



International Astronautical Federation

News

Connecting Space People

1/2016 (March 2016)

President's Welcome



Dear IAF Community,

We will soon meet at the Spring Meetings inaugurating a year of unforgettable events such as the very innovative Global Conference on Space and the Information Society and the first ever IAC in Mexico! Last February's site visit of the next IAC venue (Expo Guadalajara, in Guadalajara) confirmed that the preparation for this most outstanding annual event continues smoothly. Another IAF unmissable event, the Global Networking Forum, will be full of attractive topics at this Spring Meetings. You will also discover the most recent news from IAF Members.

Finally, an interview of a prominent figure of the IAF emphasizes the importance of the upcoming #GLIS2016 which will be held in Geneva. I would like to express my special appreciation to our IAF members for their presence and contribution to this newsletter. Many thanks to all for your contributions and enjoy the reading!

Kiyoshi Higuchi
President

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MEMBERS' CORNER

COMMITTEE BROADCASTS

INTERVIEW WITH: Otto Koudelka

IMPORTANT DEADLINES:

- Early registration rate GLIS 2016 – until 1 May 2016
- Early registration rate IAC 2016 – until 15 June 2016
- IAC 2016 Authors Notification – 21st April 2016
- IAC 2016 Manuscript and Presentation upload opening – 2nd May 2016



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International Astronautical Federation

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IAF Spring Meetings

The annual IAF Spring Meetings are taking place next week at the CAP-15 Conference Centre in Paris. The Spring Meetings allow the IAF's network of scientific and technical experts to get together once a year and organise key aspects of the upcoming IAC. Administrative and Technical Committees meet, the International Programme Committee selects the abstracts to be presented during the #IAC2016, and the IAF Bureau also meets. This year the Global Networking Forum (GNF) will showcase three events: a panel discussion on "COP21: Results and Impacts on Space Activities", a presentation of the Moon Village Concept by ESA Director General, Jan Woerner, and finally a presentation of the IAF Video on "Diversity: Connecting all Space People". We are looking forward to seeing you at this exciting GNF session on 23rd March at 18:00 at CAP15.

There will also be the usual [WIA-Europe Breakfast and Awards Ceremony \(WIA-E\)](#) on Tuesday, 22nd March 2016, at 8:00 – 9:30.

The Full IAF Spring Meetings Programme is on the IAF's website.

IAF Welcome Kit

Dear Members,

The IAF is always open to new ideas and is looking forward to cooperate with you!

Please read this new Welcome Kit to help you discover how to best profit from your role within the IAF and to feel connected to the other IAF Members and the Federation itself.

Find out how to actively get involved in the Federation's Activities, when to meet the IAF Community, what is the IAF Alliance Programme, and who is your daily interface!

Read the welcome kit for members here:

<http://www.iafastro.org/welcome-kit-for-members/>



#GLIS2016 REGISTRATION IS NOW OPEN!

How can Space and the Information Society contribute to the UN Sustainable Development Goals and what is the role of Space in a worldwide connected society?

Find out at the GLOBAL CONFERENCE ON SPACE AND THE INFORMATION SOCIETY 2016

Connecting the World via Space Policies, Technologies and Applications!

Registration is now open – You can benefit from the early registration rate until the 1 May 2016!

For more information visit www.glis2016.org

Check for more news on our Social Media





IAC 2016 – Abstract review process

Abstract submission has been really successful. More than 2700 abstracts from 78 countries have been received. Thank you all for your interest in IAC2016 and your relevant contributions!

The abstract review process has already started. A notice of acceptance or rejection will be sent on 21st April to the submitting authors only.

It is the responsibility of the submitting author to notify other co-authors of the International Programme Committee's decision. Session assignments will be mailed in June to the address given for correspondence. Once scheduled, presentations cannot be moved in the program.

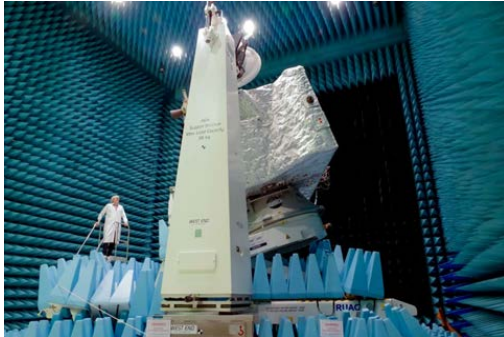
All abstracts accepted for the congress will be presented as oral or as interactive presentations. They will be published in the IAC proceedings, in the IAC Paper Archive as well as in the congress application.

Questions? Contact the IAF Secretariat at support@iafastro.org



MEMBERS' CORNER

BepiColombo MPO PFM successfully finished Radiated EMC test



Mercury Planetary Orbiter in the Maxwell EMC Facility

In December 2015 the Mercury Planetary Orbiter (MPO) flight model successfully finished its Radiated EMC Test in the Maxwell EMC facility. The test was composed out of EMC launcher compatibility, MPO EMC auto-compatibility and radiofrequency auto-compatibility.

The MPO is ESA's scientific contribution to the BepiColombo mission to Mercury and has been developed and integrated by Airbus Defence & Space and Thales Alenia Space Italy. The Maxwell EMC facility is part of the ESA test centre in The Netherlands which is operated by European Test Services (ETS) B.V.

In order to perform the Radiated EMC test a dedicated setup has been provided by ETS in cooperation with "Machinefabriek West-End B.V." This setup consists of a base frame which support the MPO multipurpose trolley including MPO and the motion / turning system for the RF transparent tower supporting the high gain antenna. With the aid of the motion system it was possible to adjust the MPO high gain antenna exactly in the required test position.

The next BepiColombo test is the Mercury Transfer Module (MTM) Thermal Vacuum and Balance Test in ESTEC's Large Space Simulator.

CIDA-E PARTICIPATED IN THE VII SPACE CONFERENCE OF THE AMERICAS

The VII Conference of the Americas was held in Managua, Nicaragua, in November 2015 under the theme "Space science and technology for human development in an environment of cooperation, culture of peace and respect for international space law".

The following topics were discussed: Education, Science and Technology; Natural Resources and Environment; Specific

Applications and International Cooperation. There were also held two panels, one on "Training on Space Science and Technology" and another on "Experiences of International Cooperation in the Use of Space Technology".



