



## COSPAR News

February 2021 Issue 8

### **Message from the President of COSPAR on COSPAR-2021 and Planning for COSPAR-2022**

- [Space Science Snapshot](#)
- [COSPAR Meetings](#)
- [COSPAR 2020 Awards](#)
- [COSPAR Member News](#)
- [COSPAR Publications](#)
- [COSPAR Associated  
Supporter News](#)
- [News from Space  
Agencies](#)
- [On the Radar](#)
- [Employment / Internship  
Opportunities](#)
- [Space Science Quote](#)
- [Space Science Highlights  
from the Past](#)

The 43<sup>rd</sup> COSPAR Scientific Assembly, COSPAR-2021, was intended to be an in-person Assembly last August in Sydney, Australia. In April of 2020, with the pandemic raging, it was obvious that the Assembly could not be held in August and it was postponed to 28 January to 3 February 2021. These dates were chosen because the outstanding conference facilities in Sydney were available and the program that had been developed for the August Assembly could be moved into the exact same rooms at their scheduled times. In August of 2020 it became obvious that a fully in-person Assembly could not be held in January 2021, and COSPAR-2021 was going to have to be hybrid, with both in-person and virtual participants. At that time, and for months thereafter, we had no way of knowing what the balance between in-person and virtual participants would be. The impact of covid-19 in Europe was diminishing, and many of our European colleagues were committed to coming to Sydney. However, the virus reemerged. The United States never had it under control, and international travel ceased to be possible. The in-person participation was first reduced to just Australians, and possibly New Zealanders, but in the end even that was not possible, leaving only a virtual Assembly.

In-person conferences are the easiest to manage. We have been

doing that for decades. Fully virtual conferences are also reasonably straightforward. There are many virtual conferences now that have been done well. However, a fully Hybrid conference, where the virtual participants experience the conference as if they were in the conference facility, sharing the experience with the in-person participants, is difficult, and I am not aware of another organization that has attempted it. Undaunted, we committed last August not only to be Hybrid, but also to engage with a virtual community that is spread across every time zone.

Did all aspects of COSPAR-2021 succeed as we wanted them to? They did not. There were technical challenges, considerable frustration by session organizers, disagreements over some of the implementation approaches and the allocation of available resources between different sessions. The issues were most acute at the beginning of the Assembly, but in many cases abated as a concerted effort was made to tackle each issue as the Assembly progressed. By the end of the Assembly over 2,000 scientific presentations were made in 615 sessions, each delivered twice. And perhaps most importantly, there were over 2,000 participants active on the platform each and every day throughout the Assembly. I suspect the participants most satisfied with the Assembly were those who not only participated in their scientific sessions but who also availed themselves of the related events: the leadership forum with young future space research stars, the Lockheed Martin sponsored workshops on challenging technology developments, even the COSPAR-K STEM space adventures which engaged 600 school children, teachers and the public. The App, which gives access to each pre-recorded full presentation as well as posters, was downloaded more than 2,000 times. The number of presentations viewed grows daily, and all presentations and Q&As may be viewed by registered participants through the end of 2021.

So, was our adventure into a Hybrid Assembly worthwhile?

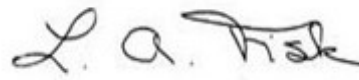
Absolutely. It is a reality that all future COSPAR Assemblies will have to be hybrid. We need to learn from COSPAR-2021, build on what went well, and change what didn't. I am grateful to Russell Boyce, chair of the Local Organizing Committee, Iver Cairns, the Chair of the Program Committee, and their Professional Conference Organizer, ICMS Australasia, for having the courage and foresight to recognize that we must transition our Assemblies from what worked in a pre-pandemic world to the realities of a post-pandemic world.

I have been President of COSPAR for six and a half years, and during that time I have been responsible for three Assemblies. Each, in varying degrees of severity, experienced a disruptive external event. The worst of course was COSPAR-2016 in Istanbul, which was canceled due to a military coup. However, before the coup, the Assembly was a failure because terrorism in Europe and Turkey had reduced attendance to just a few hundred participants. We even tried at the last minute to have some virtual participation, but it was too late and proved unnecessary because of the coup. COSPAR-2018 in Pasadena was an excellent in-person Assembly, but as often happens visa problems kept key participants from attending. And now we have COSPAR-2021 which was completely disrupted by an unexpected pandemic. As a matter of good business practice, we need to make our Assemblies more robust to inevitable disruptions from external circumstances. That means that in the future all Assemblies will have to be hybrid, or at least with the capability to be hybrid.

Our next COSPAR Assembly is in Athens in July 2022. While I have every hope that it will be primarily an in-person Assembly, there will have to be a virtual component as well. Our future world is too unpredictable. COSPAR-2022 needs to be hybrid so that no matter what external event befalls us we can have an Assembly that is an unqualified success.

Thus, we have to take the lessons from COSPAR-2021 and

apply them to COSPAR-2022. And we need to begin planning and preparing now. Not three months in advance, as we were forced to do for COSPAR-2021, but now, 18 months in advance of COSPAR-2022. We need to engage with the organizers and participants of COSPAR-2021, not only to learn what could have been done better, but to have them participate in implementing COSPAR-2022. We have to examine new technologies that may become available to make hybrid Assemblies better. And we need most of all to test and verify the platform for COSPAR-2022-Hybrid, so there are no surprises and no confusion when we go live in July 2022.



