



43rd COSPAR Scientific Assembly

15-23 August 2020
International Convention Centre
Sydney Australia

COSPAR-K



When & Where

Monday 17 – Wednesday 19 August 2020
The Event Deck, ICC Sydney

Further details can be found on the website:
www.cospar2020.org

Background to COSPAR-K

The foundational skills of Science, Technology, Engineering and Math (STEM) are the bedrock of the future world economy. Those skills, along with enterprise skills such as creativity, critical thinking and digital literacy are the key to creating a world-leading future workforce in Australia. 50 years on from humankind's first steps on the Moon, the value of an inspired STEM generation is reflected in our daily lives. It is our job to now help provide the spark that inspires the next generation.

The 2020 Committee on Space Research (COSPAR) is the largest space science assembly in the world with 2000+ delegates being held in Sydney during Australia's National Science Week (15-23 August). With the world of space research coming to Australia during National Science Week, the opportunity to spark the next STEM talent through exposure to space is enormous.

To register your interest, please email:
stem@cospar2020.org

What Will COSPAR-K Look Like?

COSPAR-K is an interactive event held in conjunction with the COSPAR 2020 Assembly in Sydney. It is a free event aimed at secondary school students in the region. It will be held on Monday 17 – Wednesday 19 August 2020, at the Event Deck, International Convention Centre, Sydney, Australia.

The event deck will hold a series of interactive experiences and activities structured into 3-hour blocks for school groups to engage with. The STEMED Committee is collaborating with pre-eminent museums and education facilities, as well as space industry organisations which facilitate STEM education.

On the Tuesday evening, there is an opportunity to open COSPAR-K up to assembly delegates for an exclusive cocktail evening. Delegates would be able to wander through COSPAR-K, exploring all the activities with a drink in hand whilst also enjoying delicious roving canapes.

Objectives

1. To inspire and engage with 1,000 secondary students over three days:
 - a. To pursue STEM related school subjects as part of their Higher School Certificate
 - b. To influence the selection of STEM related university courses
 - c. To pursue a career in space research or another STEM profession
2. To engage with other persons involved with STEM initiatives including teachers, volunteers, assembly delegates and facilitators.
3. To assemble the world's largest Sat-a-Light constellation for public display within the COSPAR 2020 Exhibition.

Program Structure

- Six sessions over the three days
- AM & PM sessions per day
- 180 students per session
- Two main zones with three activities each connected via a narrative
- 30 students per activity for 25 minutes each
- Delegate cocktail evening

AM SESSIONS

0900 - 0930 Welcome on Launch Pad

0930 - 1045 STEM activities 1

1045 - 1100 Morning tea break

1100 - 1215 STEM activities 2

PM SESSIONS

1300 - 1330 Welcome on Launch Pad

1330 - 1445 STEM activities 1

1445 - 1500 Afternoon tea break

1500 - 1615 STEM activities 2

Proposed Concepts

Mars Yard

Simulates a real-life Martian landscape and the challenges that will be faced by robots and people when they're living on Mars.

1. Mars Rocks - This is the central focus of Mars Yard and should be a Martian landscape. Example activity could be a treasure hunt to collect objects e.g. parts for a rover, geology, identify signs of life etc.



2. Mission Control - Using interactive software to monitor systems which includes needing to problem solve and effectively communicate during a staged catastrophe. VR can be incorporated as part of this experience.



3. Robotics: Build, Run, Repair - Students learn about the importance of scientific rovers and get hand on experience with robotics and programming.



Fly Zone

Linking terrestrial applications with space enabled technologies. Students will need to consider future technologies that will be required to get to the moon and beyond.

1. Build Your Own Sat-a-light Workshop - DIY Workshop: Students build <what the sponsor wants> to be showcased in the exhibition. Example build specifications could be to include a circuit for a light and panel for them to write a space related message. Satellites to then be set up in a giant constellation as a public display.



2. Drone Racing - Flying and crashing drones through an obstacle course of "space debris/junk". Students will learn to fix their drones and learn about space junk and share ideas on how to clean up space.



3. Rocket Wind Tunnel - Students learn the fundamentals of rocketry and aerodynamics. They learn how heavy things fly by designing and creating an aerofoil based off the principles of functioning aircrafts