The Conference concluded with the adoption of the Managua Declaration and the Action Plan, through which countries raised the need to develop and promote space science, as well as scientific and technological cooperation.

200 people, including scientists, university students and delegates from agencies and space institutions of Argentina, Brazil, Canada, Chile, Cuba, France, Italy, Mexico, Nicaragua, Panama, Russia, Venezuela, United States and Uruguay, participated in the event, as well as representatives of NASA and the United Nations Office for Outer Space Affairs (UNOOSA).

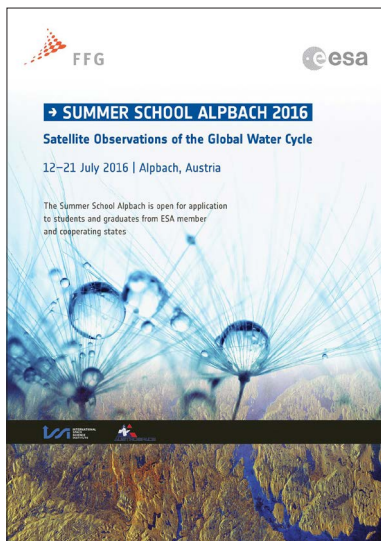
Uruguay was represented by CIDA-E and was invited to preside the Committee I, on "Education Science and Technology", and to integrate the panels on "Education in Space Science and Technology" and on "International Cooperation". In the space law Committee, it made a presentation on the theme "Space law facing the current development of space activities".

Summer School Alpach 2016 – Satellite Observations of the Global Water Cycle July 12-21, 2016

This year, sixty European engineering and science students will be chosen to participate in the 40th edition of the Summer School Alpach. Students will be challenged to conceive and elaborate innovative satellite missions aimed at improving the observation of critical elements of the water cycle in order to close gaps in understanding the processes and to advance the representation of the water cycle in Earth system models. Each team will present a short mission study to an expert review panel and all other teams, tutors and lecturers on the last day.

The Summer School Alpach is open for application to students and graduates from ESA member and cooperating states. 60 selected participants will be invited to attend.

Application Deadline: March 31, 2016
 Online Application: www.summerschoolalpbach.at



The Summer School is organised by FFG and co-sponsored by ESA and the national space authorities of its member and cooperating states. A traditional partner is the International Space Science Institute. It is also supported by Austrospace, the association of Austrian space industries and research institutions.

Czech Space Alliance



Czech Space Alliance members continue to score successes in space projects in ESA, EU and elsewhere.

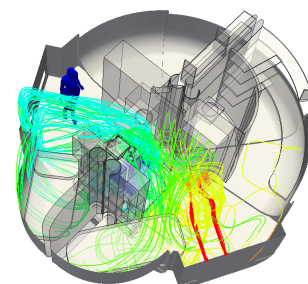


Sobriety, under the leadership of the International Space University developed Europe's the first analogue space habitat **SHEE (Self-deployable Habitat for Extreme Environments)**. The three-year project in the EU 7th FP Space was successfully concluded in December 2015. In addition to Czech researchers, experts from France, Austria, Belgium and Estonia, coming

from seven partner institutions, contributed to the project. The main objective was effective integration of architecture and robotics for space applications. SHEE significantly contributes to human spaceflight research worldwide, providing an innovative deployable autonomous test-bed for simulating terrestrial analogues of extreme environments, such as those on Moon and Mars. The astronauts Bob Thirsk, Reinhold Ewald and Jean-Jacques Favier toured the SHEE, and said they were quite impressed with what we achieved within our budget.



Another member **BBT Materials Processing** developed **infrared advanced polarizers** for space and other applications (Glan-Foucault, Glan-Taylor etc.) based on mercurous chloride (Calomel) crystal. Other solutions on the market use only wire-grid or holographic type IR polarizers with relatively low/limited extinction ratio. Calomel is a unique optical material exhibiting broad transparency range (from VIS to IR, 0.38 - 20 microns), high indices of refraction, high birefringence, extremely low acoustic waves propagation and very good elasto-optic coefficients. **Calomel** is a unique optical material with applications in science and technology the main ones being polarizers and polarization scramblers, and acousto-optic elements. Calomel is produced exclusively by BBT.



BOOK RELEASE



The EPFL-Press (www.ppur.org), the scientific publishing house

based on the Ecole polytechnique fédérale de Lausanne (www.epfl.ch), Switzerland has released a book written by **Claude Nicollier** (Space Shuttle flights mission specialist, NASA) and **Pr. Volker Gass** (Swiss Space Center Dir.), with the collaboration of several other space specialists, among them:

Roger-Maurice Bonnet: Dir. General for science at CNES (2001-2003), President of COSPAR (2002-2010) and Executive Director of ISSI in Bern.

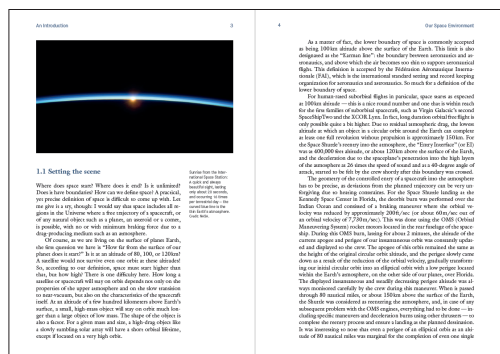
Daniel Neuenschwander: head of the Swiss Space Office and head of the Swiss delegation to ESA.

Thomas Schildknecht: University of Bern, represents the ESA in the Inter-Agency Space Debris Coordination Committee (IADC)

Werner Schmutz: President of the Swiss Commission on Space Research and Swiss delegate to COSPAR.

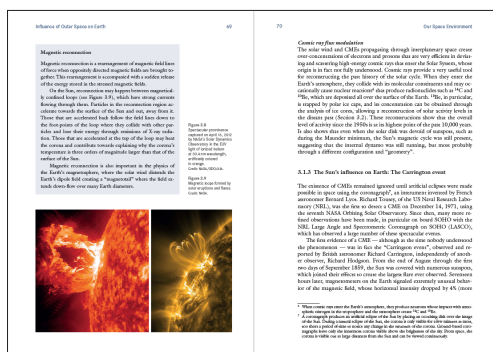
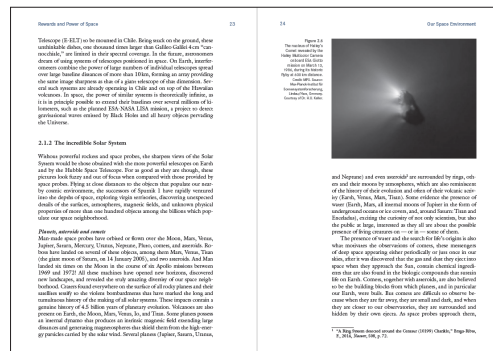
Pr. Volker Gass is Director of the Swiss Space Center, Thomas Schildknecht is Professor at the University of Bern, both institutions being members of the Swiss Space Association (SSA), which is a member of the IAF.

