



# ASTROFEST

A VIRTUAL FESTIVAL PRESENTED BY



**SAAO**  
South African  
Astronomical Observatory  
**200 YEARS**



# WE WOULD LIKE TO THANK OUR PREMIERE CONTRIBUTORS



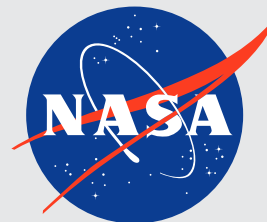
science & innovation

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA



National  
Research  
Foundation

# AND OTHER CONTRIBUTING ORGANISATIONS



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# PROGRAMME

workshop

webinar

public talk

teaser

party

## Tuesday, 20 October 2020

12h30	Engaging Astronomy - Resources for Educators and Parents	Ms Kirsten Gottschalk	ICRAR - Australia
14h00	The NASA Juno mission and Clyde's Spot	Mr Clyde Foster	ASSA
18h00	NASA's Lunar Exploration Program Overview	Ms Bianca M Rhym	NASA

## Wednesday, 21 October 2020

10h00	International Science Communication Webinar Best Practices for Science Communication using Digital Platforms	International Community	NMBSTC
14h00	The future of cosmology and natural science	Prof Bruce Bassett	SAAO
18h00	The search for Sign of Life Beyond Earth	Prof Sara Seager	MIT

## Thursday, 22 October 2020

11h00	Mastering astronomy	Mr Samir Dhurde	SCIPOP-India
14h00	Astrotourism	Mr Anthony Mietas	SAAO
16h00	Unlock Science	Mr Felix Spies	Split Second Science
18h00	Virtual VLA Tour	VLA Engagement Team	NRAO

## Friday, 23 October 2020

14h00	Making sense of our world through space science and technology	Dr Valanathan Munsami	SANSA
19h30	Star Party with Master KG	Master KG	SAAO   SciFest

## Programme Teasers

18h00	8 October 2020: Campfire under the African Skies	Dr Gcina Mhlophe	
2 - 31 Oct	Astrophotography and Astro-Art Competition	SAAO	SAAO

# MS KIRSTEN GOTTSCHALK



**Tuesday, 20 October 2020  
12h30**

ICRAR's Outreach and Education Programme connects with tens of thousands of people every year, reaching far and wide from school learners, teachers to science researchers, the local community and the media.

The core purpose of ICRAR's Outreach and Education program is to promote awareness and interest in science, computing and engineering, improving science literacy and participation in science-related fields.

## Engaging Astronomy - Resources for Educators and Parents

Want to engage students with astronomy? Join in this workshop for a quick introduction to a wide range of resources and activities that educators can use with their learners.

In this presentation, we will go through a selection of ICRAR's educational resources suitable for both primary and secondary aged students, including demonstrations.

With the COVID-19 lockdown, many parents have had to become educators, many educators have had to diversify their approach to teaching methods and continue to try and engage with learners where possible. Join Kirsten Gottschalk as she presents all the resources that Australia has been using to engage learners and the public in Astronomy.

Take advantage of this opportunity as we embrace cultures of best practices and methods from an international perspective. All media and resource links from ICRAR can be found in the link below and are completely free of charge.

Pre-workshop requirements: [www.icrar.org/edresources](http://www.icrar.org/edresources)

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# MR CLYDE FOSTER



**Tuesday, 20 October 2020  
14h00**

Clyde's passion for Astronomy was reignited in 2014 when he purchased a Celestron 14' Edge HD SCT telescope and started planetary imaging. He quickly discovered the contribution that amateurs can make in this field and has since been invited to a number of international professional Planetary Science conferences and workshops where he has presented his work. He has presented at a number of local venues across South Africa and has been recognised by the Astronomical Society of Southern Africa (ASSA) with various certificates and awards.

