eTutor

SPACE EXPLORATION & LITERACY IN THE CURRICULUM CONFERENCE

BRINGING SPACE TO THE CLASSROOM AS A GATEWAY TO STEM

01 - 02 April 2021 Protea Hotel Midrand,JHB

Virtual & In-person

Our Partners

FASESA
Future African Space Explorer's STEM Academy

Romania esero

INTRODUCTION

Kids are Interested in Space, according to a Harris Poll survey conducted in the US, UK and China, 86% of children aged 8 to 12 say they are interested in space exploration, and 90% of them want to learn more. Interestingly, 83% of parents (averaged across the three countries) who participated in the survey believe their children are interested in space, yet only 53% of kids say their interest in space is fuelled by their parents, citing teachers (79%) and the internet (71%) as primary learning sources. With the 51st anniversary of the first moon landing on July 2020, many students will be curious about the brave astronauts who visited the moon and more recent space explorations. To help feed the students' curiosity about space and inspire STEM reading and writing, Space Exploration & Literacy in the Curriculum will be of paramount importance. Students are fascinated by brave space explorers. Becoming an astronaut requires a lot of education, training, and hard work

ABOUT THE CONFERENCE

The exploration of space is among the most fascinating ventures of modern times.
It has carried first instruments, then people themselves, beyond Earth's atmosphere, into a remoteness that until relatively recently was hardly known or understood. Although its borders already have been crossed, space still holds mysteries and, undoubtedly, surprises beyond number. Space Education in the curriculum will allow students to access education, and increases economic prospects, broaden opportunities for social mobility, and contribute to the empowerment of students STEM, and Space Exploration knowledge. This conference will bring together leaders and decision-makers within the Astronomy & STEM community – engineers, scientists, entrepreneurs, educators, agency representatives and policy makers to discuss current challenges and innovative solutions and it will contain opportunities to learn about how space exploration in the curriculum is important in early childhood education.

EDUCATORS/TEACHERS WHY ATTEND THE CONFERENCE?

This conference will help Educators/Teachers prepare their students for STEM careers and an equal need for extraordinary teacher leaders to inspire students. we aim to empower teachers to build leadership competencies by creating innovative STEM programs for their students, schools and communities.
This conference will be hosted by the actual scientists and engineers working on exciting endeavours like the International Space Station and explorations of Mars and the planets beyond. Participants will hear from the astronauts leading the charge in exploration! Come and learn about the bold vision to send humans back to the Moon and off to Mars! Attend sessions presented by STEM experts, engineers, scientists, educators and receive ready to implement classroom ideas and experience minds-on, hands-on fun. Network with fellow educators, take back a multitude of cross-curriculum ideas and activities. This conference is for grades R to 12 – and not just for science teachers! The activities presented can be used for science, language arts, math, history, and more

STUDENTS WHY ATTEND THE CONFERENCE?

Get to know more about the space sector, broaden your future, and career possibilities in the space sector. The Space sector is not only dedicated to becoming an astronaut! The impressive development of Space Applications gives immense opportunities to those who study IT, Agronomy, Biology, Chemistry, Nutrition, Geography, Medicine, Law, Management, Communications, Electronics, Physics, and so on

WHO SHOULD ATTEND:

Students| Teachers | Principals | STEM Practitioner's |Engineers| scientists| Entrepreneurs |Curriculum & Assessment officials| Ministry of Education Officials | Ministry of science and technology officials' | Agency representatives and policy makers

CONFERENCE TOPICS DAY 1 : FOR KIDS 10 YEARS AND ABOVE

- The Realm Beyond Earth
- Why Explore Space?
- The Rocket—The Key to Space
- Spacecraft Launching Operations
- Spacecraft Fundamentals
- Types of Spacecraft
- Human Spaceflight
- Humans and Space
- Becoming an Astronaut
- International Space Station
- How to Inspire the Next Generation of Space Explorers
- Launching National and International Partnerships to Develop the Next Generation of the Space Workforce
- Space Fostering African Societies
- Me, Mars, and Motion: What do we wonder? What do we notice?
- Engaging in Space Exploration through the Use of Children's Literature