OUR SPACE ENVIRONMENT Opportunities, Stakes, and Dangers



The space surrounding our planet is full of opportunities and resources. Ranging from a hundred to a few thousand kilometers around Earth, our space-neighborhood offers an excellent vantage point to the universe, and a great opportunity to push the frontiers of science and knowledge. Manned missions advance research on human biology, health, and life in microgravity conditions. Satellite technologies gather essential data to better understand and manage our home planet by monitoring Earth's environmental changes. Extraordinary developments in the emerging industry of space-tourism or the boom in projects to explore more distant planets such as Mars. But space also means risk. What is the real threat of meteoroids? How much debris — from old rocket stages to mere flakes of paint — has been left there since space exploration began? How serious is this problem today? What is the risk of solar flares and particle bursts? How does our own Sun influence our climate? And what about the danger of cosmic radiation for humans and devices stationed beyond our atmosphere? By tackling a wide range of topics, this book aims to give a comprehensive overview of the

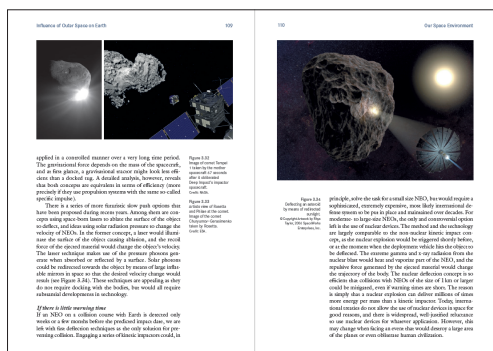
opportunities and hazards in our immediate space environment. It also exposes the challenges that governments, space agencies, private companies, and human communities have to face in order to manage space together to create long-term and safe access to it, while protecting life on Earth.



Here are some more words from Pr. Volker Gass, regarding his intentions with that book:

Space is fascinating. Whether from a scientific perspective, the tough engineering challenges its environment implies or just the immensity and beauty of the view of a night sky. When Claude Nicollier and I met at the Swiss Space Center in 2011, our eyes shone with a common passion for space as we shared stories and experiences. The present book intends to share our fascination and passion for space. It is intended to reach out on the level of your emotions without sacrificing the intellectual rigor of its content. Prof. Volker Gass, Director, Swiss Space Center

Both authors talk shortly about their book in this video: <https://www.youtube.com/watch?v=Z7UtBnZc-VI>



ANNOUNCEMENT OF OPPORTUNITY FOR NEW SCIENCE IDEAS IN ESA'S SCIENCE PROGRAMME

Through this Call the Director of Science solicits from the broad scientific community proposals for the competitive selection of new "Science Ideas", to be investigated in terms of feasibility and needed technology developments.

Direct link to this page:

<http://www.cosmos.esa.int/web/new-scientific-ideas>

Interested parties planning to submit a proposal are required, as indicated below, to send a mandatory Letter of Intent by 9 May and will be invited to attend a briefing meeting on 8 June (date TBC).

The present Call is open to science ideas in all areas of Space Science. No limitations to the science goals addressed are imposed on the proposals.

This Call is not intended at replacing future Calls for Medium (M) or Large (L) missions, but aims at stimulating the emergence of new and innovative science ideas based on technologies not yet sufficiently mature, possibly to become potential candidates for future M or L mission Calls in the ESA Science Programme.

The schedule for the issue of the Call and the proposal evaluation process is:

Event	Date
Release of Call for science ideas	February 9, 2016
Letter of Intent submission deadline	May 9, 2016 (12:00 CEST - noon)
Briefing meeting (ESTEC)	June 8, 2016 (date and place TBC)
Proposal submission deadline	September 14, 2016 (12:00 CEST - noon)
Selection of proposals for study	December 2016

DOCUMENTATION

Details of the Call are available in the Announcement document. The Announcement document and the Letter of invitation can be downloaded from the right-hand menu, under "Documentation".

LETTER OF INTENT (LOI) SUBMISSION

Prospective proposers must submit a mandatory Letter of Intent (LoI) by the deadline indicated in the table reported

above. Proposals not preceded by a corresponding LoI will not be considered. LoI submissions are accepted exclusively in electronic form, in PDF format, using the online submission form that can be accessed below or from the left-hand menu.

LoI submission form

Letters of intent shall be limited in length to 2 A4 pages (minimum font size 11 pt). A description of the purpose of the LoI and the expected content is available in the Announcement document.

PROPOSAL SUBMISSION

Proposals are accepted exclusively in electronic form, in PDF format, using the online submission form that can be accessed below or from the left-hand menu.

Proposal submission form

Proposals shall be limited in length to 25 A4 pages (not including appendices and bibliography), with a minimum font size of 11 pt, and a maximum file size of 50 Mbytes. A description of the expected proposal content is available in the Announcement document.

BRIEFING MEETING

Following the submission of a Letter of Intent, proposers will be invited to a briefing meeting, currently planned for 8 June (date TBC), to be held at ESTEC, The Netherlands (TBC). Confirmation of the date and of the logistical details for the briefing meeting will be communicated to the Lead Proposers indicated in the Letters of Intent.

CONTACT

The main contact point for this Call is:

Luigi Colangeli
 Head of the Coordination Office for the Scientific Programme (SCI-CS)
 ESA - ESTEC
 Postbus 299
 2200 AG Noordwijk
 The Netherlands
 Tel: +31 - 71 565 3573
 Fax: +31 - 71 565 4791
 Email: luigi.colangeli@esa.int

World Space Week 2015 Event Numbers at a Record High

World Space Week, declared by the United Nations as October 4-10 annually, witnessed a record celebration in 2015. A total of 1,877 events were held that week in 73 countries, according to World Space Week Association. It passed the previous milestone of nearly 1600 events organized for World Space Week 2014.



