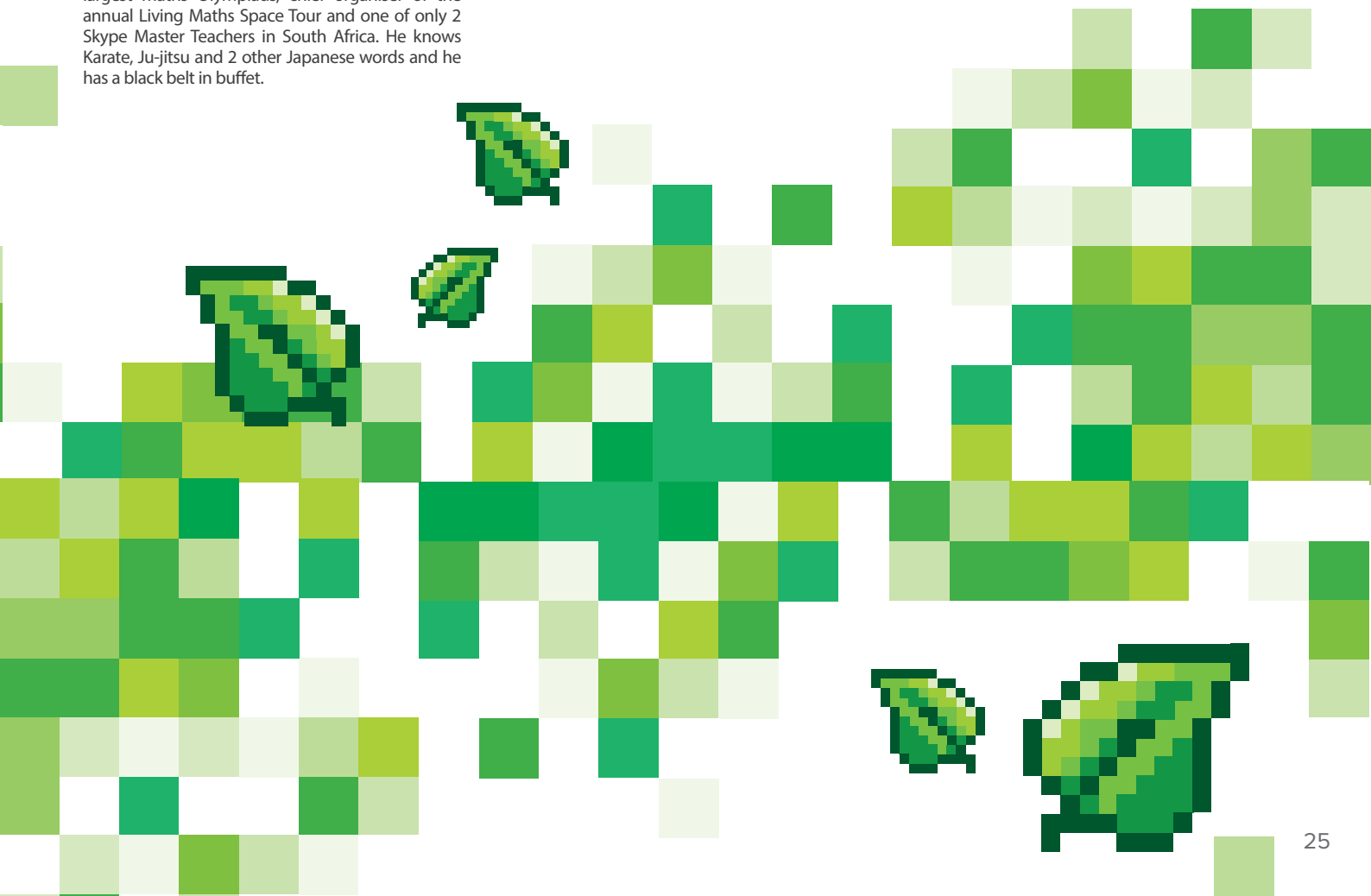
Join a "show and tell" all about environmental chemistry! Through a variety of educational and entertaining experiments, learn more about how humans depend on chemistry, and the role chemistry plays in securing a sustainable future. Clean combustion, analysis methods including electric arcs, flame, and simple colour-based testing will be demonstrated as Dr. Ging walks you through environmental zones and the interchange between them. The demonstrations are relevant, interactive and some are rather scary!

