



## Highlights from 72<sup>nd</sup> International Astronautical Congress IAC2021 at Dubai

by Prof Bernard Foing, Président Space Renaissance International, IAC2021 International Programme Committee

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IAC is organised every year by IAF International Astronautical Federation. My first IAC was in 1992 as World Space Congress in Washington DC where I organized a symposium on Astronomy and Space Science from The Moon. This year the 72<sup>nd</sup> International Astronautical Congress IAC 2021 25-29 October in presence in Dubai at World Trade Center was very comprehensive, exciting and attended by more than 6500 registered participants from over 110 countries, under the theme “Inspire, Innovate & Discover for the Benefit of Mankind”. See the [IAC2021 event on the IFASTRO website](#). The IAC2021 plenary programme included Opening Ceremony, Opening of the Exhibition. We had Plenary events:

- (Monday pm) Heads of Agencies, ISS Expeditions 60/61 Reunion with astronauts;
- (Tuesday) Small Satellites Solving Climate Challenges, Mars 2020: First Step towards Mars Sample Return;
- (Wednesday) Heads of Emerging Agencies, Innovative Space Solutions for Search and Rescue and Life Saving Applications;
- (Thursday) Next Generation Impact on Social Responsibility in Space.

We had also Highlight Lectures:

- (Tuesday) The OSIRIS-REx Sample Return Mission;
- (Wednesday) Twenty Years of Saving Lives from Space: “International Charter Space and Major Disasters”;
- (Thursday) IAF World Space Award – Hayabusa2 Mission: Sample Return from C-type Asteroid Ryugu by Dr Yuichi Tsuda, and A Late Breaking News
- (Friday) on New Perspectives on “Democratization of Spaceflight” by- NewShepard-18 Astronaut Dr. Chris Boshuizen.

We ended by a memorable closing ceremony with prizes giving to recognized personalities, Young Space Leaders, Emerging Space Leaders, Student papers, and celebrating all IAC2021 key contributors, announcing Milano as site for IAC2024 (after Paris 2022 and Baku 2023) , and new president-elect from IAC2022 Clay Mowry (VP, Blue Origins), 4 new IAF VPs and the passing of IAF Flag to Paris next IAC2022. See the [IAC2021 Plenary Programme](#).

I have been organizing a number of plenary events at previous IACs (a list is given for recent IACs at [my bio on the IAF website](#)).

IAC also includes a GNF Global Networking Forum of panel sessions proposed by institutional members of IAF federation, and a Programme of Special Sessions SpS conducted in parallel to technical sessions.

SRI was present and active (see [A. Autino's report](#)). I participated as panelist to:

- (Tuesday SpS) Impact of Satellite Constellations on Astronomy and Society: a Multi-disciplinary Approach;
- (Wednesday SpS) Designing a Geostationary Space Station for 22nd Century;
- (Thursday GNF, see picture below with Horizon 2061 supporters team) Horizon 2061 Planetary Exploration Foresight: Science, Missions, Technology, Infrastructures & International Stakeholders;
- (Friday GNF) The Deep Space Food Movement.



**Fig 1: Planetary Exploration Horizon 2061 supporters team after GNF session**

IAC has technical symposia in 5 categories: A Science and Exploration, B Applications and Operations, C Technology, D Infrastructure, E Space and Society. They were run in sessions in 20 rooms over the whole week. Since 2003 I have been coordinating every year the A3 Solar system exploration Symposium, that includes various sessions for the Moon, Mars, Inner Solar System, Small Bodies, Outer Solar System. For this task, I am part of IAC International Programme Committee. This year session chairs reviewed 3390 abstracts, and accepted 2358 of them, which after confirmation were given by registered authors or co-authors.

In particular I have been organizer of 3 lunar oral sessions (with more than 40 oral presentations at Dubai), and A3IP Solar System Interactive presentations (with 42 presentations on 6 screens). More than 1500 conference papers were uploaded, in addition to the requested presentations. I



presented in a number of events and oral technical papers, and was co-author of 15 others presented by collaborators and students at IAC. Adriano Autino, Julio Rezende, Susan Ip-Jewell and other SRI members had also oral papers presented at technical sessions, and participated in special sessions and panels. SRI members authored or co-authored more than 30 conference articles now included in IAF Digital library. <https://iafastro.directory/iac/browse/IAC-21/>  
<https://www.iafastro.org/assets/files/events/iac/2021/iac2021-fp-genral-overview.pdf>

We participated to a number of these technical sessions, discussed collaborations with great colleagues and institutions. The Space Exhibition was very impressive with stands from different space agencies, industries, countries and stakeholders. We met there with colleagues, and even found a Space Inflatable Habitat to be carried by EL3 European Lander to discuss collaborations.