The theme for 2015, "Discovery," highlighted the current era of deep space discovery. Events held during World Space Week 2015 highlighted how much humankind has learned about the universe over the last decade. Students and adults alike learned about the spacecraft from many nations which have explored the planets, asteroids, moons, comets, the Sun and even interstellar space.

Major highlights of World Space Week 2015 include special screenings of "The Martian," performance of the Skylight Space Opera across 32 nations, and special celebrations at International Astronautical Congress in Israel, CIT Blackrock Castle Observatory in Ireland, Vikram Sarabhai Space Centre in India, ESTEC and Universe Awareness in Netherlands, Airbus Defence & Space in France and Spain, the Mexican Space Agency, and the Chinese Society of Astronautics.

The 10 countries with the largest number of reported World Space Week events were Pakistan (303 events), France (185), Spain (170), India (151), Saudi Arabia (128), United Kingdom (113), Germany (109), Romania (108), Brazil (102), and the United States (72), according to Goran Nikolasevic, Operations Manager for the Association.

"World Space Week has inspired and educated hundreds of thousands on space exploration and technology for yet another year. World Space Week Association congratulates all participants, volunteers, coordinators, sponsors, and partners for this record-breaking year", remarked Timiebi Aganaba-Jeanty of World Space Week Association.

About World Space Week

The largest space event on Earth, UN-declared World Space Week (WSW) is celebrated October 4-10 annually. It is an international celebration of science and technology, and their contribution to the betterment of the human condition. World Space Week consists of space education and outreach events held by space agencies, aerospace companies, schools, planetaria, museums, and astronomy clubs around the world in a common timeframe. These synchronized space events attract greater public and media attention.

For more information, visit www.worldspaceweek.org.

About World Space Week Association

WSW Association is a non-profit organization which supports the UN in the global coordination of World Space Week. Led by a global volunteer Board, the Association encourages participation in WSW, supports participants, and publicizes the resulting global celebration of space. A key focus of the Association is using space during WSW each year to stimulate STEM education worldwide. WSWA is supported by voluntary contributions by sponsors including Lockheed Martin and Lunar Mission One.

World Space Week Association Names Top Executives

World Space Week Association, which coordinates UN-declared World Space Week, October 4-10 annually, today announced the appointment of Timiebi Aganaba-Jeanty as Executive Director and Goran Nikolasevic as Operations Manager.



A specialist in science and technology policy, the aerospace sector, and international affairs, Timiebi has almost 10 years' experience providing legal and policy advice to clients and stakeholders in the space sector. A qualified barrister and solicitor of the Supreme Court of Nigeria, Timiebi previously worked in the International Cooperation and Legal Affairs Department at the Nigerian Space Agency, as a Teaching Associate at the International Space University, and in the space division of international law firm Cains Advocates. She spent the past four years as Space Industry Consultant with Euroconsult. Timiebi represented Nigeria at the Legal Subcommittee of the UN Committee on the Peaceful Uses of Outer Space in Vienna and at the UN International Civil Aviation Organization Model Council in Montreal. She is one of 16 women recognized for significant contribution to Quebec society for International Women's Day 2016.



Goran Nikolasevic is a veteran of World Space Week, having served as National Coordinator for Croatia in 2012 and as WSW Association's National Coordinator Manager since 2013. With a background in mathematics, IT, and economics, Goran is an entrepreneur, inventor, and long-time space advocate. He is a prolific speaker about space in public, school, and media appearances. Prior experience includes application programming, air-traffic control, and sales. "We are thrilled to have Timiebi and Goran at the helm of World Space Week Association," said Association President Dennis

Stone. "Their collective experience and abilities are well suited to take this annual space celebration to a new level of growth and impact," he said.

About World Space Week

The largest space event on Earth, UN-declared World Space Week (WSW) is celebrated October 4-10 annually. Nearly 1,900 space-related events were held during World Space Week 2015 in over 70 nations. The events are organized by space organizations, schools, and others to inspire youth, educate the public about space, and show public support for space activity. For more information, visit www.worldspaceweek.org.

About World Space Week Association

WSW Association is a non-profit organization which supports the UN in the global coordination of World Space Week. Led by a global volunteer Board, the Association encourages participation in WSW, supports participants, and publicizes the resulting global celebration of space. A key focus of the Association is using space during WSW each year to stimulate STEM education worldwide. WSWA is supported by voluntary contributions by sponsors including [Lockheed Martin](#) and [Lunar Mission One](#).

Media Contact

WSWA Media Relations Manager, Victoria Southgate, vsouthgate@worldspaceweek.org.

Sponsors



For more information about the event see <http://disruptspace.io>

Free online course

The free online course "Space mission design and operations" introduces and illustrates orbital dynamics as they are applied in the design of space missions. You will learn from the experiences of Claude Nicollier, one of the first ESA astronauts, and specifically, his role in the maintenance of the Hubble Space Telescope with NASA.

The course focuses on conceptual understanding of space mechanics, manoeuvres, propulsion and control systems used in all spacecraft. Learners will gain knowledge of the challenges related to the use of the space environment as a scientific and commercial platform.

As a bonus to the course we have also interviewed world space experts: Thomas Schildknecht and Muriel Richard on Space Debris, Andrea Accomazzo on Rosetta mission, Willy Benz on CHEOPS mission, Naoko Yamazaki and Mike Foale about their experience as astronauts, Hitoshi Kuninaka on Hayabusa mission, Carol Christian on Hubble Space Telescope and John Mather on the James Webb Space Telescope.

The course is free and open to all space enthusiasts. To register: <https://www.edx.org/course/space-mission-design-operations-epflx-ee585x#> !

You can also follow us on facebook: <https://www.facebook.com/SpaceMissionDesignOperations/>

HE Space shares business experience with Startups

A passion for people and space is at the heart of HE Space. This motivates us to support new Startups that will be at the forefront of new developments.

Now there will be a new unique opportunity for them at the DisruptSpace summit which is being organised on 7 and 8 April in Bremen. The DisruptSpace summit will connect top entrepreneurs with decision-makers to collaboratively solve today's industry and sustainability problems using space technology.

This is a follow-up of the [StartUp Weekend](#) last April in Bremen where HE Space CEO Claudia Kessler was a mentor. She has been sharing her business experience of over 20 years with young entrepreneurs ever since. The ultimate goal is to set up a space business incubation centre in Bremen.

