



COSPAR 2022

44th SCIENTIFIC ASSEMBLY

16-24 July 2022, Athens, Greece
Megaron Athens International Conference Centre

*a**MUSED** by the Athenian **URANIA***

www.cosparathens2022.org

POCKET PROGRAM



General Information

ORGANIZER

COSPAR

(Committee on Space Research)



COORDINATORS

- National Committee on Space Research of the Academy of Athens



- Hellenic Space Center



COMMITTEES

SCIENTIFIC PROGRAM COMMITTEE

Chair:



Stamatios M. Krimigis, USA/GREECE

Vice Chair:



Ioannis A. Daglis, GREECE

SCIENTIFIC COMMISSIONS AND PANELS

Commissions:

Scientific Commission A: *Ralph Kahn (USA)*

Scientific Commission B: *Maria-Teresa Capria (Italy) -
Bernard Foing (Netherlands)*

Scientific Commission C: *Andrew Yau (Canada)*

Scientific Commission D: *Nicole Vilmer (France)*

Scientific Commission E: *Tomaso Belloni (Italy)*

Scientific Commission F: *Tom K. Hei (USA)*

Scientific Commission G: *Marc Avila (Germany)*

Scientific Commission H: *Claus Laemmerzahl (Germany)*

Panels:

Technical Panel on Satellite Dynamics (PSD)

Heike Peter (Germany)

Panel on Technical Problems Related to Scientific Ballooning (PSB)

Tetsuya Yoshida (Japan)

Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)

Carolyn Frueh (USA)

Panel on Radiation Belt Environment Modeling (PRBEM)

Yoshi Miyoshi (Japan)

Panel on Space Weather (PSW)

Maria Kuznetsova (USA)

Panel on Planetary Protection (PPP)

Athena Coustenis (France)

Panel on Capacity Building (PCB)

Juan Carlos Gabriel (Spain)

Panel on Education (PE)

Michel Boer (France)

Panel on Exploration (PEX)

Frances Westall (France)

Panel on Interstellar Research (PIR)

Ralph McNutt (USA)

Panel on Innovative Solutions (PoIS)

Eric H. Smith (USA)

Panel on Social Sciences and Humanities (PSSH)

Isabelle Sourbès-Verger (France)

Task Group on Establishing a Constellation of Small Satellites (TGCSS)

Dan Baker (USA)

LOCAL ORGANIZING COMMITTEE

Chair:



Emmanouil (Manolis) K. Georgoulis, GREECE

Co-Chair:



Nick Sergis, GREECE

Members:

Vassilis Angelopoulos, USA

Alceste Bonanos, GREECE

George Contopoulos, GREECE

Athena Coustenis, FRANCE

Ioannis A. Daglis, GREECE

Manos Kitsonas, GREECE

Haris Kontoes, GREECE

Chryssoula Kourtidou-Papadeli, GREECE

Chryssa Kouveliotou, USA

Nick Kylafis, GREECE

Paul Michelis, GREECE

Manolis Plionis, GREECE

Emmanuel T. Sarris, GREECE

Dionysis P. Simopoulos, GREECE

Kanaris Tsinganos, GREECE

Loukas Vlahos, GREECE

Angelos Vourlidas, USA

Christos S. Zerefos, GREECE

Observing the Unobservable: a Multi-messenger View of Black Holes

Sera Markoff, Anton Pannekoek Institute for Astronomy & Gravitation and AstroParticle Physics Amsterdam (GRAPPA), University of Amsterdam, the Netherlands

Sunday, 17 July, 19:30 - 20:15, room MAICC A. TRIANTI

Planetary Atmospheric Evolution: Earth and its nearby Neighbors

Thérèse Encrenaz, Laboratoire d'études spatiales et d'instrumentation en astrophysique (LESIA), Observatoire de Paris, Meudon, France

Monday, 18 July, 08:30 - 09:15, room MAICC A. TRIANTI

The Smallsat Revolution

Amal Chandran, Laboratory for Atmospheric and Space Physics (LASP), Colorado, USA

Monday, 18 July, 13:15 - 14:00, room MAICC A. TRIANTI

Atmospheres: Aerosols, Clouds, and Climate - The Details that Matter: Those We Know, and Those We Don't

Athanasios Nenes, School of Arch., Civil & Environmental Eng., Ecole Polytechnique Fédérale de Lausanne, Switzerland

Tuesday, 19 July, 08:30 - 09:15, room MAICC A. TRIANTI

Environment Near the Sun: Advances, Challenges, and Prospects

Nour Raouafi, Johns Hopkins University Applied Physics Lab., Laurel, MD, USA

Wednesday, 20 July, 08:30 - 09:15, room MAICC A. TRIANTI

Astrobiology - Challenges and Opportunities for Research on Earth and in Space

Petra Rettberg, DLR Institute of Aerospace Medicine Radiation, Biology Division, Cologne, Germany

Thursday, 21 July, 08:30 - 09:15, room MAICC A. TRIANTI

The Surface of Mars and its Habitability

Sanjeev Gupta, Dept. of Earth Sciences and Eng., Imperial College London, United Kingdom