CONFERENCE TOPICS DAY 2 : FOR KIDS 2-10 YEARS

Curriculum connections

Launching into outer space can be the focus of the curriculum for several weeks. It will provide opportunities to connect science, math, literacy, language, art, and drama. Read books and discuss different parts of a space mission. The children can build giant spaceship from large cardboard boxes and pretend they are rocketing to the moon and beyond. Mission control can consist of old telephones, obsolete computer keyboards, headphones, and other equipment made from milk jug lids set up on a table. The children can build jet packs from cereal boxes, space helmets from paper bags, and smaller spaceships from paper towel and wrapping paper tubes. The children will become astronauts

Literature and dramatic play

The children can brainstorm different adventures they might have:

1. They might see aliens
2. They might run out of gas

Sitting in their spaceship and at mission control, the children can try out their ideas

1. Check the controls
2. 3-2-1 . . . Blast off!
3. Emergency. Emergency. We're going to crash

MATH AND SCIENCE

1. **Astronaut Food:** The children can try eating the same way astronauts do—without the pull of gravity to keep food on plates and drinks in cups.

2. **Astronaut jumping:** Math can come alive when the children measure how high they can jump on Earth and learn how high that would be on the moon. The moon has less pull from gravity than the earth because it is smaller. You can jump six times higher on the moon than on the earth. Although pre-schoolers may not fully understand gravity, they understand more and less and that the moon is different in many ways from the earth

3.**Crater explorations:** Teachers can show the children photos of the Moon's surface. Introduce the word crater, a bowl-shaped hole created when a chunk of rock from space crashes into a moon or planet. Invite the children to explore how craters are created using pretend moondust. (Damp sand works.) you can provide several balls of varying weights and sizes (marbles, ping pong, golf, tennis, baseball, and foam) and various round lids (such as those from milk jugs and yogurt containers) for measuring by comparison

ART AND SCIENCE

1. **Astronaut drawing:** help the children imagine how it would feel to work inside a small spaceship without gravity, you challenge them to work in unusual positions. you can tape drawing paper to the underside of tables so children can draw pictures while lying on their backs on the floor.

2. **Gravity painting.** This exuberant (but messy) experience uses six old socks filled with sand to make space rocks. The children can dip space rocks in a mixture of tempera paint, starch, and liquid soap (this mixture extends the paint and makes it easier to wash out of clothes). Then they can hold them above a long sheet of paper. Teachers should emphasize that gravity would do the work. The children must let go of the socks to see what will happen. Splat

Language arts

1. Storytelling: Teachers can use the following story starters:
I. Where would you like to travel in space?
II. What do you think it would be like to live on the moon?
III. What would you see on a trip to the moon?

2. The Universe in Your Classroom: Teachers you can turn one conner of the classroom into space with the children's drawings and space toys.

3. Conclusion you can celebrate the conclusion of your moon mission by acting out the first moon walk. The children can turn the sandbox into a model of the moon, complete with craters. They can wear their jet packs and space helmets. They can take turns walking on the moon, planting the South African Flag.

CONFERENCE SPEAKERS

Hon. Dominique Tilmans
Vice- President International Aeronautical Federation
Chair of YouSpace
Chair of Eurisy
Board of Vitrociset
Advidory Council ESPI

Dr. Eric Smith
Astrophysics Division Chief Scientist, NASA Dr. Eric Smith is the Program Scientist for the James Webb Space Telescope Program at NASA Headquarters, Washington, D.C.