4th SpaceLand Congress



On July 7 and 8 the beautiful island of **Mauritius** welcomes all **Microgravity** and **Space Exploration** experts together with all interested *entrepreneurs, investors, teachers, students and space artists*, within the context of the **4th SpaceLand Congress**. In synergy with the **International Astronautical Federation** (particularly the **IAF Entrepreneurship and Investment Committee**) and supported by the **University of Mauritius**, this multidisciplinary event will take place in the breath-taking settings of the white coral beaches of Flic en Flac, following on the success of SpaceLand previous congresses endorsed by the **V-President of the European Commission**, the **Italian Space Agency** and other international entities (e.g. see <http://www.asi.it/sites/default/files/PROGRAMMA%20SL.pdf>).

In an open-door fashion, allowing the general public to familiarize with all the benefits of Microgravity and Space, the Congress will address disciplines such as, on one hand, *microgravity systems and payload including innovative training and educational tools* in fields ranging from *physics, astrophysics and material sciences* to *orbital debris management and clean-up systems, planetary exploration, satellite technologies and aerial launchers, sub-orbital vehicles and new hyper-speed point-to-point transportation systems* and from, the other hand, *the growing sectors of anti-ageing and life-extension medicine through the potential of microgravity biology, pharmacology, bioengineering, biotech, 3-D weightless surgery* and nutritional sciences.

At the event, hosted by the amazing tropical resort “*La Pirogue*” (www.lapiroque.com), emphasis will also be given to achieved and expected successes from transferring state-of-the-art technology, science and biomedical results from the microgravity and spaceflight sectors into the everyday’s life, also for the disabled and elderly.

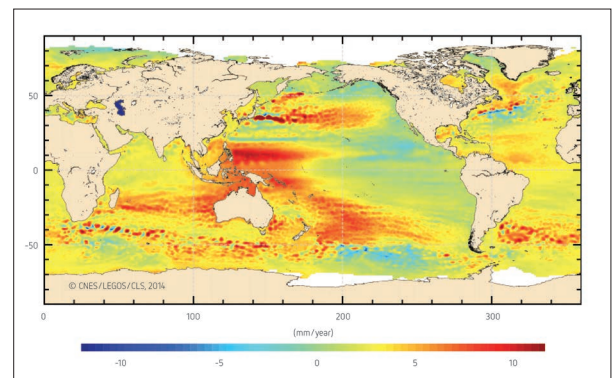
“Space art” will also be exhibited during the Congress, as created from international artists inspired by the fascinations of Space. Participants will also be able to network with entrepreneurs, business angels and venture capital managers interested into

investing into the above areas for a new *Space-knowledge-economy*, given the extremely high “investment/return” ratio from such new disciplines benefitting the whole society.

Ethical business and **Space, science, technology and education, welfare and culture** will all be *key-words* during such an unprecedented event: welcome to the **4th SpaceLand Congress** in Mauritius on 7 and 8 July! Info: www.SpaceLand.it

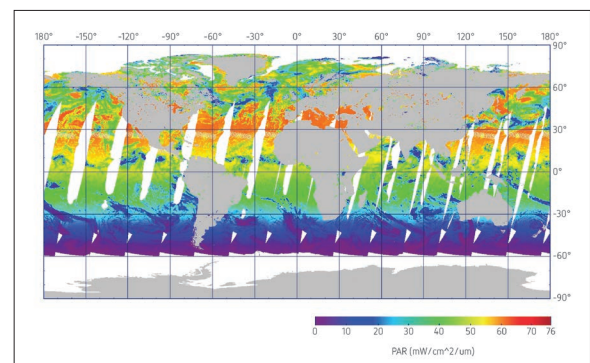
EUMETSAT

After the successful launches of Jason-3 (17 January) and Sentinel-3A (16 February), EUMETSAT is ready to fulfil a key function for Copernicus: Operating the key marine missions and delivering data and services to Copernicus marine users in the EUMETSAT and EC Member States.



Map of regional trends (1993-2014) of mean sea level extracted from Topex/Poseidon and Jason altimetry data (Source: CNES/LEGOS/CLS)

Jason-3 will secure the continuity of the unique climate data record of the mean sea level. The satellite’s measurements of ocean waves and ocean surface topography provide essential inputs to a number of applications in the areas of marine meteorology and operational oceanography. EUMETSAT supports the Jason-3 LEOP and CAL-VAL phases and will deliver the near-real time data services for users in Europe, with the support of CNES.



Merged MERIS/SeaWiFS photo-synthetically available radiation average, July 2003. PAR indicates the total energy available for photosynthesis. (Source: ESA)

Within Copernicus, Jason-3 is the reference mission for cross-calibrating Sentinel-3 observations of sea-surface height. The satellite also is the precursor to the future cooperative Sentinel-6/ Jason-CS mission implemented in partnership between Europe and the United States.

The Copernicus Sentinel-3 mission's main aim is to measure sea-surface topography, sea- and land-surface temperature and ocean- and land-surface colour to support ocean forecasting systems, and for environmental and climate monitoring. EUMETSAT will handle the provision of Sentinel-3 data and products to the marine users.

Sentinel-3 is the third in a series of six Sentinel missions developed to provide Earth observation data for the EU Copernicus Earth observation programme. EUMETSAT will operate four missions on behalf of the EU. Currently, EUMETSAT supports ESA in commissioning the satellite. The collaboration between the two agencies will continue after the handover of operations from ESA to EUMETSAT (July 2016) throughout the nine months of operations ramp-up phase.

Space Florida



Space Florida sees its job as more than just space-based economic development. It is also compelled to grow humanity's commitment to and fascination with the mysteries of the universe.

Florida hosted over 105M visitors in 2015 with many of them touring one of the state's premier destinations; NASA's Kennedy Space Center Visitor Center only 30 minutes from Orlando.

In collaboration, Space Florida has begun co-sponsoring Launch Viewing parties throughout the Space Coast at restaurants, hotels, and at riverside and oceanside parks. With over 30 launches scheduled for 2016, and many more in the future, anyone visiting Florida has an excellent chance to behold one of life's most memorable experiences.

It is an article of faith in the Florida 'space' community that witnessing the power and majesty of a launch will amass more and better converts than any presentation, movie or YouTube. They leave Florida inspired to then advocate for the further exploration of the cosmos. Whether it is an elected official who may appropriate federal science budgets, or a citizen who votes for that official it is an experience that pays dividends to the individual families and to space research writ large.