## The NASA Juno mission and Clyde's Spot

The presentation will highlight the valuable contribution that amateur astronomers are making in support of spacecraft missions, specifically the NASA Juno mission that is currently active at Jupiter. It also covers the detection of a new storm system on Jupiter that was discovered by Clyde and is now known as "Clyde's Spot".

This was imaged by the Juno spacecraft 2 days after his observations, attracting significant media attention.

[Watch the NASA video](#)

[Watch the Carte Blanche video](#)

Let's take a journey with Clyde on what it took to get his name on another planet.



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**MS BIANCA**  
M RHYM



**Tuesday, 20 October 2020**  
**18h00**

Bianca M. Rhym is a member of the Engineering Directorate at NASA John F. Kennedy Space Center (KSC). She provides electrical engineering design, test, maintenance, troubleshooting, and support for commercial resupply service (CRS) launch operations to the International Space Station (ISS), including critical late-stow transport and integration of science experiments and cargo into the SpaceX Dragon capsule. She is a Communications subject matter expert with the Deep Space Directorate and provides electrical engineering support for the Artemis Program's Gateway Logistics Services and Human Landing System, in addition to other research and technology programs and projects.

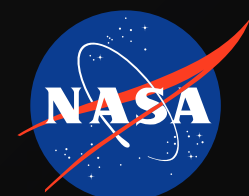
## Artemis Plan: NASA's Lunar Exploration Program Overview

Under the Artemis program, humanity will explore regions of the Moon never visited before, uniting people around the unknown, the never seen, and the once impossible.

This presentation is an overview of NASA's Artemis Plan - how we will return to the Moon once again and how we will use the Moon as the stepping stone for our next great leap – human exploration of Mars.



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# INTERNATIONAL CONTRIBUTORS



Wednesday, 21 October 2020  
10h00 | 11:30

The Nelson Mandela Bay Science and Technology Centre (NMBSTC), operated by the Mandela Bay Development Agency (MBDA), was established in 2013 as a strategic programme to build enthusiasm and a passion for science, technology and mathematics through fun and interactive engagements with learners and the community. The NMBSTC has partnered with Scifest Africa and SAAO to bring you a thought provoking webinar taking on an international perspective on science communication and engagement.

## International Science Communication and Engagement Webinar on Best Practices for Science Communication using Digital Platforms

### Objectives:

- Share/Assess the changes or adjustments made amongst science centres/institutions to their daily operations during the pandemic and the programmes implemented.
- Post Covid adjustments to daily operations and programme implementation.
- Share best practices to be adopted to facilitate digital platforms.
- Develop a concept document that will inform the best practices for science engagement using digital means.
- Certificates of attendance will be issued to all science graduates, interns, science communicators and science journalists in attendance by the South African Agency for Science and Technology Advancement (SAASTA)

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# PROF BRUCE BASSETT



Wednesday, 21 October 2020  
14h00

Bruce has lived and worked in Italy, Japan and the UK but still thinks Cape Town is probably the most beautiful city in the world.

## The Future of cosmology and natural science

Artificial Intelligence is radically changing society. Join Bruce as we explore with him what this means for the future of science with a keen focus on cosmology and astronomy. He will address some of the highly philosophical to the very practical questions.



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# PROF SARA SEAGER



Wednesday, 21 October 2020  
18h00

Sara Seager is an astrophysicist and a professor of planetary science and physics at the Massachusetts Institute of Technology. Her research, which earned her a MacArthur Foundation “genius” grant, has introduced many foundational ideas to the field of exoplanets, and she led NASA’s Probe-class study team for the Starshade project. She is now at the forefront of the search for the first Earth-like exoplanets and signs of life on them. She is the author of “The Smallest Lights in the Universe: A Memoir”. She lives with her family in Concord, Massachusetts.

## The search for Sign of Life Beyond Earth

For thousands of years, inspired by the star-filled dark night sky, people have wondered what lies beyond Earth.

Today, the search for signs of life is a key factor in modern-day planetary exploration. Astronomers have found thousands of planets that orbit nearby stars, called “exoplanets”. Next-generation telescopes will enable us to study gases in rocky exoplanet atmospheres, including gases that might be attributed to life.