Len A Fisk  
President of COSPAR

## Space Science Snapshot:

This photo is of the *Hayabusa 2* re-entry capsule after landing in Woomera, South Australia in December 2020.



(Image credit: JAXA)



## **COSPAR Meetings**

### **COSPAR 5th Symposium: 15-19 November 2021**

The 5th COSPAR Symposium, to be held in Singapore, will have the theme 'Space science and small satellites'. More information [here](#). .



**COSPAR Meetings**  
**COSPAR 44th Scientific Assembly**  
**Athens, Greece: 16-24 July 2022**

Keep your eye on [www.cosparathens2022.org/](http://www.cosparathens2022.org/) for postings available soon.



**COSPAR Meetings**  
**44th COSPAR Scientific Assembly to be held in Busan**

Congratulations to COSPAR Member South Korea: the 44th COSPAR Assembly will be held in Busan, South Korea. Dates TBD.

## COSPAR 2020 Awards



Congratulations to the recipients of the [2020 COSPAR Awards](#). The awards were officially announced during the 43rd COSPAR Scientific Assembly (participants can rewatch this on the platform until 31 December 2021). Extended interviews with Award recipients can also be seen [here](#).

## COSPAR Outstanding Paper Awards for Young Scientists

Congratulations to the [recipients of the 2020 COSPAR Outstanding Paper Awards for Young Scientists](#). All the papers, published in *Advances in Space Research* and *Life Sciences in Space Research*, are all now [available to read for free until 3 August 2021](#).



## COSPAR Member News

### New National Scientific Institution Member Reports to COSPAR Available

Reports are now available from:

[China: CAS](#)

[Czech Republic](#)

[Italy](#)

[India](#)

[Slovak Republic](#)

[South Korea](#)



[Switzerland](#)

[Ukraine](#)

## COSPAR Publications

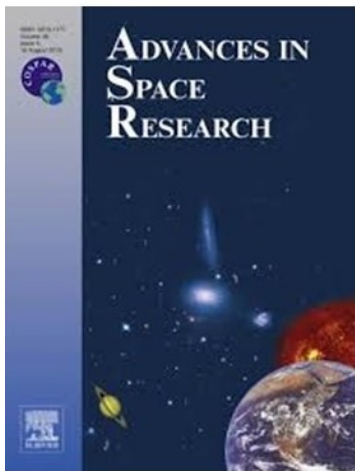
New COSPAR Book Series



Watch the [video](#) introducing this new COSPAR publication activity. More information soon.

## COSPAR Publications

New COSPAR Roadmap Publication



A [Chinese language version](#) of *Small satellites for space science: A COSPAR scientific roadmap* (published in English in *ASR*, 64, n°8, 15 October 2019) is now available.

## COSPAR Member News

**RAL Scientists Design Instrument to Understand Dark Matter**

Scientists at the Science and Technology Facilities Council's (STFC) Rutherford Appleton Laboratory (RAL) in Oxfordshire, UK, are providing the design for a new instrument to open



our understanding of dark matter and allow us to observe gravitational waves in an entirely new frequency range. Read more [here](#).

Rutherford Appleton  
Laboratory



Science and  
Technology  
Facilities Council

## COSPAR Member News

### CSIC Study Shows Radio-telescopes Can Study Extrasolar Planets

The magnetic interaction between Jupiter and one of its major moons, Io, generates a large amount of radio emission similar to Earth's auroras. After the discovery of the planet Proxima b around the star closest to us, Proxima Centauri, researchers from the Institute of Astrophysics of Andalusia of the Higher Council for Scientific Research (CSIC), Spain, set out to check whether interactions on radio also occur in this neighboring solar system. Their findings open a new path in the study of extrasolar planets. Read more [here](#) (in Spanish).



## COSPAR Associated Supporter

### News

#### [China Academy of Space Technology](#)

The recovered Chang-e 5 samples of lunar soil have been transferred to the lunar sample lab at the National Astronomical Observatories, CAS, to be unsealed and analysed.





## News from Space Agencies

### German Airborne Stratospheric Observatory Measures Concentration of Atomic Oxygen Directly

The German spectrometer GREAT onboard SOFIA has enabled direct, high-res spectral measurements of the concentration of atomic oxygen in the mesosphere and lower thermosphere of Earth's atmosphere. Scientists from the German Aerospace Center (DLR), the Max Planck Institute for Radio Astronomy and the University of Cologne are investigating a new approach to making direct measurements in the terahertz range, preparing for the development of future space instruments.



## News from Space Agencies

### **ESA's Cheops Reveals Unique Planetary System**

ESA's exoplanet mission Cheops has revealed a unique planetary system consisting of six exoplanets, five of which are locked in a rare rhythmic dance as they orbit their central star. The sizes and masses of the planets, however, don't follow such an orderly pattern. This finding challenges current theories of planet formation.

## On the Radar

### **Perseverance Soon to Arrive on Mars**

NASA's MARS 2020 Mission Perseverance Rover will be landing on Mars this month, to seek signs of ancient life and collect regolith and rock samples for possible return to Earth.