If you find yourself in Florida, catch a launch. Your kids will remember it forever.

109th Birthday Anniversary of S.Korolev and 50 Years Without the Chief Designer



109th birthday anniversary of S. Korolev was celebrated on January 12, 2016. Traditionally on this day, events commemorating the prominent Chief Designer were organized in the Ukrainian city of Zhytomyr, where S. Korolev was born.



This year, the ceremony was attended by the Chairman of the State Space Agency of Ukraine Mr Lyubomyr Sabadosh and guests from the Republic of Lithuania. The museum presented new valuable acquisitions which enriched its collection. Besides, all visitors discovered an unusual and unique museum situated in one of the most fascinating nooks in Lithuania. Mr Linas Šmigelskas, Head of Education Programs Department of Lithuanian Ethnocosmology Museum shared their experience

in popularization of space ideas. An amateur short motion film "A Step to the Dream", a romantic story from S. Korolev's life concluded the program of the events.

At the end of January, the museum participated in XL Academic Readings commemorating S.Korolev in Moscow. 50 years without the Chief Designer was another opportunity to be reminded of a heroic epoch, when the heroes were engineers turning science fiction into science fact. During the time of the Academic Readings, Director of the museum Mrs I.Dyachuk visited the daughter of the Chief Designer N.Koroleva and members of S.Korolev family.



Space Generation Congress 2016



The Space Generation Congress (SGC) is the annual meeting of the Space Generation Advisory Council (SGAC) held in conjunction with the International Astronautical Congress. Participants are top university students and young professionals with a passion for space who are selected from among applicants from our Space Generation international network. With SGC, SGAC aims to hone and promote the voice of the next generation of space sector leaders on the topic of international space development.

SGC will take place on 22-24th September 2016, in Guadalajara, Mexico. For more information, please visit: [SGC2016](#)

SGC is proudly endorsed by the United Nations Office of Outer Space Affairs.



SGAC offers Scholarships to Attend Space Generation Congress and International Astronautical Congress

The Space Generation Advisory Council (SGAC) is once again organising a number of competitions and scholarships to provide an opportunity for students and young professionals to attend the 15th Space Generation Congress (SGC) and the 67th International Astronautical Congress (IAC) in Guadalajara, Mexico.

To learn more about scholarships, please visit [here](#). Interested students and young professionals 35 years of age or younger can [sign up here](#) to be notified when competitions and scholarships open.

SGAC is continuously looking for partners interested in supporting aspiring space leaders to participate in the Space Generation Congress and other events around the globe. If you or your organisation is interested in providing talented students and young professionals with the opportunity to share their work and ideas with global space community, please contact [Sirisha Bandla](#) or [Jan Svoboda](#).

Xovian Latest Updates



Xovian has launched a Cheapest CANSAT module for the Asia Pacific economy. The CANSAT is a ready to use Kit and work as a simulation of real satellite mission to study the lower atmospheric study of earth.

The company has announced its plans for foreign participation in joint solutions for microsatellite manufacturing and services.

Mission Upkaar is social initiative by Xovian to provide the technical and space education the under developed economies.



For more information please visit our website [xovian.co.in](#) or contact us on info@xovian.co.in

The Journey to Mars



The Journey to Mars is NASA's long-term human spaceflight objective, with many exciting challenges and advancements along the way. On the International Space Station (ISS), we have the advantage of more than 15 years of continuous human presence in space, where we can examine the most efficient use of resources like crew time, power generation and storage, life support systems, thermal control, and communication technologies. The ISS is the world's premiere microgravity laboratory, in which researchers in over 90 countries have participated. It continues to provide a unique environment for research on human health and space operations necessary for future long-term human missions, for expanding commercial activity in low-Earth orbit, and providing direct benefits to the people of Earth. The ISS, and the partnership that sustains it, is our foundation for exploration. Astronauts landing on Mars after a similarly long duration in space won't have the benefit of a medical team waiting for them. Understanding how the human body re-adapts to gravity is key to planning for future human missions deeper into the solar system. Through the U.S. commercial crew and cargo programs, we are maintaining operations on the Station while stimulating economic growth on Earth. ISS experiments have direct benefit to humanity in areas such as nutrition, cardiovascular health and in helping improve the design of manufactured materials, as well as increasing our understanding of Earth and the universe through scientific observation.

The Space Launch System rocket and Orion Crew Vehicle will take their maiden flight in 2018. The un-crewed, three-week voyage to a lunar distant retrograde orbit that will test system readiness for future human missions and will be our first foray into the proving ground of cislunar space—the volume of space beyond low-Earth orbit and encompassing the Earth-moon system.

In this region of space, we will practice deep space crewed mission operations, solve problems, and test life support systems, habitation structures and next generation space suits that will keep crews healthy and safe in the harsh environment of deep space. The robotic Asteroid Redirect Mission spacecraft that will capture an asteroid mass will be powered by a solar electric propulsion system that is 30 times more capable than the current state of the art. Crews visiting the asteroid after it is parked in lunar orbit will harvest samples that could open

new scientific discoveries about the formation of our solar system, all while using new space suits, sample handling and containment techniques, and spacewalking operations in deep space.

The Journey to Mars is not the work of one nation or one agency, but a collaboration of one world to set foot on another. The work has already begun, and we will continue to pursue the Red Planet as humanity's next great frontier.

Disrupt Space Summit 7-8th of April in Bremen

On 7-8 April 2016, Bremen will host the first Disrupt Space Summit taking place at the GOP Varieté-Theater. The event aims to bring up to 300 innovators and decision makers together to use space and entrepreneurship to tackle sustainability and industry challenges, showcase select space startups, and to promote space and non-space collaboration.

The [Disrupt Space](#) summit builds on the success of the 1st [StartupWeekend Space](#) in Europe, which took place in April 2015 in the city of Bremen. In total 80 people from 18 countries attended the event to develop entrepreneurial space concepts within 60 hours. The weekend demonstrated a strong creative spirit resulting in a total of 11 startup concepts. Currently four international teams are continuing to make headway in bringing their products and services to market. ESA Space Solutions together with the International Astronautical Federation provided a prize enabling a team to attend the Global Space Innovation Congress in Munich.