SOAP BOX DERBY



VENUE:	1820 Settlers National Monument
AUDIENCE:	All Ages
CAPACITY:	120
PRICE:	R30 per person

Teams of four will be required to design, build and race a soap box car with a difference in this thrilling full-day workshop.



EXHIBITIONS

Scifest Africa is proud to host interactive exhibitions by institutions all working in the field of science, technology, engineering, mathematics and innovation. Is there a career here for you? All exhibitions are hosted in the 1820 Settlers National Monument unless otherwise specified.

Entrance to all exhibitions is free.

ALBANY MUSEUM

The Albany Museum, established in 1855, is the second oldest museum in South Africa. It consists of the History Museum, Science Museum, Drostdy Arch, Fort Selwyn, the Observatory Museum and the Provost. It is also home to the Makana Biodiversity Centre and houses many valuable research collections, attractive and informative displays, and has an active education Department.



**ALBANY HISTORY MUSEUM
(SOMERSET STREET)**

Permanent exhibitions at the Albany History Museum include a display of contact and conflict on the eastern frontier in the 18th and 19th centuries, the popular 1820 Settlers Gallery, and an exhibition on the history of clay.



**ALBANY SCIENCE MUSEUM
(SOMERSET STREET)**

As part of its 150th birthday celebrations in 2005, the Albany Science Museum opened a Palaeontology Gallery, which provides visitors with a unique glimpse into how the environment and life forms in South Africa have evolved over the last 400 million years. Visit Kirky, the first African dinosaur with an isiXhosa name, and marvel at the size of the stegosaur found in the Bushman's River Valley. The Museum also has comprehensive permanent exhibitions on the Solar System, a bird gallery, a mammal gallery, a "touch and hear" children's gallery, and the old-world Hewitt Gallery.



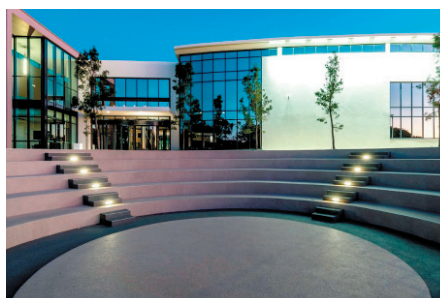
**DROSTDY ARCH
(SOMERSET STREET)**

The Drostdy Arch was built in 1842 as the gateway and guardhouse for the Drostdy and military barracks which were located where Rhodes University is situated today. The Drostdy Arch contains a coffee shop and craft shops.



**FORT SELWYN
(MONUMENT GROUNDS)**

The seven-pointed star fort was built on Gunfire Hill in 1836 but was never involved in any military action. The semaphore mast was intended as a signalling system, connecting the town with Fort Beaufort and Fort Peddie. Visitors by appointment only. Contact the Albany Museum on 046 622 2312.



**AMAZWI SOUTH AFRICAN
MUSEUM OF LITERATURE**

The National English Literary Museum was officially renamed Amazwi South African Museum of Literature by the Minister of Arts and Culture. The museum has the mandate to collect literary artefacts relating to the literatures of all South African languages.



**THE PROVOST
(LUCAS AVENUE)**

This unusual building served as an early prison, and was based on the panopticon system, which means that prisoners could be watched continuously from the windows of the central tower. The Provost contains a coffee shop.