**Fig 2: SRI space habitats partners in front of OASIS inflatable habitat prepared by Spartan Space for EL3 European Lunar Lander at IAC2021 expo.**

We advanced partnerships between SRI Space Renaissance and IAF, ILEWG, International MoonBase Alliance, ISU, space agencies, industries, NGOs, UN OOSA, SGAC Space Generation Advisory Council. With SRI members present and remote, we participated also to a number of [IAF Committee meetings](#) and proposed SRI candidates that were voted as members or experts in some of them, renewing participation for 2021-2024:

Committee for the Cultural Utilisation of Space (ITACCUS) (elected chair B Foing 2018-2021, reelected 2021-2024);

- Space Exploration Committee;
- Space Traffic Management Committee (Established in 2020);
- Space Habitats Committee (Established in 2020);
- Space Astronomy Technical Committee (SATC);
- Space Museums and Science Centres Committee;

- Space Societies Committee (SSC);
- Space Universities Administrative Committee (SUAC);
- Technical Activities Committee (TAC);
- Workforce Development-Young Professionals Programme Committee (WD-YPP);
- Committee on Integrated Applications;
- Committee on Near Earth Objects (NEO);
- Committee on Space Security;
- Earth Observations Committee;
- Subcommittee on the Global Earth Observation System of Systems (GEOSS);
- Human Spaceflight Committee;
- Space Life Sciences Committee.

The weekend 22-24 Oct before IAC, we attended the 28th Workshop on Space Technology for Socio-Economic Benefits: “Space Exploration – A source of inspiration, innovation and discovery” where I gave a talk on EuroMoonMars Earth Space Innovation programme, and chaired a session on Workforce development and Capacity building. We were invited to support UN OOSA Space4All initiative in coordinating a platform for access of analogue research bases and activities over the world in collaboration with SRI, ILEWG EuroMoonMars, International Moonbase Alliance and other partners. <https://www.unoosa.org/oosa/en/ourwork/psa/schedule/2021/2021-iaf.html>

We had also an opportunity for interesting social networking at UN-IAF workshop reception, a Karman fellow event where I gave a keynote talk on International Lunar Exploration, IAC welcome reception (with a follow-up event hosted by Henk Rogers and Intl Moonbase Alliance/Blue Planet Foundation) , an Industry breakfast at 7h00 am, at a SGAC alumni event hosted by Planet, a 3G Diversity breakfast celebrating JPL achievements, a series of VIP lunches with personalities and invited speakers, an ISU/SGAC/YP event for Young Professionals, a Dinner with celebrity chef Martha Stewart and the Space Food Movement team, and finally an impressive Gala Dinner at the low terrace with Dancing Fountains of impressive 820 m high Burj Khalifa tower.



**Fig.3A : SRI president B. Foing and founder/VP/ambassador A. Autino networking at SGAC Alumni/Planet event with Clay Mowry (VP Blue Origins, new IAF president-elect) , and Prof TaiSik Lee (former president Korea Society of Civil engineers, co-director International Moonbase alliance)**



**Fig 3B: After GNF on Space Food Movement and before ASE Astronauts GNF, with chef/homestyle celebrity Martha Stewart and astronauts Jessica Meir & Hassa al Mansoori**

The week before IAC and the day after, we had also the opportunity to visit Dubai world Expo, where we walked for hours and discovered very inspiring National Pavilions, as well as Thematic Pavilions on Mobility, Opportunity and Sustainability. This was a great opportunity to discover, explore but also develop contacts with some exhibitors. The expo will last until 31 March 2022, so we recommend you to visit it and meet our local and international SRI partners there. We might think of an SRI Dubai follow-up event in January-February 2022.

We shall have the IAF Spring meetings in Paris 21-24 April 2022 where all IAF committees will meet, and we shall do abstract selection and preparation for IAC2022. SRI and partners will organize specific activities also at that time.





**Fig 4: The passing of IAF Flag from IAC2021 MBRSC Dubai hosts to the organisers of Paris IAC2022: IAF President Pascale Ehrenfreund, IAF Executive Director Christian Feichtinger, & Lionel Suchet (CNES COO, newly elected IAF VP)**

The next IAC will be in Paris on 18-22 Sept 2022 <https://iac2022.org/>. SRI and partners will be actively involved in preparation and participation. See you all there for a Space Renaissance!

**Prof Bernard Foing**, Président Space Renaissance International, IAC2021 International Programme Committee.

## References and links

<https://www.iafastro.org/events/iac/iac-2021/>

<https://www.iafastro.org/events/iac/iac-2021/plenary-programme-2021/>

<https://www.iafastro.org/biographie/bernard-foing.html>

- Tuesday 26 October 2021: Impact of Satellite Constellations on Astronomy and Society: a Multi-disciplinary Approach
- Wednesday 27 October 2021: Designing a Geostationary Space Station for 22nd Century
- Thursday 28 October: Horizon 2061 Planetary Exploration Foresight: Science, Missions, Technology, Infrastructures & International Stakeholders
- Friday 29 October: The Deep Space Food Movement

<https://iafastro.directory/iac/browse/IAC-21/>

<https://www.iafastro.org/assets/files/events/iac/2021/iac2021-fp-genral-overview.pdf>

<https://www.iafastro.org/about/iaf-committees/>

- Space Traffic Management Committee

- [Committee for the Cultural Utilisation of Space \(ITACCUS\) \(2018-2021\)](#)
- [Space Exploration Committee \(2018-2021\)](#)
- [Space Traffic Management Committee \(Established in 2020\)](#)
- [Space Habitats Committee \(Established in 2020\)](#)
- [Space Astronomy Technical Committee \(SATC\) \(2018-2021\)](#)
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