Friday, 22 July, 08:30 - 09:15, Room MAICC A. TRIANTI

LATEST Results

Sunday, 17 July, 14:30 - 16:00, Room MAICC BANQUETING

ROUNDTABLE of Space Agency Leaders

Sunday, 17 July, 16:30 - 18:00, Room MAICC A. TRIANTI

Topics

- Responsible use of space and stewardship of space environment;
- Hazards and challenges of climate change and relevant space observations;
- Observations and initiatives required for the forecasting of space weather;
- Scientists-industry relationships and the challenges of emerging private actors, in particular concerning issues linked to the sustainable use and regulation of outer space;
- Opportunities and projects for the sustainable use of small satellites for space research, and potential support to COSPAR's ongoing project to establish such a constellation

Participants

- **Philippe Baptiste**, Chief Executive Officer, Centre National d'Etudes Spatiales (CNES, France)
- **Ioannis A. Daglis**, President, Hellenic Space Center (HSC), Greece
- **Rolf Densing**, Director of Operations, European Space Agency (ESA)

- **Hitoshi Kuninaka**, Director General, Institute of Space and Astronautical Science (ISAS), Japan Aerospace Exploration Agency (JAXA), Japan
- **Young-deuk Park**, President, Korea Astronomy and Space Science Institute (KASI), Rep. of Korea
- **Giorgio Saccoccia**, President, Agenzia Spaziale Italiana (ASI), Italy
- **Shri S. Somanath**, Chair, Indian Space Research Organisation (ISRO), India
- **Chi Wang**, Director General, National Space Science Centre (NSSC), China
- **Thomas Zurbuchen**, Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration (NASA), USA

COSPAR Public Lecture

Geophysical catastrophes that changed history in the Eastern Mediterranean - what you don't know can hurt you

Costas Synolakis, USC, Los Angeles, CA, USA & Academy of Athens, Greece

Wednesday, 20 July, 19:30-21:00, room MAICC A. TRIANTI

Associated Events 2022

International Academy of Astronautics (IAA) Day, 09:30 - 18:00, Saturday, 16 July 2022, Academy of Athens, 'Main Hall' [Kentriki Aithousa], 28 Eleftheriou Venizelou Avenue, Athens 10679. Open to all participants.

International Living with a Star (ILWS) plenary meeting, 10:30 - 16:30, Saturday, 16 July 2022, Room MAICC MC 3.3. Open to all participants.

ISO/TC 20/SC 14/WG4 Members Meeting, 13:00 - 14:00, Sunday, 17 July 2022, Room DC FLORINA (Divani Caravel Hotel).

Future Exploration of Venus: International Coordination and Collaborations, 13:00 - 14:30, Sunday, 17 July 2022, Room Divani Caravel Hotel Athens View. Open to all participants.

International Space Environment Services (ISES) Meeting: 13:00 - 14:30, Monday, 18 July 2022, Room MAICC LL-8. Open to all participants.

James Webb Space Telescope Panel Discussion: 16:30-17:30, Monday, 18 July 2022, Room MAICC BANQUETING. Open to all participants.

Enriching Scientific Discovery through Inclusiveness, Diversity, Equity and Accessibility: IDEA for Today: 11:30 - 13:00, Tuesday, 19 July 2022, Room MAICC LL-6. Open to all participants.

COSPAR Task Group on Establishing an International Geospace Systems Program (TGIGSP), 13:00 - 14:30, Tuesday, 19 July 2022, Room MAICC UL-2.

Changing Access to Space, 14:30-15:30, Tuesday, 19 July 2022, Room MAICC MC 3.3. Open to all participants.

COSPAR Publishing Connect Authors Workshop: How to Get Published, 19:30 - 21:00, Tuesday, 19 July 2022, Room MAICC MC 2. Open to all participants.

Ganymede Workshop, 13:00 - 19:00, Wednesday, 20 July 2022, Room MAICC D. MITROPOULOS.

COSPAR Publishing Connect Reviewer Workshop: How to Review a Manuscript, 13:00 - 14:30, *Friday, 22 July 2022*, Room MAICC MC 2. Open to all participants.

Juno Science Meeting, 09:30 - 18:00, *Saturday, 23 July 2022*, Room MAICC KOKKALI.

Poster Sessions

There are two physical poster viewing sessions during the Assembly, namely:

Poster Session	Date	Timeslot	Poster Numbers
Group 1	Tuesday - Wednesday July 19 - 20	18:00-19:30	TW-001 to TW-300
Group 2	Thursday - Friday July 21 - 22	18:00-19:30	TF-001 to TF-300

The poster area is located at the main venue, Megaron Athens International Conference Centre (MAICC).

How to Find Your Poster No / Poster Board Onsite

Your poster number was sent to you on **22 June**. The poster number is also available by scanning the QR code below:



Poster boards are identified by the poster number (e.g., TW-xxx or TF-xxx, with xxx being the numeric poster id).

When to Mount / Remove Your Poster

For Group 1: the AM hours of Tuesday, July 19, would be appropriate to attach your poster, while it should be removed no later than 19:30 on Wednesday, July 20.

For Group 2: the AM hours of Thursday, July 21, would be appropriate to attach your poster, while it should be removed by Friday, July 22, at 19:30.

Important note: The Organizers cannot guarantee the availability of posters left beyond their nominal duration. If necessary for the next poster session or the conclusion of the poster program, posters left on frames will be removed and, possibly, discarded.