AMATHOLE MUSEUM

Tracing the Afrotherian Group Back to Its Basics

Afrotherians are mammals that originated in Africa. Come and learn more about these incredible animals and view animal representatives from this vast group.

www.museum.za.net



ANKOLE BRAND COMMUNICATIONS

SANRAL Exhibition

In line with Government's commitment to transform the public sector, The South African National Roads Agency SOC Ltd (SANRAL) was established in April 1998 by an Act of Parliament, as an independent statutory company operating along commercial lines and at arm's length from Government. With a mandate to finance, develop and maintain the national road network of over 22 000 km, SANRAL is at the forefront of infrastructure development in a post-Covid South Africa

www.nationalgovernment.co.za



BIO SAFETY SOUTH AFRICA

Sustainable Biotech Innovation

Biosafety South Africa (SA), a service platform of the Technology Innovation Agency (TIA), operates within the national biotech innovation system, under the auspices of Department of Science & Innovation (DSI). Biosafety promotes and enables sustainable biotech innovation in the public interest. This means that biotech products must be safe for human and animal health, safe for the environment and socio-economically viable. Biosafety's aim is to reduce the technical and cost barriers to bio-innovation, whilst ensuring sustainable biotech innovation. Visit this exhibition to learn more!

www.biosafety.org.za



agriculture, land reform & rural development

Department: Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

Department of Agriculture, Land Reform and Rural Development.

Get information on the Agriculture, Land Reform and Rural Development bursary scheme, as well as the skills required to enter the agriculture sector.

www.dalrrd.gov.za



DIVISION OF MOLECULAR BIOLOGY AND HUMAN GENETICS, FACULTY OF MEDICINE AND HEALTH SCIENCES, STELLENBOSCH UNIVERSITY

The Wonders of Clinical Research

The Division of Molecular Biology and Human Genetics is a state-of-the-art research unit at Stellenbosch University. Our laboratories conduct clinical research to find solutions to health challenges facing Africa. Our researchers use basic science to bridge the gap between clinical research and its application in the real world. By doing so, our scientists aid in the development of new and improved ways of dealing with health issues through the development of new diagnostic tests and preventative strategies such as vaccines, as well as new medicines to cure diseases and ensure people go on to live a happy and healthy life.

www.sun.ac.za/faculty/healthsciences/Molecular_Biology_Human_Genetics



EAST LONDON AQUARIUM

The Secret Science of Water

Discover the unseen science of water! Fresh water and sea water contribute to the various life forms that live within it. Learn more about the scientific properties of water, the aspects of healthy water, and how we affect the quality of natural water and our oceans as human beings. Further information on display will be the water cycle; the life cycle of plastics and pollution; and best practices and recycling information.

EXHIBITIONS



FOSST DISCOVERY CENTRE

FOSST Discovery Centre

FOSST Discovery Centre brings exciting and cutting-edge interactive exhibits that are curriculum based. FOSST DC will showcase real labs available online (online experimentation), as well as multimodal teaching and learning software which demonstrate 2D and 3D images and visuals. These interactive exhibits will assist and enhance the understanding, skills and knowledge of the learners, challenging them to manipulate, visualise, and apply the cognitive skills to integrate the knowledge that they already possess. The Centre will also bring Lego Robotics to familiarise learners with engineering and programming.

www.ufh.ac.za/centres/fosst

GMMDC

Govan Mbeki Mathematics
Development Centre
empowering young minds

GOVAN MBEKI MATHS DEVELOPMENT CENTRE

Mathematics and the Physical Sciences - The Basic Sciences: Gateways to a Bright Future

The Govan Mbeki Mathematics Development Centre will exhibit its range of techno-blended applications which include a full range of curriculum aligned learning resources for maths and science including videos, tests, experiments and applets. Hands-on features include science and maths quizzes on mobiles, GeoGebra applets for learners to explore, puzzles to solve and structures to build. The exhibit includes STEAM materials and activities, an integrated approach to integrating creativity across disciplines.

www.mbeki-maths-dev.mandela.ac.za



IZIKO

Iziko Mobile Museum

Iziko Mobile Museum is an Iziko Museums of South Africa's outreach project designed to take educational museum resources to schools and communities. A customised vehicle with interactive modules that complements the Natural and Social Sciences learning areas of the National Curriculum Statement for grade 4-9. Visit the Iziko Mobile Museum and learn more about our country's social and natural heritage.

www.iziko.org.za



MINTEK

Minerals Value Chain

Exhibition of the minerals value chain support by Mintek. The minerals value chain is the stages that a minerals project will go through to produce the final mineral product. The exhibition will focus on the basics of the processes that minerals go through to realise their value. These basic processes will include Mineral processing, Extractive Metallurgy and Applied Metallurgy. We will show case the value-add of the various specialties of Mintek such as Analytical, Mineralogy, Comminution and Extractive metallurgy. It will further illustrate the use and application of some of these mineral products.

www.mintek.co.za



NATURAL SCIENCE COLLECTIONS FACILITY (NSCF) (SANBI)

How Dead Plants and Animals are Saving our Planet

When you visit this stall, the first thing you will notice will be the wondrous sight of beautiful plant and animal specimens that are dried, stuffed, stoned, pickled, pinned and pressed. These are preserved for research and we will share with you how they are saving our living planet.

www.nscf.org.za



ITHEMBA LABS

iThemba, the South African Laboratories for Accelerator Based Sciences is a multidisciplinary research facility that is based on the development, operation and use of particle accelerators and related research equipment. Our vision is for South Africa to lead in science, discovery, and innovation, improving lives and building a better world.

www.tlabs.ac.za



DEPARTMENT OF SCIENCE & INNOVATION



NRF SARAO
National Research Foundation | South African Radio Astronomy Observatory

NRFISARAO

The SKA and NRF

The exhibition will be an opportunity to encourage learners who are keen and have the abilities in the STEMI fields of learning to discover and research potential careers within the NRF|SARAO's HCD programme.

At the exhibition you'll find:

- Virtual Reality Headsets , set up with tours of the Galactic Centre and Deep Space as provided by NASA
- A slide show of NRF|SARAO imagery (MeerKAT equipment and images, etc.)
- Hands-on astronomy projects

www.sarao.ac.za



NRF SAEON
National Research Foundation | South African Environmental Observation Network

NRFISAEON

Marine Science Exhibition

This exhibition explores the relationship between marine plants and animals which links to food chains, food webs and adaptations. The audience's sense of curiosity and wonder will intensify when they are introduced to the Magic Planet that exhibits the roles of oceans in a changing climate. An exhilarating demonstration using a wave tank demonstrates the benefits of mangrove forests as a coastal defense system. Sea surface temperatures are warming causing changes in the distribution of zooplankton and how this affects the food for pelagic fish species will be discussed. An interactive e-Learning game showcasing the influence of different physical parameters on plankton. The marine re-photo exhibition showcases how the benthic marine environment has changed over time. Finally, the audience would zoom into the microscopic world when they view zooplankton.

www.saeon.ac.za



NRF SAIAB
National Research Foundation | South African Institute for Aquatic Biodiversity

NRF/SAIAB

South African Institute for Aquatic Biodiversity (NRF-SAIAB)

NRF-SAIAB will provide an amazing opportunity, not only for learners to learn about water and the kinds of research happening in and around water, but also to find out about the variety of careers in this field.

You can look forward to learning about:

- Fish tracking
- Aliens in our water
- Life on the sea floor
- DNA extraction and storage
- Specialist gears for sampling fishes in freshwater environments such as backpack and boat-based electrofishers
- Remote underwater video systems and the Remotely Operated Vehicle. You can also expect to meet: an eel, a pufferfish, an electric ray, a baby shark – AND LOTS MORE!

www.saiab.ac.za



NRF SAAO
National Research Foundation | South African Astronomical Observatory

NRF/SAAO

Celestial Objects and the Sutherland Telescope

View a photobooth exhibition focused on selected celestial objects and the Sutherland Telescope. There will also be Astronomy quizzes for learners, and career brochures.