Closer to home, astronomers have recently and unexpectedly detected phosphine gas on our sister planet Venus, which might possibly indicate the presence of life or may be explained by unusual chemistry.

Professor Sara Seager, one of the world’s leading experts on the search for Earth-like planets and life beyond Earth, will share the latest advances in this revolutionary field.



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# MR. SAMIR DHURDE



**Thursday, 22 October 2020  
11h00**

With a scarcity of resources and learners and educators having to improvise their methods of learning and teaching, join Samir as he uses everyday items to understand astronomy. He even makes use of yourself as a tool to learn Astronomy.

## Mastering astronomy

When it comes to going big IUCAA certainly have proven themselves to be in a league of their own, holding the Guinness Book of World Record for having the most number of learners attend an astronomy programme at the same time.

Learners attended a lecture followed by a hands-on activity allowing IUCAA to be recognised for their dedicated efforts towards the promotion of astronomy.

Learners and educators are encouraged to join this session as Samir shows you how to DIY activities in astronomy, and use innovative methods such as role-playing with your family and friends to learn astronomy.



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# SCIENCE SHOW



**Thursday, 22 October 2020  
16h00**

Split Second Science hosts and facilitates shows and workshops aimed at generating a scientific curiosity in children and teenagers, through edutainment. The presenter, Leandra Taylor has a BSc degree in Medical Sciences, PGCE and a MSc Degree in Human Nutrition and Dietetics. She is a 'feature writer' for a science magazine and is also on the judging committee for the Eskom expo for young scientists in KZN. Leandra also served in the SANDF as a medic and nurse.

## Unlock Science

This prerecorded science show will explain various scientific concepts whilst deliberately including many wow factors. Our intention is to make science come alive by educating viewers through entertainment. Science shows are a big part of science engagement. Their role in creating enthusiasm whilst unlocking an awareness, appreciation and understanding of Science Technology, Engineering, Mathematics and Innovation can never be underplayed.

The video will be made available on the 22<sup>nd</sup> of October on all our social media platforms.



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# MR ANTHONY MIETAS



**Thursday, 22 October 2020  
14h00**

Mr Anthony Mietas, from the small community of Sutherland, in the Northern Cape, currently employed by the South African Astronomical Observatory (SAAO) as the Manager for the SALT Collateral Benefits program in Sutherland, focussing on education, public awareness and outreach. His work experience over the year's ranged from local government, to private sector development and currently education and outreach within a national research facility.

## Astrotourism

With the Sutherland Visitor centres seeing approximately 14 000 visitors in 2019 consisting of both National and International visitors.

Anthony links experiences and observations of how science and tourism have assisted to drive various developments in the Northern Cape. The SALT Telescope listed as one of the must see activities when travelling in the scenic Northern Cape has for years assisted in driving tourism and interest further creating more awareness in science and astronomy.

Anthony has attended many tourism initiatives geared at assisting to create a booming tourism landscape in the Northern Cape and Sutherland.

Join us as he presents some of the possibilities that the future may present us with as science combined with tourism has aided with creating a knowledge economy and sustained interest and investment.

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# VERY LARGE ARRAY



**Thursday, 22 October 2020  
18h00**

Brought to you by the STEAM Education Team at NRAO: Summer Ash, Faith Vowler, Tyler Cohen, and Montana Williams.

## Virtual VLA Tour

Enjoy a personal, in-depth look at this world-renowned radio telescope and the field of radio astronomy. The tour will include an introduction to the history and science of the Very Large Array, video segments that will transport the audience to parts of the observatory otherwise off-limits to the public, and an interview with one of the telescope operators. There will also be time for Q&A.

The Very Large Array is the most versatile, widely-used radio telescope in the world. It can map the large-scale structure of gas and molecular clouds and pinpoint ejections of plasma from supermassive black holes. It is the world's first colour camera for radio astronomy, thanks to its new suite of receivers and a supercomputer that can process wide fields of spectral data simultaneously. The VLA is also a high-precision spacecraft tracker that NASA and ESA have used to keep tabs on robotic spacecraft exploring the Solar System

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# DR VALANATHAN MUNSAMI



**Friday, 23 October 2020  
14h00**

As of January 2017, Dr Munsami has been appointed as the Chief Executive Officer (CEO) of SANSA. He is currently a member of the South African Council for Space Affairs (SACSA) and is a Vice President of the International Astronautic Federation (IAF). He has recently been inducted as an academician of the International Academy of Astronautics (IAA) and sits on the Advisory Boards of the Space Generation Advisory Council (SGAC) and the UAE's International Space Congress.

## Making sense of our world through space science and technology

The presentation provides a basic understanding of the key concepts of space science and technology and how these are used to support our modern day standard of living. We will explore how satellites are placed in orbit and how they are used to gather and pass on information that we use on a daily basis. We will also explore the various disciplines of space science and technology, such as earth observation, navigation and positioning, telecommunications, space weather phenomena, and space operations.

We will then get a glimpse of the important work that is being done by the South African National Space Agency and how these activities support the government in making better decisions that influence and affect our everyday lives. We will also talk about the new and exciting initiatives that SANSA will be working on over the next five years and about our student outreach and support programmes and how you could take up a career in this exciting field.

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# STAR PARTY

WITH GLOBAL HIT SINGLE JERUSALEMA'S

# MASTER KG

AS HE DECIDES TO TAKE HIS MUSIC INTO

# SPACE



23 October 2020 • 19h30

Join us for a night of live virtual stargazing and good music – blending science and music to raise awareness, enthusiasm and excitement of the crucial role of science in South Africa.

Win prizes by entering the #Junior Astrophotography and #Astro Art competition that will be announced by the legend himself!

[ENTER COMPETITION](#)

[SIGN UP FOR PARTY](#)

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# DR GCINA MHLOPHE



Thursday, 8 October 2020  
18:00

Talented, graceful and elegant are some of the words that come to mind when describing Dr Gcina Mhlophe. She has a voice so captivating that one is drawn to her stories like a moth to a flame or an astronomer to the stars. Join us for a memorable evening around a virtual campfire as we hear Dr Mhlophe narrate some famous tales of the night sky. We encourage our public to join us as she transports us to the stars and beyond.

## Campfire under the African Skies

The people of Africa have been telling stories for so long, it continues to flow like enchanted rivers through time.

These rivers traverse all the way up to the sky and transform into the Milky Way, reminding us that we are not only tasked with the responsibility to honour each star with our very souls, but also to keep telling the stories to future generations.

The evening star steps up to wave goodbye to the setting sun and calls on the elders to gather the family around the fire for storytime!

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## ASTROPHOTOGRAPHY and ASTRO-ART COMPETITION

We encourage photographers, astro-photographers and amateur photographers to submit their shots of the Southern Hemisphere for entry into the competition. The criteria for awarding exhibition space will be the following: deep sky, shallow sky, planets, moon, milky way and constellation.

The Astrophotography Junior allows learners with a cell phone to submit a time lapse short video or photos on the Southern Night Sky.

The Astro-Art competition requires no equipment and learners can submit paintings, sketches and any drawing that they create tagging SAAO or Scifest Africa on our social media platforms.

The competition will run for the whole of October with the first round of winners being announced live by Master KG on Friday, 23 October 2020 at 19h30 on our social media platforms.

By submitting you grant the SAAO permission to post all images on its website and social media.

[CLICK HERE TO ENTER](#)

AND FOR MORE INFORMATION

# COMING SOON

## THE NRF/SAAO APP



# CONTACT




For any information regarding the event:

**PRAN GOVENDER**  
prang@sao.ac.za

**FREDY MASHATE**  
manager@scifest.org.za

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