Prof. Pauline Mosley
Assistant Department Chairperson Department of Information Technology, Pace University. The Ivan Seidenberg School of Computer Science and Information Systems

Prof. Edwin Bergin
Professor and Chair of Astronomy
Dept. of Astronomy
Univ. of Michigan

Prof. Chris Welch
Head of Space Payloads Laboratory
Director of MSc Space Studies
International Space University

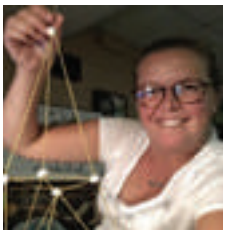
Prof. Christine Anne Royce
Past President (18-19), National Science Teaching Association Professor of Teacher Education & Co-Director of MAT in STEM Education Shippensburg University

Ms. Fikiswa Majola
Deputy Director: Space Systems
Department of Science and Technology R.S.A

Prof. Noel-Storr
President: InsightSTEM
Chair: EAS Working Group on Diversity and Inclusion in Astronomy
Member: RvdA Committee on Equality, Diversity, and Inclusion in Astronomy
University of Groningen

Mr. Frank H. Bauer
USA Executive Director Radio Amateur Satellite Corporation President for Human Spaceflight Programs ARISS International Chair

Mr. Charles Mwangi
Research, Education and Outreach Lead
Kenya Space Agency



Dr. Jena Valdiviezo
Supervisor of Science
Long Branch Public Schools

Dr. Stefi Baum
Dean of the Faculty of Science and
Professor of Physics and Astronomy
University of Manitoba

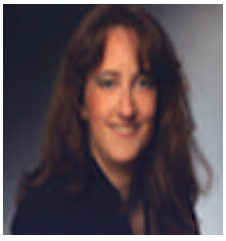
Ms. Carla Sharpe
Founder of Africa2Moon
SKA South Africa (SARAO)
Women in Aerospace Africa.

Mr. Eric Dahlstrom
Co-Founder at SpaceBase NZ
Director International Space Consultants

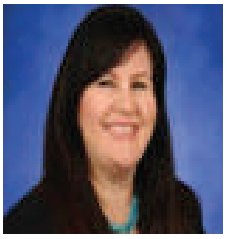
Dr. Luigi Scatteia
Partner - Space Practice Leader
PwC Advisory

Dr. David Barnes
Associate Executive Director
National Council of Teachers
of Mathematics (NCTM)

Mr. André Siebrits
Associate Editor: Southern Space Studies
Researcher: European Space
Policy Institute (focusing on Africa)



Dr. Annette Froehlich
Honorary Adjunct Senior Lecturer in SpaceLab
Senior research fellow at the European Institute
for Space
Staff member of the German Aerospace
Centre (DLR)



Dr. Christina L. Carmen
Clinical Associate Professor,
The University of Alabama
Department of Mechanical and
Aerospace Engineering

Ms. Leesa Hubbard
STEM Teacher Wilson County
NASA Solar System Ambassadors
Recipient of the Albert Einstein Distinguished
Educator Fellowship, Cheri Brindley Space
Educator Award, and the Exceptional
Public Service Medal from Marshall Space
Flight Centre.

Ms. Beth Heidemann
Co-Founder of Go2Science
Presidential Award-Winning teacher
Beth loves bringing real world science
to kids! she loves engineering challenges,
technology, environmental education,
and outdoor learning spaces.

Ms. Barbara Gruber
Assistant Director of Education
Smithsonian National Air and
Space Museum

Ms. Jill Gilford
High School Earth and
Space Teacher, Science
Buddies Program Coordinator,
Freshman Mentor Program Coordinator
Twin Lakes High School, USA
2019 Alan Shepard Technology
in Education Recipient

Dr. Michael Batham
Laboratory Manager/ STEM Faculty
The Open University

SPACE EXPLORATION & LITERACY IN THE CURRICULUM CONFERENCE REGISTRATION FORM

In-Person Attendance	Virtual Attendance
R12 000 (none Students) per person	R10 000 (none Students) per person
R12 000 (Group of 4 Students) In -person you are welcome to add more students for R3000 per student.	R 8 000 (Group of 4 Students) you are welcome to add more students for R 2000 per student.

COMPANY DETAILS

Organization: .....

Address: .....

City: .....

Phone: .....

Delegate Details:

1. Full Names: .....
   Designation: .....
   Email: .....

2. Full Names: .....
   Designation: .....
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3. Full Names: .....
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Conference Venue (In Person attendance). Protea Hotel Midrand, Johannesburg, South Africa