www.saa0.ac.za



NRF SAASTA
National Research Foundation | South African Agency for Science and Technology Advancement

NRF/SAASTA

Planetarium - Cosmic Collision

The playground for inquiring minds. The NRF SAASTA interactive science exhibition includes a wide range of interactive exhibits covering a range of subjects in science, engineering and technology. Here your mind will be challenged by the interactive units while learning important concepts in maths, physics, life science exhibits and technology.

www.saasta.ac.za



NRF NZG
National Research Foundation | National Zoological Gardens of South Africa

NATIONAL ZOOLOGICAL GARDEN

The Basic Science of Biodiversity and Biomimicry

The National Zoological Garden (a unit of South African National Biodiversity Institute) is the largest Zoo in the country. The zoo has the largest inland marine aquarium in the country, the third largest collection of exotic trees in the country and it also has a reptile park. Visit us to learn more about the zoo, and the research and scientific services provided. This year the exhibition will outline the Basic Science of Biodiversity and Biomimicry.

www.pretoriazoo.org

EXHIBITIONS



PETROLEUM AGENCY SA

Petroleum Agency SA in Partnership with the Upstream Training Trust

Petroleum Agency SA (PASA) promotes exploration for onshore and offshore oil and gas resources and their optimal development on behalf of government. The goal of PASA's corporate social responsibility in alignment with the Upstream Training Trust (UTT) is to improve the quality of life of historically disadvantaged South Africans through skills development and educational programmes with an emphasis on youth.

www.petroleumagencyrsa.com



RHODES UNIVERSITY

Where leaders learn

DEPARTMENT OF ICHTHYOLOGY AND FISHERIES SCIENCE, RHODES UNIVERSITY

Department of Ichthyology and Fisheries Science

Did you know that fish have earbones that scientists use to tell their age and what kind of species they are? Join us at our exhibit, where we will show you different fish earbones and how to age them! You'll also learn about all the different exciting careers you can have through studying at the Department of Ichthyology and Fisheries Science.

www.ru.ac.za/ichthyology/



RHODES UNIVERSITY DEPARTMENT OF ZOOLOGY AND ENTOMOLOGY

Zoology, Entomology and Marine Science

The Rhodes Zoology Department will have three exhibits on display: aquatic entomology, marine research and terrestrial zoology. There will be aquatic insects on display with images of their associated habitats. There will also be a microscope which will be used to display various marine habitats. In the terrestrial zoology section learners will be exposed to exciting terrestrial invertebrates, vertebrates and African mammals through images and skeletons.

www.ru.ac.za/zoologyandentomology



RHODES UNIVERSITY, INSTITUTE FOR WATER RESEARCH (IWR)

Water for One, One for All #WaterWiseGeneration.

Water is a crucial resource to all life forms. Our exhibition focuses on water use and sustainability, highlighting the three pillars of the National Water Act of 1998 (NWA):

1. Equity (fairness to people living now)
2. Sustainability (fairness to people in the future and to the environment)
3. Efficiency (when you do use water, use it responsibly)

This exhibition will provide an interactive platform to increase awareness of some of the water resources we have locally. The exhibition activities include water warfare, the water cycle, 3D catchment models, and an arts and crafts board.

www.ru.ac.za/iwr



RHODES UNIVERSITY'S CENTRE FOR BIOLOGICAL CONTROL

What is Biological Control?

The Centre for Biological Control (CBC) specifically focuses their research on understanding ecological dynamics of invasive pests, aquatic and terrestrial weeds. A better part of the development of biological control methods for these invasive plants can also be done to maintain the species. Biological control is a particularly appealing solution because it is not toxic, pathogenic or dangerous to humans. It also has the advantage of being self-perpetuating once established and usually does not harm non-target organisms found in the environment. There are a number of Research Programmes within the CBC which focus on various groups of target plant species, and different aspects of biological control.

www.ru.ac.za/centreforbiologicalcontrol



RHODES UNIVERSITY

Where leaders learn

RHODES UNIVERSITY DEPARTMENT OF BIOCHEMISTRY AND MICROBIOLOGY

Under the Lens

Under the Lens is an opportunity to observe microbes under the microscope. Bacteria, yeast and fungi are all microbes that often remain unseen yet are economically and environmentally important. These microbes, as well as other interesting biological specimens, will be showcased under microscopes allowing learners to meet these wonders of biology.

www.ru.ac.za/bm/



SOUTH AFRICAN NATIONAL SPACE AGENCY (SANSA)

Basic Science and Space

The SANSA exhibit will display an interactive exhibit that speaks to basic science. Discover more on how SANSA uses basic science in relation to Space Science and Technology.

www.sansa.org.za



SOUTH AFRICAN INSTITUTE OF PHYSICS

Physics in Every Day Life (Physics for Sustainable Development)

The South African Institute of Physics (SAIP) was established in 1965 as a voluntary, not for profit physics learned society in South Africa. The SAIP has a membership made up of professionals and students in a wide range of physics-related fields of practice. In 2015 the SAIP was registered with SAQA as a voluntary professional body for physics in South Africa. SAIP Coordinates and promotes study and research in physics and the technological applications of physics. SAIP is the Voice of Physics in South Africa. In addition, SAIP is the National Adhering Body to the International Union of Pure and Applied Physics (IUPAP) under ICSU. 2022 has been declared as the International Year of Basic Sciences for Sustainable Development (IYBSSD 2022) by UNESCO. In response to this declaration, the South African Institute of Physics (SAIP) plans to celebrate and communicate the contributions physics education and research have made to Africa's socio-economic development and how physics plays a key role in contributing towards the Sustainable Development Goals (SDGs).

www.saip.org.za



SHUTER & SHOOTER PUBLISHERS (PTY) LTD

FOR SALE: Support Materials for Science, Technology and Mathematics

Visit this exhibition to buy or order a product that will help you perform better in STEM subjects. We have a range of workbooks, practice books, study guides, reference books and dictionaries. Subjects include Natural Sciences, Technology, Physical Sciences, Life Sciences, Agricultural Sciences, Mathematics, Mathematical Literacy and Digital Skills (Coding and Robotics).

www.shuters.co.za



UNIVERSITY OF SOUTH AFRICA - COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

UNISA College of Science, Engineering and Technology (qualifications and research projects)

Find several fundamental science experiment displays on robotics, modern water purification systems using solar panels, solar vehicles, energy production experiments using biodigesters and more. Learn about the basic science principles used in addressing current life changes (water treatment and energy production), particularly the role of nanotechnology and its applications, and the science behind robotics and the 4IR.

www.unisa.ac.za



UNIVERSITY OF SOUTH AFRICA

Learn More About UNISA

Representatives will interact with visitors to the stand to give information about qualifications offered at the university and hand over information flyers and other promotional materials

www.unisa.ac.za



SOUTH AFRICAN SOCIETY FOR BIOINFORMATICS STUDENT COUNCIL

Decoding Biology

SASBi Student Council aims to introduce students to the new and exciting field of Bioinformatics and prepare them for today's data-driven biological research. Visit our stand to interact with the microscopic world and assemble a genome. Prizes are up for grabs!

www.sasbistudents.weebly.com



Life In Space

Come and take part in various demonstrations to learn about how our bodies survive in space, and how astronauts carry out day to day activities on the International Space Station.

www.nationalspaceacademy.org



STEM Careers

This exhibition will talk to the diversity that exists within the science community, and just how science affects our lives. It will showcase the many exciting and different careers found in STEM, and leaflets will be handed out on science in our everyday lives. SACNASP has 24 fields of practice, and the aim will be to show scientists the need to register with a professional body to maintain the standards of their industry. The exhibit will show scientists how they can continue their career and encourage professionals to mentor those budding in the field.

www.resoluteeducation.com