This year's two day summit will bring 90 aspiring entrepreneurs together in Bremen to tackle up to six sustainability and industrial challenges proposed by select corporations and international organizations using space. Teams of three to five people will tackle each challenge with the goal of creating viable business cases.

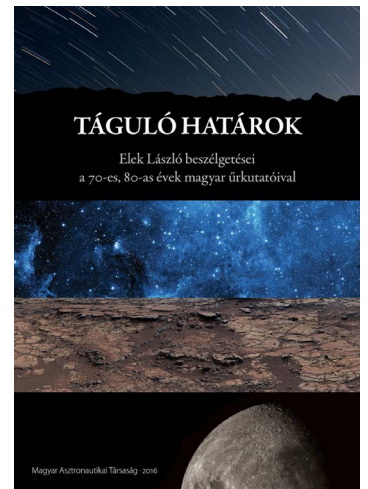
The summit will also see up to 20 selected space startups from within and outside of Europe and where they will have opportunities to pitch and network with the audience. Most importantly, up to 150 decision makers consisting of corporates, government representatives and investors will have access to several networking sessions and will receive an optional workshop to introduce them to commercial opportunities in the space sector.

The summit is supported by the European Space Agency, Airbus Defence and Space, OHB SE the Bremen Economic Development Office, HE-Space and Design and Data.

Registration for the event is now [open](#) for aspiring space and non-space entrepreneurs, space startups and decision makers.

The Hungarian Astronautical Society (MANT)

The Hungarian Astronautical Society (MANT) is a civil organization of space experts and enthusiasts, a member of IAF since 1959. The first quarter of 2016 was a busy period for the society, with the co-organisation of two international conferences, and the publication of two books. The 2nd International Conference on Research, Technology and Education of Space (H-SPACE 2016) took place at the Budapest University of Technology and Economics on 25-26 February. It was followed by the 1st European Space Generation Workshop on 26-27 February. 56 delegates from 24 countries participated at the workshop organised by the Space Generation Advisory Council. The event was intended for university students and young professionals. The participants listened to highlight talks and worked in three groups to make recommendations that could help shape and provide insight into the future of the European space sector. Along with the annual Space Yearbook featuring the highlights of the previous year, a special book was published in March. Titled as "Opening Horizons", it collects the memories of 15 leading Hungarian space experts of the 1970's and 80's. The book is the continuation of a successful volume "A Science is Born" published in 2014, reviewing the very beginning of space research in the country through interviews with the main actors in the field.



Center of Space Exploration, Ministry of Education Successful Holding "Space Innovation, Leading Innovation" Creative Lunar Vehicle Design Contest



launching ceremony of "space innovation, leading innovation" creative lunar vehicle design contest

In order to arouse public enthusiasm for space exploration, learning science, loving science and using science, build science and culture atmosphere, spread aerospace science knowledge, improve public literacy, construct platform for innovative and creative talents to display and communicate, reserve and provide innovation scheme, Center of Space Exploration, Ministry of Education uniting Chongqing Science and Technology Committee and cooperating with colleges and universities and other organization held the "Space Innovation, Leading Innovation" Creative Lunar Vehicle Design Contest based on Chongqing University.

The contest carried by national Manned Spaceflight and Lunar Probe Project and aiming at engineering realization and science popularization is divided into two phases, including preliminary and intermediary, sets up two groups, including creative idea group and real model group and puts up some awards, which encourage competitors to create original works and show team work spirit.

The contest kicked off on the December 31th, 2014 in Chongqing University.

The preliminary ended in April, 2015 and intermediary ended in October, 2015. Guided and Supported by sponsor, 102 groups altogether above 300 competitors from colleges and universities, elementary and secondary schools, enterprises and public institutes and scientific research institutes were appealed, participated in the contest and handed in 200 works in total. Competitors include creative students from elementary and secondary schools (constituting 6.5%), ambitious university students who have professional knowledge (junior college students constituting 5.5%, undergraduates constituting 73%, postgraduates constituting 13%), experienced technician and amateurs (constituting 2%). Entries include 2D works about plane draft, technical drawing and text representation as well as well-designed, ingenious, functional, practical and expressive real model and 3D digital model. Teams include amateur team and experienced professional team.



1.实物组—创意月球车
作品简介：月球车是月球探测器的一个重要组成部分，是月球探测器的核心。月球车的设计制造水平是衡量一个国家月球探测能力的重要标志。本作品设计了一款具有自主知识产权的月球车，该车采用了模块化设计，具有良好的通用性和可扩展性。该车采用了先进的传感器和控制系统，能够实现自主导航和避障。该车还配备了太阳能充电系统，能够在月球表面长时间工作。该车的设计制造水平达到了国际先进水平，为我国月球探测事业的发展做出了重要贡献。



2.创意组—“月球号”
作品介绍：月球是人类探索宇宙的重要目标，也是人类实现太空梦想的关键一步。月球车的研制是月球探测的重要组成部分。本作品设计了一款名为“月球号”的月球车，该车采用了球形设计，具有良好的稳定性和抗冲击能力。该车配备了先进的传感器和控制系统，能够实现自主导航和避障。该车还配备了太阳能充电系统，能够在月球表面长时间工作。该车的设计制造水平达到了国际先进水平，为我国月球探测事业的发展做出了重要贡献。



3.创意组—智能模块化月球车
作品介绍：月球是人类探索宇宙的重要目标，也是人类实现太空梦想的关键一步。月球车的研制是月球探测的重要组成部分。本作品设计了一款名为“智能模块化月球车”的月球车，该车采用了模块化设计，具有良好的通用性和可扩展性。该车配备了先进的传感器和控制系统，能够实现自主导航和避障。该车还配备了太阳能充电系统，能够在月球表面长时间工作。该车的设计制造水平达到了国际先进水平，为我国月球探测事业的发展做出了重要贡献。

Awarding-winning works

of Chang'e 3, delivered a speech entitled "Chinese Space Technology". Besides the leaders of Chongqing Shapingba District Education Office and Science and Technology Committee, award winners, teachers and students in Chongqing University and Chongqing No.7 Middle School, journalists and some space enthusiasts attended the ceremony, altogether above 600 people.