The Venues

Megaron Athens International Conference Center (MAICC)
-(Main Venue)

<https://www.megaron.gr/en/international-conference-centre/>

Vass. Sofias & Kokkali, 115 21, Athens, Greece



DIVANI CARAVEL HOTEL (The Headquarters Hotel)

<https://divanicaravelhotel.com/>

2 Vassileos Alexandrou ave., Athens, Greece



Shuttle Bus Service

Shuttle bus service between Main Congress Venue (MAICC) & Headquarters Hotel, (approx. 1km) is available for the participants on 17-23 July and during the Assembly operating hours, every 30 minutes (depending on traffic). The exact bus schedule is available at the Registration Desk.

Registration Operating Hours

The Registration Desk is located at the Megaron Athens International Conference Center (Main Venue) and will be operating according to the following schedule:

Saturday, July 16	16.30-19:30	Wednesday, July 20	08.00-21.00
Sunday, July 17	08:00-20:30	Thursday, July 21	08.00-19.00
Monday, July 18	07:30-20:00	Friday, July 22	08.00-19.30
Tuesday, July 19	08:00-21:00	Saturday, July 23	09.00-18.00

Speakers' Ready Area Operating Hours

The Speakers' Ready Area is located in the Megaron Athens International Conference Center. The in-person participants are able to upload and / or edit their presentation files, no later than 24 hours prior to the presentation time.

The Speakers' Ready Area will be in operation according to the following schedule:

Sunday, July 17	08.00-19.30	Thursday, July 21	08.00-19.30
Monday, July 18	07.30-18.00	Friday, July 22	08.00-19.30
Tuesday, July 19	08.00-19.30	Saturday, July 23	09.00-16.30
Wednesday, July 20	08.00-19.30		

Exhibition

Exhibition is located at the Megaron Athens International Conference Center and will be operating according to the following schedule:

Sunday, July 17	18.00-19.30	Wednesday, July 20	09.00-19.30
Monday, July 18	09.00-19.30	Thursday, July 21	09.00-19.30
Tuesday, July 19	09.00-19.30	Friday, July 22	09.00-19.30

COSPAR App

Scan the QR Code to bookmark the COSPAR App and check the detailed scientific program:



Developed by  ZARM

Onsite Staff & Volunteers

AFEA team and over 100 volunteers will gladly assist you navigate the Assembly premises easily. Our staff is traceable by specially designed clothing. Comprehensive signage is set inside both venues, as well. Please don't hesitate to contact our onsite personnel for any queries. Our team will be happy to assist you!

Internet Connection

Free Wi-Fi is accessible to all participants, please check the username/password available at the Registration Desk for each venue.

Use of a Protective Mask Against Covid-19

When this pocket program was redacted, the use of a protective mask against **COVID-19** was not mandatory in Greece. Using a protective mask on the Assembly premises though, is very highly recommended. Meeting staff and personnel will be wearing masks at all times of interaction with meeting participants. Social distancing of 1.5 meters (about 5 feet) is highly recommended. In cases of infection, we ask that infected participants avoid meeting areas and attend the rest of the Assembly virtually.

COVID-19 PCR Test

COSPAR Athens 2022 has teamed up with a private diagnostic center at a short walking distance from both venues (MAICC & Divani Caravel) that can carry out **COVID-19 PCR testing** for those who need it, as well as provide travel testing certification. An appointment by phone or e-mail is required.

All registered participants have received a discount coupon by email a few days before the Assembly, that needs to be displayed at the test center.



Address: Ventiri 1 & Vas. Sofias, 11528 Athens

Tel: +30 210 7241416

E-mail: athens@affidea.com

Web: <https://affidea.gr/en/>

Operating Hours

Monday-Friday: 06.30-21.00

Saturday: 07.30-15.00

For an antigen test, you may visit one of the several Pharmacies in the area. No appointment is required. The Registration desk staff and Volunteers, will be pleased to provide you with further instructions, if needed.

Childcare Services

In case you are visiting Athens with your family and Childcare Services are needed, you may contact:

THE HOTEL NANNY SERVICE
POWERED BY NANNUKA

Tel: +30 210 3610717 or +30 694 2437961

Web: www.thehotelnannyservice.gr

Disclaimer

The **Organizers** and the **PCO, AFEA Travel & Congress Services** accept no liability for any personal injury, loss or damage of property or additional expenses incurred to congress participants either during the congress or as a result of delays, strikes or any other circumstances. In addition, they accept no liability for illness (including death) from infectious diseases, including - but not limited to - COVID-19 during or after the congress dates. Participants are kindly requested to make their own arrangements with respect to health and travel insurance.

COSPAR 2022 LOC / Assembly On-site Secretariat & Professional Congress Organizer



Professional Congress Organizer (PCO)

Member of



Likavittou 39-41, 10672 Athens, GREECE

Tel: +30 2103668800 / **Fax:** +30 2103643511

Congress email: info@cosparathens2022.org

Social Events

Opening and Awards Ceremony



Date: Monday, July 18, 2022

Time: 18:00-20:00

At: Alexandra Trianti Hall
(located at MAICC)
Included in the registration fee

Welcome Reception

will follow the Opening & Awards Ceremony

Date: Monday, July 18, 2022

Time: 20:00-21:30

At: Megaron Atrium



COSPAR Evening For All (Ticketed event)



Date: Thursday, July 21, 2022

Time: 19:30-21:30

At: Zappeion Megaron
(Zappeion Mansion)

Discounted ticket per person: 70€

Book your tickets at the Registration Desk located at Megaron Athens International Conference Center.

Supported by



Social Program

Date: Friday, July 22, 2022
Time: 19:30-21:00
At: Alexandra Trianti Hall
(located at MAICC)
Included in the registration fee



The [uncertain] **“Four Seasons”** by Vivaldi, performed by the European Youth Orchestra on the island of Delos on **May 30, 2022** and broadcast throughout Europe by Germany’s ARTE TV network.

A powerful message about Global Warming as it affects the birthplace of the mythical twins born on Delos, Apollo and Artemis.

Program at a Glance

	Saturday, July 16	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20
08:00					
09:00			Interdisciplinary Lecture	Interdisciplinary Lecture	Interdisciplinary Lecture
10:00	IAA Day	Scientific Sessions	Scientific Sessions	Scientific Sessions	Scientific Sessions
11:00		Coffee Break			
12:00		Scientific Sessions	Scientific Sessions	Scientific Sessions	Scientific Sessions
13:00					
14:00		Lunch Break	Interdisciplinary Lecture Lunch Break	Lunch Break / Business Meetings	Lunch Break / Business Meetings
15:00		Latest Results	Scientific Sessions	Scientific Sessions	Scientific Sessions
16:00		Coffee Break			
17:00		Round Table	Scientific Sessions	Scientific Sessions	Scientific Sessions
18:00					
19:00	COSPAR Council Meeting – Session 1 (Closed)	S.I Learn About COSPAR	Opening and Awards Ceremony	Poster Session	Poster Session
20:00	IAA Banquet Dinner	Interdisciplinary Lecture		COSPAR Authors Workshop	Public Lecture
21:00			Opening Reception		
22:00					
23:00	Saturday, July 16	Sunday, July 17	Monday, July 18	Tuesday, July 19	Wednesday, July 20



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as *MUSEd* by the Athenian **URANIA**

Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	
				08:30
Interdisciplinary Lecture	Interdisciplinary Lecture			
				09:30
Scientific Sessions	Scientific Sessions	Scientific Sessions	COSPAR Council Meeting – Session 2	10:30
			(Closed)	
				11:30
Scientific Sessions	Scientific Sessions	Scientific Sessions		12:30
Lunch Break / Business Meetings	Lunch Break / COSPAR Reviewers Workshop	Lunch Break		13:30
				14:30
Scientific Sessions	Scientific Sessions	Scientific Sessions		15:30
				16:30
Scientific Sessions	Scientific Sessions	Scientific Sessions		17:30
				18:30
Poster Session	Poster Session	Exhibition Hall / Poster Area Closing		19:30
COSPAR Evening For All	Social Program (TBD)	COSPAR Council Dinner (Closed Event)		20:30
				21:30
Thursday, July 21	Friday, July 22	Saturday, July 23	Sunday, July 24	22:30



MEGARON ATHENS INTERNATIONAL CONFERENCE CENTRE (MAICC) (MAIN VENUE)

NEW BUILDING

HALLS AND FUNCTIONS

Level 0	A. TRIANTI
	KOKKALI
	EXHIBITION AREA
	D. MITROPOULOS
Level -1	N. SKALKOTAS
	MC 2, MC 3, MC 3.2, MC 3.3, MC 3.4, MC 3.5
	UL-1, UL-2, LL-8
	SPEAKERS READY AREA
Level -2	BANQUETING
	LL-1, LL-2, LL-3, LL-4, LL-5, LL-6, LL-7, UL-3

MAIN BUILDING

HALLS AND FUNCTIONS

Ground Floor	POSTER AREA
Level 1	CONFERENCE ROOMS 1, 2, 3, 4, 7
	CH. LAMBRAKIS (FRIENDS OF MUSIC)

Levels & Meeting Areas

DIVANI CARAVEL (HEADQUARTERS HOTEL)

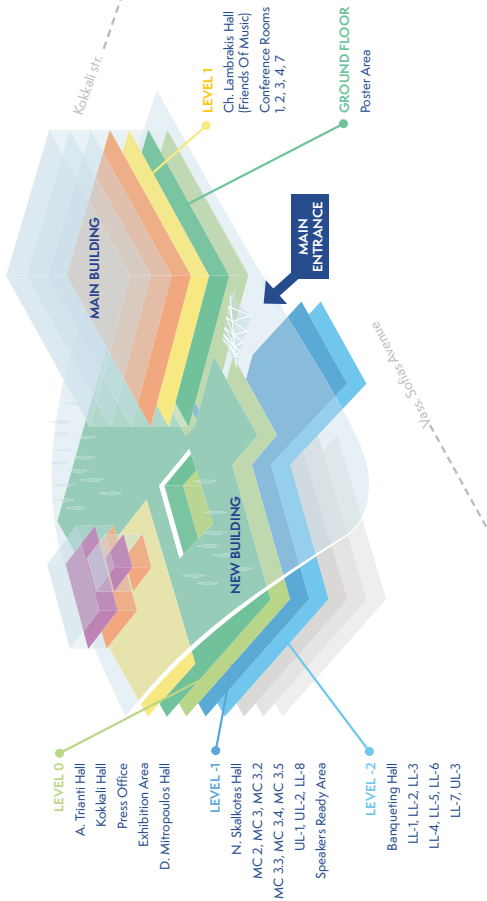
HALLS	
Lobby Level	FLORINA
Ground Floor	ILISSOS
Lower Ground Floor	VERGINA
Mezzanine Floor	KOZANI
	EDESSA
	NAOUSA
	MAKEDONIA A
	MAKEDONIA B
	PELLA
	MYKINES
Roof Garden Floor	ATHENS VIEW
	HORIZON



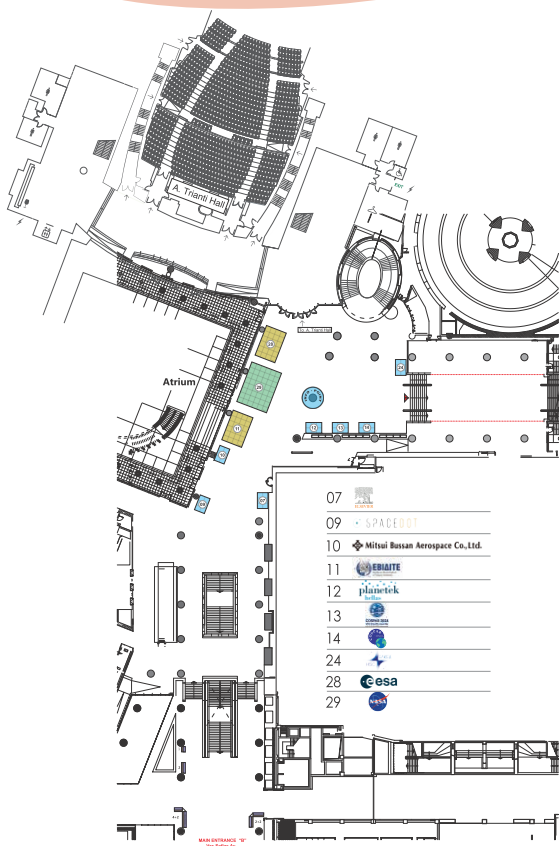
CONGRESS VENUE

MEGARON ATHENS INTERNATIONAL CONFERENCE CENTRE (MAICC)

LEVELS AND MEETING AREAS



Exhibition Floor Plan



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Program Overview

Overview – Scientific Events by Scientific Commission/Panel/Task Group

Sunday (17 July)	Monday-Saturday (18 – 23 July)	Room Key
09:30 - 11:00 Sessions	08:30 - 09:15 Interdisciplinary Lect. (Mon.-Sat.)	
11:00 - 11:30 Break	09:30 - 11:00 Sessions	MAICC =
11:30 - 13:00 Sessions	11:00 - 11:30 Break	Megaron
13:00 - 14:30 Lunch	11:30 - 13:00 Sessions	Athens
14:30 - 16:00 Latest Results	13:00 - 14:30 Lunch / Reviewer Workshop (Fri.)	International
16:00 - 16:30 Break	14:30 - 16:00 Sessions	Convention
16:30 - 18:00 Roundtable	16:00 - 16:30 Break	Centre
18:00 - 19:30 Exhib. & Poster Opening /	16:30 - 18:00 Sessions	
19:30 - 20:15 Interdisciplinary Lect.	18:00 - 20:00 Opening and Awards Ceremonies (Mon.)	DC =
	18:00 - 19:30 Poster Session (Tues. – Fri.) / Exhib. & Poster Closing (Fri.)	Divani Caravel Hotel
	19:00 - Opening Reception (Mon.)	
	19:30 - 21:00 Author Workshop (Tues.)	
	19:30 - 21:00 Public Lecture (Wed.)	
	19:30 - COSPAR Evening for All (Thurs.)	
	19:30 - Social Prog. (Fri.)	

SCIENTIFIC COMMISSION A

Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
A0.1															DC Makedonia B
A0.2															DC Makedonia B
A0.3															DC Florina
A0.4															DC Florina
A1.1															DC Makedonia B
A2.1															DC Florina
A3.1															DC Florina
A3.2															DC Florina

SCIENTIFIC COMMISSION B

Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
B0.2															DC Athens View
B1.1															DC Horizon
B1.2															DC Horizon
B1.3															DC Horizon
B2.1															
B3.1															DC Athens View
B4.1															DC Athens View
B4.2															DC Naousa
B4.3															DC Naousa
B4.4															DC Naousa
B4.5															DC Naousa
B5.1															DC Florina
B5.2															DC Pella
B5.3															DC Florina
B6.1_E4.1															DC Makedonia B

SCIENTIFIC COMMISSION C																	
Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM			
C0.1	■	■													DC Ilisos		
C0.2			■	■	■										DC Pella		
C0.3			■	■	■	■	■	■							DC Mykines		
C1.1			■	■	■	■	■	■	■						DC Ilisos		
C1.2									■	■	■				DC Mykines		
C1.3							■	■	■	■	■	■			DC Ilisos		
C1.4					■	■	■	■							DC Makedonia A		
C1.5											■	■	■	■	DC Mykines		
C1.6							■	■							DC Mykines		
C1.7							■	■							DC Mykines		
C2.1			■	■	■	■									DC Makedonia A		
C2.2					■	■	■								DC Pella		
C3.1							■	■	■						DC Pella		
C3.2											■	■	■	■	DC Ilisos		
C4.1										■	■	■	■		DC Pella		
C4.2													■	■	DC Pella		
C5.1_ D4.1											■	■			DC Makedonia A		
C5.2_ D4.2									■	■	■	■	■		DC Makedonia A		

SCIENTIFIC COMMISSION D																
Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
D0.1							■	■							MAICC Skalkotas	
D1.1													■	■	MAICC UL-1	
D1.2					■	■	■	■		■	■	■	■	■	MAICC UL-2	
D1.3					■	■	■	■							MAICC MC 2	
D1.4							■	■		■	■				MAICC MC 2	
D1.5							■	■		■	■				MAICC UL-3/UL-2	
D1.6	■	■	■	■		■	■								MAICC MC 2/Kokkali	
D1.7					■	■	■								MAICC UL-1/MC 2	
D2.1_E3.1	■	■	■	■	■	■									MAICC LL-1	
D2.2_E3.2										■	■	■	■	■	MAICC MC 2	
D2.3_E3.3												■	■	■	MAICC LL-1	
D2.4_E3.4	■	■	■	■	■										MAICC UL-1	
D2.5_E3.5							■	■	■	■					MAICC UL-1	
D2.6_E3.6					■	■	■								MAICC LL-1	
D3.1			■	■	■	■									MAICC UL-2	
D3.2					■	■	■	■							MAICC UL-2	
D3.3											■	■	■		MAICC UL-1	
D3.4										■	■	■	■		MAICC LL-1	
D3.5											■	■	■	■	MAICC LL-1/MC 3	
D3.7										■	■	■			MAICC LL-8	
C5.1_D4.1											■	■			DC Makedonia A	
C5.2_D4.2									■	■	■	■	■		DC Makedonia A	

SCIENTIFIC COMMISSION E

Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
E1.1															MAICC LL-8
E1.2															MAICC LL-2
E1.3															MAICC MC 3
E1.4															MAICC LL-3
E1.5															MAICC LL-2
E1.6															MAICC MC 3.4
E1.7															MAICC MC 3.3
E1.8															MAICC LL-8
E1.9															MAICC MC 3.3
E1.10															MAICC MC 3.3
E1.11															MAICC LL-7
E1.12															MAICC LL-8
E1.13															MAICC MC 3.4
E1.14															MAICC MC 3.3
E1.15															MAICC LL-7
E1.16															MAICC LL-7
E1.17															MAICC MC 3.3
E1.18															MAICC MC 3.4
E2.1															MAICC LL-3
E2.2															MAICC LL-2
E2.3															MAICC LL-3
E2.4															MAICC Skalkotas
E2.5															MAICC MC 3.4
D2.1_E3.1															MAICC LL-1
D2.2_E3.2															MAICC MC 2
D2.3_E3.3															MAICC LL-1
D2.4_E3.4															MAICC UL-1
D2.5_E3.5															MAICC UL-1
D2.6_E3.6															MAICC LL-1
B6.1_E4.1															DC Makedonia B

SCIENTIFIC COMMISSION F

Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
F0.1															MAICC UL-3
F1.1															DC Edessa
F2.1															DC Mykines/Vergina
F2.2															DC Vergina
F2.3															DC Vergina
F2.4															DC Vergina
F3.1															DC Kozani
F3.2															DC Kozani
F3.3															DC Edessa
F3.5															DC Kozani
F3.6															DC Vergina
F4.1															DC Edessa
F4.2															DC Edessa
F4.3															DC Edessa
F5.1															DC Kozani
F5.2															DC Edessa

SCIENTIFIC COMMISSIONS G AND H, PANELS, OTHER EVENTS															
Event	Sunday		Monday		Tuesday		Wed.		Thursday		Friday		Saturday		Room
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
G0.1															MAICC LL-5
G0.2															MAICC LL-5
G0.3															MAICC LL-5
G0.4															MAICC LL-5
H0.1															MAICC Kokkali
H0.2															MAICC Kokkali
H0.3															MAICC Kokkali
H0.4															MAICC Kokkali
H0.5															MAICC Kokkali
H0.6															MAICC Kokkali
LR.1															MAICC Banqueting Hall
PCB.1															MAICC LL-5
PCB.2															MAICC LL-5
PE.1															MAICC Mitropoulos
PE.2															DC Vergina
PEDAS.1															MAICC UL-3
PEX.1															MAICC Mitropoulos
PEX.2															MAICC Mitropoulos
PIR.1															MAICC LL-5
PolS.1															MAICC LL-1
PolS.2															MAICC LL-1
PPP.1															MAICC UL-3
PPP.2															MAICC UL-3
PPP.3															MAICC UL-3
PRBEM.1															MAICC Skalkotas
PRBEM.2															MAICC Skalkotas
PRBEM.3															MAICC Skalkotas
PSB.1															MAICC LL-6
PSD.1															MAICC LL-6
PSSH.1															MAICC LL-6
PSW.1															MAICC LL-4
PSW.2															DC Kozani
PSW.3															MAICC LL-4
PSW.4															MAICC LL-4
PSW.5															MAICC LL-4
PSW.6															MAICC LL-4
PSW.7															MAICC LL-4
PSW.9															MAICC LL-4
TGCSS.1															MAICC LL-6
Special.1															MAICC Skalkotas Sunday 17 July 18h-19.30

Program Overview by Event Number

EVENT	TITLE
A0.1	Land-Ocean-Atmosphere Interaction
A0.2	The Group on Earth Observations (GEO)
A0.3	Big Earth Observation Data for Resilience and Sustainability of Social and Economic Sectors
A0.4	The Bond Between Spacecraft Instrument Technologies and the Science They Enable
A1.1	Space-based and Sub-orbital Observations of Atmospheric Physics and Chemistry: Vital Information on the Health of Our Planet
A2.1	Science and Applications Enabled by Satellite Missions for Global Ocean, Inland Seas, and Cryosphere
A3.1	Update on Copernicus Land Products Validation Activities
A3.2	New Developments and Applications of Land Surface Phenology (LSP)
B0.2	Space Resources
B1.1	Small Body Exploration Sciences: From the Solar System to Interstellar Objects
B1.2	Kuiper Belt and Trans-Neptunian Objects
B1.3	Astrochemistry and Composition as Ariadne's Threads for Planet Formation
B2.1	Space Geodesy and Geodynamics Techniques

B3.1	Lunar Science and Exploration
B4.1	Venus Science and Exploration
B4.2	Mars Science Results
B4.3	Forward Planning for the Exploration of Mars
B4.4	Mars Sample Return
B4.5	Mercury
B5.1	Ocean Worlds
B5.2	Giant Planets and their Systems
B5.3	Juno Results at Jupiter
B6.1_E4.1	Exoplanet Detection and Characterisation: Current Research, Future Opportunities and the Search for Life Outside the Solar System
C0.1	International Standards for Space Environment
C0.2	Advances in Remote Sensing of the Middle and Upper Atmosphere and Ionosphere from the Ground and from Space, including Sounding Rockets and Multi-instrument Studies
C0.3	Variabilities of Radio Wave Propagation Characteristics in Lower Ionosphere
C1.1	Recent Advances in Equatorial, Low- and Mid-latitude Mesosphere, Thermosphere and Ionosphere Studies
C1.2	Conditions of Enhanced Risk for the Ionospheric Weather
C1.3	Magnetosphere-Ionosphere-Atmosphere Coupling Dynamics at Different Temporal and Spatial Scales
C1.4	Probing the Lower-Thermosphere-Ionosphere with In-situ Measurements

C1.5	Space Weather and Earth's Atmosphere-Ionosphere
C1.6	Development and Use of Upper Atmosphere Models and Whole Atmosphere Models for Space Weather Application
C1.7	Information Theory and Machine Learning for Geospace Research
C2.1	Wave Coupling Processes and Consequences in the Whole Atmosphere and Ionosphere
C2.2	Advances in External Forcing Studies for the Middle Atmosphere and Lower Ionosphere
C3.1	Planetary Atmospheres
C3.2	Planetary Upper Atmospheres, Ionospheres and Magnetospheres
C4.1	Real-time and Retrospective Ionosphere Modelling with In-situ and GNSS Satellite Data
C4.2	Development of Models Related to the COSPAR International Reference Atmosphere and to ISO Standards for the Atmosphere
C5.1_D4.1	Active Space Experiment
C5.2_D4.2	Dust Observations in Space and Laboratory Experiments
D0.1	Overview Session Commission D
D1.1	Neutron Monitor Science: Current and Future Prospects
D1.2	Magneto-plasma Structures, Streams and Flows in the Heliosphere
D1.3	Understanding and Predicting Solar Energetic Particle Events across the Heliosphere
D1.4	Revealing the Heliosphere and Interstellar Medium with IBEX and IMAP

D1.5	Theory and Applications of Kappa Distributions in Space Science
D1.6	Acceleration and Transport of Energetic Particles in the Heliosphere and Beyond
D1.7	Large-Scale Heliospheric Structure: Theory, Modelling, and Data
D2.1_E3.1	Exploring the Cradle of the Solar Wind with PSP/Solo/P roba-3: What Do We Really Know about the Inner Solar Corona?
D2.2_E3.2	Connecting Solar and Stellar Coronal Mass Ejections: Lessons Learned, Challenges and Perspectives
D2.3_E3.3	Parker Solar Probe: Ushering a New Frontier in Space Exploration
D2.4_E3.4	Magnetic Reconnection in the Turbulent Plasmas from the Sun through the Heliosphere to Galaxies
D2.5_E3.5	Probing the Sources of Solar Wind and Energetic Particles and Tracking their Journey into the Heliosphere
D2.6_E3.6	Space Climate: From Past to Present and into the Future
D3.1	Highlights of Magnetospheric Plasma Physics
D3.2	Cross-scale Coupling and Multi-point Observations in the Magnetosphere
D3.3	Origin of Non-thermal Distributions in Space Plasmas and their Role in Wave Generation and Heating / Acceleration of Particles
D3.4	Particle Acceleration and Loss in the Earth and Planetary Magnetospheres
D3.5	Magnetotail Dynamics and Substorms during Storm and Non-storm Times
D3.7	Dialogues Between Space Science and Art

E1.1	The Last Few Miles: Accreting Black Holes Between the Disk, Corona and Jet
E1.10	Star Formation with Spaceborne Infrared Facilities: the Era of JWST
E1.11	Supermassive Black Holes at High Redshift
E1.12	Observations and Prospects for X-ray Polarimetry
E1.13	Detecting Gravitational Waves from Space
E1.14	Astronomy from Space and the Ground: Synergies and Challenges
E1.15	Broad-band and Multi-messenger View of High-energy Transient Phenomena
E1.16	X- and Gamma-ray Counterparts of New Transients in the Multi-messenger Era
E1.17	Small Satellites and Constellations for Astrophysics and Planetary Exploration
E1.18	Twenty Years of AGN Discoveries with Space Observations: Main Results and Perspectives on AGN in the High-energy Sky
E1.2	Black Hole Astrophysics: Observational Evidence and Theoretical Models
E1.3	Origins of Cosmic Rays
E1.4	Signatures of Cosmic Black Holes
E1.5	Science with AstroSat: from Ultraviolet to Gamma Rays
E1.6	Spectral/Timing/Polarimetry Properties of AGN: Theory and Observations of the Inner Workings in these Objects
E1.7	Properties and Evolution of Active Galactic Nuclei in Galaxy Clusters

E1.8	Timing the Spectra of Accreting Black Holes and Neutron Stars. Advanced Analysis and Modelling
E1.9	Cherenkov Telescope Array: The Ground-based Eyes to Observe the Gamma Ray Universe
E2.1	Solar and Stellar Magnetic Flux Ropes
E2.2	Catalyzing Progress in our Understanding of the Physics of Solar & Stellar Eruptions via Data Driven Simulations
E2.3	Seismology of the Sun, Stars and their Atmosphere
E2.4	The Dynamic Sun at Small Scales
E2.5	Abundance Variations and Fundamental Questions in Solar and Stellar Physics
F0.1	Scientific Commission F Overview Talks
F1.1	Gravity Perception and Response in Plants and Fungi: Ground and Space Studies
F2.1	Biological Effects of Space Radiation and Co-stressors: from Basic Research to Practical Recommendations
F2.2	Space Radiation Risk, Quality of Radiation and Counter-Measures: Physical and Biological Mechanisms, Modeling and Simulations
F2.3	Space Radiations: Dosimetric Measurements and Related Models, Detector Developments and Ground-Based Characterization
F2.4	Genetic Epigenetic and Metabolic Changes in Spaceflight and Simulated Spaceflight
F3.1	Chemical Complexity of Molecular Universe
F3.2	Astrobiology
F3.3	Habitability of Mars

F3.5	Simple and Complex Molecules in Star-forming Regions
F3.6	Quest to Detect Extraterrestrial Life: Scientific Approaches and Cultural Impact of Discovery
F4.1	Advanced Life Support Technologies and Test Bed Facilities
F4.2	Influence of Spaceflight Environments on Biological Systems
F4.3	Space Food and Nutrition
F5.1	Molecular, Cellular and Physiological Changes in Response to Spaceflight and Ground-based Analogues
F5.2	Exploring the Space Exposome and Approaches for Cumulative Risk Assessment of Spaceflight-Associated Human Health Risks
G0.1	Gravitational Effects on Physico-Chemical Processes
G0.2	Drop Tower Days
G0.3	Influence of Free Space Environment on the Behavior of Materials
G0.4	Advanced Materials and their Technologies for Space Exploration
H0.1	Commission H Highlight Talks
H0.2	Gravitation, Dark Energy and Dark Matter
H0.3	Space Missions for Fundamental Physics
H0.4	Gravitational Wave Astrophysics
H0.5	Advanced Methods for Geodesy, Metrology, Navigation and Fundamental Physics
H0.6	Enabling Technologies for Fundamental Physics Experiments and Missions
LR.1	Latest Results

PCB.1	Capacity Building
PCB.2	Small Satellites for Capacity Building
PE.1	Space Explorers in Schools - Empowering the Next Generation of Researchers
PE.2	Current Trends, Initiatives and Research in Education and Outreach for Space Sciences
PEDAS.1	The Science of Human-Made Objects in Orbit: Space Debris and Sustainable Use of Space
PEX.1	Establishing a Framework for Scientifically based Stewardship of Celestial Bodies
PEX.2	A Shared Vision for Global Exploration of Moon, Mars, near Earth Asteroids and beyond
PIR.1	Near-term Exploration of the Interstellar Medium
PoIS.1	Monitoring and Forecasting of Space Weather Conditions
PoIS.2	Mars Atmospheric Modeling Using Sparse and Disparate Data
PPP.1	Planetary Protection
PPP.2	Planetary Protection Mission Implementation and Status
PPP.3	Planetary Protection Research and Development
PRBEM.1	Empirical and Numerical Models of the near-Earth Radiation Environment
PRBEM.2	Radiation Belt Missions, Data Sets, Data Processing, and Intercalibration
PRBEM.3	Extending the Prediction Horizon of Earth's Radiation Belts: from Science to End-users Space Weather Services
PSB.1	Scientific Ballooning: Recent Developments in Technology and Instrumentation

PSD.1	Satellite Dynamics: New Developments and Challenges for Earth and Solar System Sciences
PSSH.1	Engaging Space in Society : the new COSPAR Panel on Social Sciences and Humanities
PSW.1	Space Weather Nowcasting and Forecasting Capabilities for Improved Space Weather Services: The Role of Validation and Performance Assessment in Enabling R2O and O2R
PSW.2	Space Weather at Planetary Bodies in the Solar System
PSW.3	Ionospheric Indices and Scales for Applications
PSW.4	Space Weather Information Architecture and Innovative Solutions
PSW.5	COSPAR International Space Weather Action Teams (ISWAT): Progress and Plans
PSW.6	COSPAR Space Weather Roadmap as a Community Driven Effort
PSW.7	Panel Discussion: Global Coordination in Space Weather and Interfacing with User Groups
PSW.9	International Space Weather Missions and Coordination: Current and Planned Missions
S.1	Come and Learn about COSPAR and this Assembly
TGCSS.1	Small Spacecraft - Big Science

Notes





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