Contest selected 54 award-winning works and 6 outstanding organizational units, including 1 first prize, 2 second prizes and 3 third prizes in real models group; 2 first prizes, 4 second prizes and 10 third prizes in creative ideas group; 32 excellence awards and 6 excellent organization awards. Innovative Lunar Vehicle designed by Yang chengying and Liu Xiao from Sichuan Art College, Spherical Lunar Vehicle designed by Liu Kangxuan and Hou Zhihan from Beijing University of Posts and Telecommunications and Intelligent Modularized Lunar Vehicle designed by Tao Weikang and Song Jialai win first prizes in real model group and creative idea group respectively. Specialists from China Academy of Space Technology and Shanghai Academy of Spaceflight Technology which belong to China Aerospace Science and Technology Corporation take part in assessment phase.

The award presentation ceremony was held in the auditorium of Chongqing No. 7 Middle School on the afternoon of December 16th in 2015. Wu Xu, the vice inspector of Chongqing Science and Technology Committee, Zhu Jialin, the former Party secretary of Chongqing University, Zhang Jirong, the vice president of Chongqing Science and Technology Committee, Xiao Tiejian, the vice Party secretary of Chongqing University attended the ceremony and presented awards. Ye Peijian, who is praised as the father of the Chang'e project and is the academician of Chinese Academy of Science and the chief scientist



Photos of assessment phase in the second round



Award ceremony



COMMITTEE BROADCAST

Outcome of GEO XII Plenary/GEO Ministerial, November 11-13, 2015, in Mexico City

Hosted by Mexico's Instituto Nacional de Estadística y Geografía (INEGI), more than 400 delegates, including 10 Ministers participated from a total of 41 GEO Member organizations and 39 partner Participating Organizations in the Plenary and/or Ministerial.

The Plenary welcomed Vietnam, Ecuador, Zimbabwe, Somalia and Kenya as new members. Including the European Commission, GEO now has 100 member countries. The Plenary lifted a one-year moratorium on new Participating Organizations and the World Bank, Future Earth, Organization for Economic Cooperation and Development (OECD) and the United Nations Initiative on Global Geospatial Management (UN-GGIM), among others, joined.

The Plenary as well as the Ministerial approved a Ministerial Declaration as well as the GEO Strategic Plan for 2016-2025 that replaces the original 2005-2015 GEO Ten-Year Implementation Plan.

These documents emphasize the convening power of GEO to bring together producers and users of data and tools to address social, economic, and environmental challenges. The Strategic Plan updates the GEO Societal Benefit Areas (SABA's) to focus on data and information applications.

The new SBA's are: Disaster Resilience, Food Security and Sustainable Agriculture, Water Resources Management, Energy and Natural Resources Management, Health Surveillance, Biodiversity and Ecosystem Conservation, Urban Resilience, and Infrastructure and Transportation Management. Notably, weather and climate are viewed as cross-cutting phenomena touching each all of these SBA's.

The Plenary also establishing a new Program Board, replacing all previous GEO Boards, as an organizational structure to support the development and implementation of GEO activities, to include both GEO Member and Participating Organization nominated representatives. The Program Board's first meeting will be in early February 2016.

The Plenary launched some bold new initiatives against the recent adoption of the UN Global Goals for Sustainable Development and in anticipation of a COP 21 global agreement on climate change. These included a global Marine Biodiversity Observation Network (MBON), an AmeriGEOSS regional initiative (to complement the already existing AfriGEOSS regional effort), and the renewed commitment of the EUMETSAT, the United States (NOAA) and China (Chinese Meteorological

Administration-CMA) to continue and indeed enhance their GEONETCast broadcasting of GEO SBA-related data and products, in particular to developing countries. All these initiatives focus on the overarching GEO commitment to open data sharing (see attached GEO press release).

The 2016 GEO Plenary XIII will be held November 9-10 in St.Petersburg, Russian Federation.

Interview with Otto Koudelka



1. What are your plans as recently appointed IAF Vice President on Publications and Communications?

As the recently appointed Vice President for Publications and Communications my plans are to help that the IAF and its activities become known to an even wider community. Frequent newsletters, an attractive regularly updated website, extensive use of social media, promotion of members activities and news, outreach videos and a dedicated IAF App shall help to reach this goal. The core of my agenda shall be the development and implementation of an IAF Digital Library. IAF is in the possession of papers dating back to 1951, constituting a key asset. By making this wealth of information available in a user-friendly way, a service of high value can be provided not only to the IAF members, but as a means to outreach beyond the traditional member community.

2. How has your background and experience prepared you to such a position?

I am full professor of telecommunications at Graz University of Technology in Austria, specializing in satellite communications and small satellites. I have been involved in Space activities from the beginning of my professional career. Since the early 1990ies I have been an active participant to the International Astronautical Congresses. I am currently the chair of the Space Communications and Navigation Committee (SCAN) and member of the IAF IPC. I helped to organize a session for the GLAC conference in 2014 and am now responsible for the preparation of a plenary session at the GLIS conference in Geneva in June 2016.

3. During Spring Meetings, the IAF will present the new IAF & Diversity video, what is your vision of diversity at the IAF?

Diversity in this context means gender, generation and geographical diversity. In recent years the participation of the young generation in the IAC has shown a very positive trend. By encouraging universities and research organizations to become members of IAF the potential of attracting more students and young professionals to participate in IAF activities could be increased. The use of social media will also help to raise the awareness of young people for the IAF. In terms of geographical diversity the participation from European and Asian countries is high, but we should take efforts to increase the participation from Latin America and Africa.

Up to now the majority of participants to the IAF is still male which unfortunately corresponds to the gender distribution especially in engineering sciences (at least in Europe and North America). In order to improve this, already in schools the interest by girls in science and technology must be raised which is an educational and societal challenge.

In the IAF context there are already many positive trends, such as the increase of positions taken by female members and the Women in Aerospace activities, just to name a few.

4. As one of the members of the IPC for the upcoming IAF global conference in ITU Headquarters in Geneva, can you tell us more about the Global Conference on Space and the Information Society - #GLIS2016?

The GLIS conference will address the role of Space applications and technology in the Information Society. Satellite communications in particular is an important element in bridging the “digital divide” by providing broadband Internet services, even in least developed regions. In five plenary sessions high-level speakers will discuss spectrum issues, sustainable development goals and the contribution of satellite communications (e.g. to disaster management, climate change, tele-health and tele-education), Space services, privacy and security, economics, the role of satellite operators and manufacturers, and “big data”, whereby remote sensing data play a key role.

IAF Alliance Partners:

