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## *Editorial*

Dear Colleagues,

The year 2015 was one of the most productive periods for ESPI since its foundation. Throughout the year, ESPI staff organised and took part in a considerable number of space-related events, including three evening events in conjunction with the sessions of the UN COPUOS, the 17<sup>th</sup> European Inter-parliamentary Space Conference, the 2015 International Astronautical Congress, the UNIDIR Space Security Conference, and a presentation by Secretary Frank A. Rose. In September the Institute organised its 9<sup>th</sup> annual Autumn Conference, which brought together space policy experts and renowned academics to discuss “Access to Space and the Evolution of Space Activities”. For the third time, the event was filmed and the resulting videos of the presentations are available on the ESPI website and social media. An overview of all these recent activities is provided within this Newsletter.

Along with the multitude of activities in and outside of ESPI, the period was extremely fruitful in terms of publications. Over the last 10 months, ESPI has published five ESPI Reports, including the Space Policy, Issues and Trends report; four issues in the ESPI Perspective series as well as the 7<sup>th</sup> Volume of the “Yearbook on Space Policy” series. The period also saw the publication of the 10<sup>th</sup> and 11<sup>th</sup> volumes of the book series “Studies in Space Policy”. The book “European Autonomy in Space” comprises much analyses and a number of evaluations of the continuing importance of Europe’s autonomy in its access to space as a key driver of European space capabilities. “When China Goes to the Moon...” addresses China’s possible ambitions to send taikonauts to the Moon and elaborates on the implications at international level, by analytically focusing on strategic issues having a deep impact on future global relations. In September 2015, we also launched a new website and in December, the ESPI Director created a space blog, with regular posts published on our website.

Furthermore, within the next few months ESPI will be publishing a new book in the “Studies in Space Policy” series, entitled “The Necessary Distance: How Earth Observation Can Help Shift our Relationship with the Planet from Exploitation to Responsible Stewardship”, and five projects on the topics of GNSS governance, the future of spacecraft manufacturing in Europe, European launchers, mechanisms for the development of international norms in space, and the contributions of space to Europe in the future. A description of the upcoming activities and events planned by ESPI as part of its Workplan 2016 is also provided within this issue.

Finally, with the aim of further broadening the basis of ESPRAN and opening a platform for ESPI partners and ESPRAN members to share their perspectives and plans, this Newsletter presents some opportunities offered by the Committee on Space Research (COSPAR), and calls for your active participation in the generation of thoughts on key space topics through a variety of instruments. We wish you nice reading!

The ESPI Team

## Recent ESPI Publications

### ESPI Reports

**April 2015**

***ESPI Report 50: Optimising Europe's Benefits From the Copernicus Programme***

by Herbert Allgeier, Harry Eyres, Peter Hulsroj, Arne Lahcen

This Report explores how further improvements in the exploitation of Copernicus through European users and stakeholders can be made. The aim is to address the structural gaps in operational Earth Observation in Europe without the need for new infrastructure or a substantial change in responsibilities of the players currently involved.

First the document reviews which policy and programme support functions have been addressed adequately and which elements might merit further action. Based on this, the creation of a Copernicus Task Force is proposed as a first step towards overcoming the perceived missing links in the current programme architecture. The authors believe this Task Force proposal will facilitate the development of a sustainable programme approach that serves the interests of the key stakeholders and ultimately the European public



**September 2015**

***ESPI Report 51: European Technological Non-Dependence***

by Letizia Caito, former ESPI Resident Fellow

Report 51 deals with a critical issue for the European space effort, namely how to get to technological non-dependence. The report describes the history of the European efforts in this domain, the current state-of-play, and what needs to be done to secure the future. The Report is thematically linked to the ESPI book 'European Autonomy in Space' and gives a sweeping overview of the non-dependence topic, its importance and the implication for European decision making of technology development. It stresses the importance of a holistic approach covering both civilian and military space needs.



**October 2015**

***ESPI Report 52: Utilizing the Full Potential of Space for the Implementation of the Europe 2020 Strategy in the Field of Education***

by Panos Mastorakis, former ESPI Researcher

ESPI Report 50 illustrates the actual and potential contribution of the space sector to the attainment of the educational targets of the EU growth strategy for the current decade "Europe 2020", whose aim is to deliver 'smart', 'sustainable' and 'inclusive' growth. As demonstrated, space can make a substantial input to the implementation of the strategy in this fundamental policy area. Space puts at the disposal of educators a variety of educational resources and hands-on activities, which can support STEM education at all levels; it is pivotal for ensuring broadband coverage in all European regions, creating the technical prerequisites for the utilization of distance education by all European citizens no matter where they are located; it inspires and creates role models which can motivate young people to pursue STEM studies and careers.



## ESPI Reports

### November 2015

#### **ESPI Report 53: The Future of European Flagship Programmes in Space**

by Marco Aliberti and Arne Lahcen, ESPI Resident Fellows

This report assesses two important elements regarding the EU's future role in space. First, it explores how the current flagship programmes could be enhanced from a policy and governance perspective. In this respect recommendations are made on how the socioeconomic and strategic benefits of the existing programmes can be further optimised and how European innovation ecosystems can be created for the GNSS and EO industries, applications and services. Second, the report aims to support the reflection process for European stakeholders in determining whether, in which area, and in what way the will to increase EC involvement in space activities could be channelled. Here, three potential fields for EU involvement are identified and assessed: (1) Space Exploration, (2) Launchers and, (3) Space Security.



### December 2015

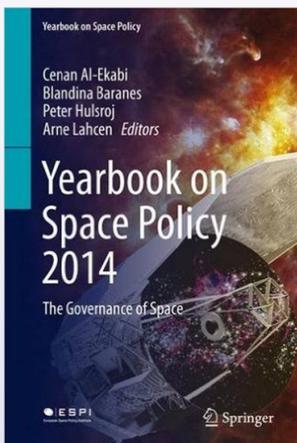
#### **ESPI Report 54: Space Policies, Issues and Trends in 2014 - 2015**

by Cenan Al-Ekabi, ESPI Resident Fellow

ESPI Report 54, Space Policies, Issues and Trends 2014-15, provides a broad overview of the state of the space economy and of global space policies. This year's edition of the Space Policies, Issues and Trends report covers the period mid-2014 to mid-2015. This flagship report seeks to put the space endeavour into general context by providing an overview of space policy developments worldwide, while also looking at the economics and at how policies in different fields and countries and regions are developing.



## ESPI Yearbook in Space Policy 2014



### **The Governance of Space**

The seventh volume of the "Yearbook on Space Policy" series edited by ESPI and published by Springer covers global space related developments in the Year 2014. The thematic focus of ESPI's Yearbook on Space Policy 2014, is on the governance of space activities. The threefold structure of the yearbook remains the same as for earlier years. The first part sets out a comprehensive overview of the economic, political, technological, and institutional trends that affect space activities in Europe and throughout the world in the period. The second part approaches the overall theme from a more analytical perspective, covering a wide range of topics revolving around the governance of space. The third part carries forward the character of the Yearbook as an archive of space activities prepared in-house by ESPI, providing a comprehensive bibliography, chronology and data on ESA member states and relevant space faring nations. In its entirety, ESPI's Yearbook on Space Policy fills a niche in communicating space policy and space related issues to decision makers and to the broader public.

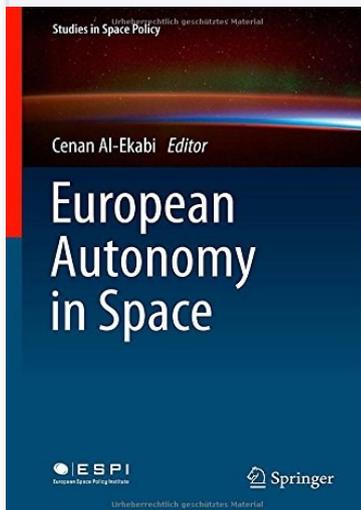
Editor: Cenan Al-Ekabi, Blandina Baranes, Peter Hulsroj, Arne Lahcen

Publisher: SpringerWienNewYork - December 2015

## Recent ESPI Publications: Books

### Studies in Space Policy

#### *European Autonomy in Space*



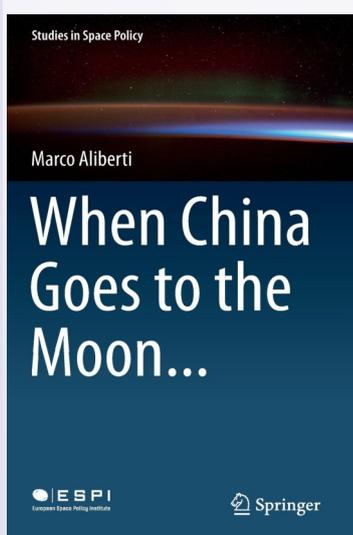
The book constitutes the 10th volume of the ESPI series “Studies in Space Policy”. It provides analyses and evaluations of the continuing importance of Europe’s autonomy in access to space as a key driver of the development of European space capabilities. From a detailed historical analysis of some of the pitfalls of dependence in the space industry, experts analyse the full range of current European space capabilities and identify areas where autonomy is both possible and required, even in a situation of severe budgetary constraints. The contributions present a comprehensive overview of European efforts in a broad range of areas including energy, culture, science, and security; access to space, space applications, human spaceflight, security and space situational awareness, and strategic issues. They make a cogent strategic and economic case for policy makers to continue to bear in mind the importance of autonomous space capabilities, even in an interdependent globalised world.

*Editor: Cenan Al-Ekabi*

*Publisher: SpringerWienNewYork - April 2015*

### Studies in Space Policy

#### *When China Goes to the Moon....*



“When China Goes to the Moon...”, the 11<sup>th</sup> volume of the “Studies in Space Policy” book series, addresses China’s possible ambition to send taikonauts to the Moon and elaborates on the implications at international level, by analytically focusing on strategic issues and challenges that can have a deep impact on future global relations. The book investigates therefore how China’s determination to go to the Moon could affect the rest of the international landscape, performs a critical analysis on the much-discussed scenario of a new space race involving the re-conquest of the Moon, and accompanies the analysis with an informed assessment of alternative scenarios where cooperative pathways to future space exploration might become possible. In doing so, it includes an in-depth analysis of possible European postures towards China in space and seeks to stimulate a debate on future space strategies in the broader context of world politics. It is in the hope of the European Space Policy Institute that this study will reach far beyond the traditional space community - to overall policy makers and interested general public - and contribute to promoting further discussions on this complex and exceedingly relevant topic.

*Author: Marco Aliberti*

*Publisher: SpringerWienNewYork - August 2015*

## ESPI Perspectives

April 2015

### ***ESPI Perspectives 71: Eavesdropping From Space***

by Pat Norris, Adviser to Vice-President Space, CGI IT UK Ltd.

United States' satellites that intercept communications have so far avoided the full weight of the media scrutiny that the Edward Snowden revelations have brought on other parts of the intelligence world. Issue 71 of the ESPI Perspectives explores the interesting yet poorly exposed activities that take place in this area. First, it outlines the scope and activities of the National Reconnaissance Office (NRO) that supplies the satellites. Subsequently the relationship between the NRO and the rest of the U.S. intelligence community is described.

September 2015

### ***ESPI Perspectives 72: Earth Observation and International Security: The Role of Uncertainty in Satellite Imagery Analysis by Non-State Actors***

by Philipp Olbrich, University of Groningen, and Nina Witjes, Munich Center for Technology in Society

The commercialization and advancement of satellite technology has made possible the emergence of a new group of non-governmental experts that employs satellite imagery analysis to produce policy-relevant knowledge about issues of international security. This ESPI Perspective reflects on the practices of knowledge production based upon satellite imagery and its wider ramifications. The findings of this Perspective aim to contribute to a necessary debate on the legitimacy of knowledge claims based upon satellite imagery in the field of international security.

November 2015

### ***ESPI Perspectives 73: The Role of Government in EO Services***

by Geoff Sawyer, Secretary General of the European Association of Remote Sensing Companies (EARSC)

The market for EO services is being disrupted by new start-ups with innovative business models seeking to shake up the larger, more traditional players. This notwithstanding, large public investments are still being made with both civil and military objectives. Furthermore, government policy in the U.S. is as important as that of Europe for driving and shaping the market and the commercial EO services sector. From these trends arises some tension which in turn raises a few relevant questions. How does government policy influence this market and what can we learn from the markedly different approaches being taken in Europe and the U.S.? And how can Europe ensure that it reaps the full socioeconomic and strategic benefits of its strong investments in EO – especially now that Copernicus is becoming operational? This Perspective seeks to address the main questions in this respect.

December 2015

### ***ESPI Perspectives 74: From MDGs to SDGs: Why Now Is the Time to Further Integrate Space into Development***

by Elisabeth Veit, ESPI Junior Researcher

Issue 74 of the "ESPI Perspectives" series explains how the Post-2015 Development Agenda, the new Sustainable Development Goals (SDGs), and the other new frameworks fit together, and summarises how the change from the outgoing Millennium Development Goals (MDGs) to the new SDGs has unfolded. It places the new frameworks into context through an analysis of the successes and shortcomings of the MDGs and an exploration of emerging development issues. It argues that the innovative nature of the Post-2015 Agenda creates a window for the more effective leveraging of space technologies for development, and closes with some examples of how stakeholders like the European Union and the United Nations Office for Outer Space Affairs are already responding to this challenge.

## Recent Events

### 12 March 2015. **ESPI presents at the Kunsthistorisches Museum, Vienna**

On 12 March, the director of ESPI, Peter Hulsroj, made a presentation at the Kunst-historisches Museum of Vienna, entitled Light, Enlightenment, and the Limits of Understanding. The speech was the opening event in a series of presentations at the Museum to celebrate the International Year of Light.

The presentation was centred on two items from the Kunstkammer:



The Celestial Globe by J. Reinhold d. Ä. und G. Roll, and an Automaton in the form of a galleon by Hans Schlottheim. The director based his talk on how

points of perspective have evolved over time, from the local to the space based. He noted how observation from space has allowed humankind to understand Earth and its position in the overall scheme of things completely differently than in earlier times of geocentric thinking.

He cautioned, however, that understanding is likely to always remain imperfect, and that perfect understanding, *A Theory of Everything*, might not be desirable.



### 18-25 March 2015. **ESPI contributes to a Master course on Space Studies in South Africa**

In March 2015, former ESPI Resident Fellow Annette Froehlich visited again the SpaceLab of the University of Cape Town for one week to give various lectures for the Space and Society module in the master's programme on Space Studies. This module is dedicated to present the status of space activities worldwide, commercial space activities, space law, space policy, regulatory frameworks for space cooperation, space sustainability and space security. Dr Froehlich's stay included also a special lecture at Stellenbosch University on International Space Law and European Space Policy, an interview on the importance of space law with the radio station of Cape Town and a visit at the Sciences Centre of Cape Town which comprises a space exhibition area.



### 23 April 2015. **ESPI hosts an evening event on Big Data and Space**

Big data is a hot topic. Not only because the amount of digital data generated and stored has been growing exponentially over the past years, but especially because it will give rise to totally new ways of using data – bringing benefits and opportunities that previously were impossible or even inconceivable. In this sense big data is expected to revolutionise a whole range of societal activities. The evening event “Big Data and Space”, organised on the 15th of April, explored the role space has to play in this revolution

After some welcoming words given by ESPI Director Peter Hulsroj, Luc St-Pierre – Head of the UN-SPIDER – provided some introductory remarks on behalf of the UNOOSA regarding the importance of big data within the UN context and the Post-2015 Development Agenda. This was followed by a scene-setting presentation given by Mario Meir-Huber from the International Data Corporation Austria on the general non-space developments in the area of big data and its relevance for society.

Subsequently, the focus narrowed to the space sector. Pier Giorgio Marchetti, Head of Research and Ground Segment Technology Section at ESA, gave a presentation on the technical developments, issues and trends in big data from space. Mr. Marchetti explained that big data is currently affecting various segments of space, including: EO, space science, planetary science, space situational awareness and security. At the end of the event, big data was approached from the legal perspective in a presentation given by Alexander Soucek from the ESA Legal Services Department. Mr. Soucek elaborated on a number of issues relating to privacy and data protection by referring to the various treaties and types of legislation and soft law applicable. Later on, Mr. Soucek focused on the link between big data and international law, advocating that big data will have many positive effects on rights, making the law-making process more participatory and democratic and making the compliance of treaties much more enforceable.

12-14 May 2015. **ESPI Director presents at the HumTech Conference at MIT, USA**

The HumTech Conference, which took place from 12 to 14 May in Cambridge, MA, is a premier event for exchanging information on the role of technology in humanitarian assistance situations. ESPI Director, Peter Hulsroj, made a presentation of ESPI's Humanitarian Telemedicine activity on the final day of the conference, in which he highlighted how technology can help overcome this information deficit, as the telemedicine tool can make distance irrelevant. For instance, the telemedicine tool can connect doctors in industrialised countries with patients in medically underserved communities in rural areas of developing countries.

Peter Hulsroj drew attention to the comprehensive report on the topic published by ESPI and to the intention of ESPI to arrange an in-depth conference on the topic, hopefully to be



21 May 2015. **ESPI presents at the Data Hub Conference in Vienna**

On May 21, ESPI Resident Fellow Arne Lahcen made a presentation at the 2015 Data Hub Event in Vienna, organised by the International Data Corporation (IDC). The conference, attended by over 200 delegates from 9 different countries, addressed a range of compelling business ideas and strategies around Big Data and predictive analytics, as well as big data platforms and technologies



The presentation opened with a general introduction on the different kinds of space utilisation and their relation with the different types of Earth orbits. This was followed by a historic overview on how the use of space has changed and diversified over time, situating also the trend of an increasing central position of data in the overall use of outer space. The second part of the talk focused on the role of data in space anno 2015 and in the future.

26 May 2014. **ESPI gives a lecture on Europe-China space relations at SIOI, Rome**

On 26 May, ESPI Resident Fellow Marco Aliberti presented ESPI activities and gave a lecture on the future of Europe-China space relations to students at the Italian Society for International Organization (SIOI) in Rome.



After a general overview of the institute, of its publications and ongoing activities, Mr. Aliberti introduced the topic of Europe-China cooperation in space, by highlighting the inherent political dimension of space activities and by embedding Sino-European space relations within the context of their broader political relationship. Attention was subsequently drawn to the opportunities and challenges at stake for Europe in cooperating with China, and elaboration on the policy alternatives European stakeholders have vis-à-vis China and its space ambitions. The lecture sparked an enthusiastic discussion with the students, which advanced their own ideas and perspectives on this increasingly relevant topic.

April 2015. **ESPI contributions to the Space Policy Journal**

In April 2015, Space Policy online released two articles authored by ESPI Resident Fellows Serge Plattard and Arne Lahcen, respectively entitled "Security in space: Should space traffic management also concern payloads management?" and "ESPI Autumn Conference "the governance of space" – Vienna September 2014". The article authored by Arne Lahcen, captures the major findings of the two-day event and accentuates a number of trends recurring throughout the speakers' presentations, while Serge Plattard's paper argues that the current and significant initiatives favouring principles for transparency and confidence building measures (TCBM) regarding a sustainable space traffic management should be pushed further, addressing also the space payloads management issue. The full articles can be purchased at: [www.sciencedirect.com](http://www.sciencedirect.com)



17 June 2015. **ESPI and ECSL – Austria evening event on “US and European geospatial data policies: challenges of open data policy”**

The evening event, organised by ESPI and the Austrian National Point of Contact for the ECSL, aimed to compare and contrast different regulatory approaches in the geospatial data policies of the US and Europe, in light of the awakening challenges stemming from open data policies

The event was kicked off by guest moderator Dr. David Kendall – UNCOPUOS Chair for 2016-17. Following some welcoming words, Dr. Kendall set the scene by highlighting the potential of geospatial data for prosperity but also for abuse, and raising the question of how to balance the rights of governments, commercial companies and individuals with respect to data policy.



Prof. Joanne Irene Gabrynowicz – Editor-in-Chief Emerita of the Journal of Space Law, former Director of the National Center for Remote Sensing, Air, and Space Law at the University of Mississippi School of Law, and Visiting Professor at the Beijing Institute of Technology, School of Law – provided an American perspective on the use of geospatial data, with respect to Landsat and other US systems. Prof. Gabrynowicz tried define the term geospatial data, from a US cultural and legal perspective, and she highlighted the need to balance

the collection of geospatial data for security purposes with reasonable expectations of privacy of citizens. From there, she expanded on the evolving interpretation of the Fourth Amendment to the US Constitution, elaborating on cases and new technologies such as UAV’s and the use of GPS trackers that require courts to draw a line between where privacy can and cannot be expected.

Prof. Irmgard Marboe – Professor of international law at the University of Vienna, and Director of the National Point of Contact for Space Law Austria – completed the picture with the European perspectives on geospatial data policy, with regard to international organizations such as ESA, the EU, Council of Europe, and some European states. While a similar approach to free and open data is shared, each body has its own data policy. And in providing open access to Copernicus data worldwide, deference tends to be



made to the security interests of the EU or of its Member States. A notable distinction from the US policy is the protection of personal data afforded to EU citizens which restricts the open dissemination of geospatial data where it would infringe on the rights and principles of the Charter of Fundamental Rights and Freedoms. Specific challenges on open data policy also remain with respect to international agreements (including defence), and to EU and



member state security concerns; especially in determining who has the competence in deciding on open data in Europe.

The event then proceeded to a discussion with the audience, moderated by Dr. Kendall, and it was concluded by a reception.

23 June 2015. **Afternoon Lecture by Frank A. Rose at ESPI**

On 23 June 2015, Frank A. Rose, Assistant Secretary of State Department, Bureau of Arms Control, Verification and Compliance (AVC), made an afternoon lecture on the role of diplomacy in maintaining the long-term sustainability and security of the outer space environment.



The event began with welcoming words by guest moderator Per Tegner, former Chairman of the ESA Council, and Member of ESPI’s Advisory Council. Following introductory remarks, Frank A. Rose proceeded to frame the lecture in terms of the challenges to the space environment, and how diplomacy can be used to respond to those challenges, especially with regard to matters of space situational awareness. The discussion addressed debris matters, and how its mitigation would require a comprehensive diplomatic approach on both the national and international levels. The development of the draft International Code of Conduct for Outer Space Activities was given as a multi-lateral example of such diplomacy. The lecture was followed by a discussion with the audience.

7-9 July 2015. **ESPI at the 9th IAA on the future of space exploration, Torino**

The goal of the symposium was to present updated results of IAA activities regarding global cooperation in human and robotic space exploration, together with new proposals coming from space agencies, industry, and research centres. Presentations covered a range of topics including technology, science, programmatic, economics, ethical and cultural aspects of global programmes. ESPI Resident Fellow Serge Plattard provided an update on the IAA Cosmic Study on the dynamics of space exploration activities that he is chairing, and that has received inputs from 18 contributors.

The preliminary study report surveys on-going plans of major space actors and newcomers in the field, including the private sector. Having identified the drivers and trends relative to various stakeholders, and scientific, technological, political, commercial and legal motives, a vision for space exploration is proposed which is bold, collective, holistic, paved with attainable milestones shared by the stakeholders and conceived in a sustainable manner.

24 July 2015. **ESPI Director presents at the Space Policy-Industry Dialogue 2015**



The Space Policy/Industry Dialogue 2015 was arranged by bavAIRia and NEREUS in Augsburg, Germany on 24 July. The Space Policy/Industry Dialogue is an annual event intended to bring industrial actors and other interested parties, particularly in Bavaria, closer to space issues and the latest space policy developments. At this year's event, ESPI Director Peter Hulsroj made a presentation entitled "The next step for space and space policy in Europe".

The presentation surveyed the various likely avenues for the space domain in the medium term and made suggestions on how Europe can position itself in the best possible fashion.



24-25 August 2015. **ESPI Director delivers a keynote speech at the Space Security Conference, Geneva**

UNIDIR arranged the Space Security 2015 Conference 'Underpinning Foundations of Space Security' in Geneva on 24-25 August. The ESPI Director, Peter Hulsroj, made the keynote speech 'The Underpinning of Space Security in General International Law' to a very well attended conference, with many diplomatic representatives.



Mr. Hulsroj's presentation made the point that space lawyers tend to seek the solutions to space law issues almost exclusively in the 5 space treaties. Yet general international law is a rich source also for resolving space law questions, and hence more attention should be given to linking the space law domain and general international law. This is true for space security as well, with general international law providing a strong foundation which not only underpin specific space security norms, but also supplement these to an extent not always fully acknowledged.

23 September 2015. **ESPI contribution to New Space Journal**



In September 2015, the journal New Space (Vol 3, Issue 3) published a paper authored by ESPI Resident Fellow Serge Plattard on the possibility of considering global navigation satellite systems (GNSS) open signals as a new world public good.

After recalling the continuously growing pervasiveness of GNSS signals usage and what characterizes a World Public Good (WPG), the paper analyses if such signals indeed could qualify to be considered as a new WPG. It concludes on the central importance of the free-of-charge access to GNSS for having shaped the end-users market and wonders what would happen if a fee was to be imposed in a distant future. Yet, for the time being the nomenclature of WPG seems to fit.

21-22 September 2015.

## ESPI Autumn Conference “Access to Space and the Evolution of Space Activities”

On 21 - 22 September 2015 ESPI hosted its 9th Autumn Conference, entitled “Access to Space and the Evolution of Space Activities”. The Autumn Conference is an annual ESPI event which takes place in September and includes a meeting of the authors of the upcoming Yearbook on Space Policy as its centrepiece activity.

The conference, moderated by Herbert Allgeier and Per Tegnér, was opened by ESPI Director Peter Hulsroj, who provided a scene-setting on the importance of the outlook of declining launch costs and novel approaches to space exploitation and the potential impacts on the space sector and activities at large.

During the first day, the speakers of the conference focused on the overall trends in access to space, thereby offering a panorama perspective on the elements that ultimately define how other space activities are affected in the long run. This started with an opening speech by CNES Director of Launchers Jean-Marc Astorg, who presented an overview and future outlook of the state-of-the-art capabilities in the European launching sector. Following this, Cristina Chaplain, Director of the U.S. Government Accountability Office, explained how the commercial space sector in the United States is currently affecting governmental space programmes. Subsequently, the potential of new space activities in the future was explored in a presentation by Mr. Richard DalBello, Vice President Business Development and Government Affairs at Virgin Galactic.

On the second day, the assumption of declining launch cost in the future was taken a step further. In the morning session future scenarios for the different traditional categories of space utilisation were explored. This started off with a presentation dealing with the future of space applications, given by Eurisy Secretary General Stefaan de Mey. Then, Robert Veldhuyzen used his insights and experience as former ESA staff member to assess the future development of human space flight and space exploration. This was followed by a presentation given by Professor Shuang-Nan Zhang of the Chinese Academy of Sciences on the potential impacts of what he coined “efficient access to space” on space astronomy and scientific progress. In the last presentation before the lunch break, Leopold Summerer, Head of the ESA Advanced Concepts Team, offered an outlook on the evolution on other enabling and game-changing space technologies that might fundamentally impact the status-quo of human activities in outer space.

In the afternoon light was shed on the evolving needs in terms of governance, strategies and approaches that will arise in the playing field of space anno 2030. This included a presentation by Nina Witjes, scientific researcher at the Austrian Institute of International Affairs, on how future remote sensing capabilities might impact transparency building and create a new landscape for various societal activities. After that, philosopher and Wichita State University Lecturer James Schwartz presented some ethical constraints on near-Earth resource exploitation in the wide sense of the meaning. The European options to deal with the prospect of falling cost of utilizing space were explored in the final presentation of the conference, which was given by Jesse Phaler, Head of the Industrial Return Management Office at ESA.

The conference was closed by ESPI Director Peter Hulsroj, who drew conclusions on the overall findings of the event and the interesting reflections that will be addressed further in the Yearbook on Space Policy 2015.

This year, for the third time, the event was filmed. The videos are available [on our website](#) and on our [YouTube channel](#). Have a look!



21-22 September 2015. **ESPI supports the European Inter-parliamentary Space Conference**



In its role as permanent secretariat to the European Interparliamentary Space Conference (EISC), ESPI assisted this year's Spanish Presidency in the organisation of the 17th EISC Plenary session, which took place in the Congreso des los Diputados in Madrid on 21-22 September 2015. This year's Presidency, supported by ESPI Resident Fellow Matteo Tugnoli, organized a workshop in Madrid in March on the theme of "Space Governance at European Level". The aim of the workshop was to describe the current situation in Europe in terms of space governance by the so-called Space Triangle (EC, ESA and Member States) and discuss the evolution, focusing on the period covered by the current financial perspectives of the European Union (2014-2020).

The Plenary Session which took place in September continued on the path of the workshop, and specifically revolved around the theme of "Governance of the Space Sector at National Level". The topic was covered through three avenues: firstly, "Complementarity between European and national space programmes", secondly "Industrial and data policy in European space programmes" and finally "European and national legislation related to space". The opening speeches of the Plenary were given by Maria Luisa Ponzela, Secretary General for Science, Technology and Innovation and President of the Spanish Innovation Agency CDTI; Begoña Cristeto, Secretary General for Industry; Johann-Dietrich Wörner, ESA Director General and Augusto González, EC Advisor to the DG Internal Market, Industry, Entrepreneurship and SMEs.

The Plenary Session also included over a dozen speakers composed of key managers working in European space institutions and industries, which provided a pool of valuable information for the European Parliamentarians. On this occasion, the 3rd edition of the EISC-ESA Award took place. Laurent Brach emerged as winner with his "Oceans Plastic Pollution" project, while Alexandru Georgescu received a Special Mention of the Jury for his "Space for Heritage Conservation" proposal.

In addition, the Parliamentarians and participants were given the opportunity of a private visit to the Prado Museum, which was then followed by a gala dinner within its halls, offered by CDTI.

October 2015. **Interview and Reviews of the book "When China Goes to the Moon..."**

In an interview with the Italian magazine Fly Orbit News ESPI Resident Fellow Marco Aliberti commented on "When China Goes to the Moon...", the eleventh volume of the "Studies in Space Policy" book series published by Springer in August 2015. During the interview Mr Aliberti was asked to elaborate on the geopolitical issues associated with the Chinese space programme, including the prospect of a new space race for the re-conquest of the Moon and what the cooperation possibilities could be. Mr Aliberti also discussed possible European postures towards China by highlighting why Europe should become a bridge-builder between China and the United States in space and, beyond that, on Earth.

Since its publication in August 2015, ESPI's newest book has been stimulating interesting discussions among a wide range of stakeholders and positive reactions by the press! It has already received several reviews within the industry, including a review by Jeff Foust in "The Space Review" and another extensive book review by the e-magazine Go Taikonauts.

The Go Taikonauts review was also accompanied by a commentary by the magazine's editor Jacqueline Myrrhe, and two interviews with the book's author Marco Aliberti and ESPI Director Peter Hulsroj, further addressing the potential of European-Chinese cooperation in space.



**12 October 2015. ESPI presents at IAC 2015 in Jerusalem**

During the 2015 International Astronautical Congress, held in Jerusalem from 12 to 16 October 2015, ESPI contributed in several ways. ESPI Resident Fellow Serge Plattard presented two papers on the introduction of space payload management in STM and on the governance of the future GNSS, and a final update of the IAA Cosmic study: Dynamics of Space Exploration.



ESPI Resident Stefano Ferretti delivered papers at the Earth Observation symposium on the use of Copernicus and COSMO-SkyMed data, at the 13th IAA symposium on visions and strategies for the future, and at the symposium on Building blocks for future space exploration, highlighting the future applications and benefits of innovations. ESPI Resident Fellow Arne Lahcen presented the study “Optimising Europe’s Benefits from the Copernicus Programme” in the EO working group of the Space Generation Congress.

**18-19 November 2015. ESPI Director presents at the WMO Space Conference**

On 18-19 November the WMO held its Space 2040 Conference in Geneva at which ESPI Director Peter Hulsroj made a presentation 'Access to space and evolution space activities'. The presentation was based on the outcome of ESPI's Autumn Conference with a similar theme.

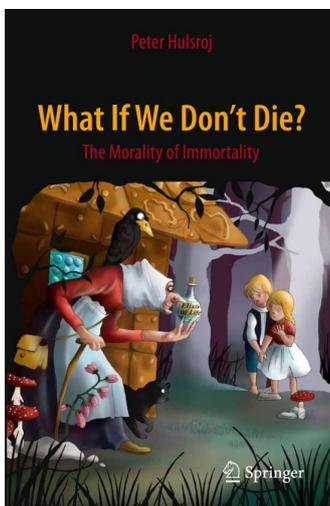
The WMO Conference had as its purpose to look at the contributions of space observations to global weather and climate monitoring in the 2040 timeframe. This perspective corresponded well with the outlook of the ESPI Autumn Conference where the longer term prospects for space activities were addressed in a general sense. Among the points made by Mr. Hulsroj was that the space domain currently experiences a period of significant disruption with attendant opportunity, and the particular importance of being open to serendipity when long timeframes are involved and hence predictability reduced.

**20-21 November 2015. ESPI Director participates in the Canada-UK Colloquium on Space**

On 20-21 November the Canada UK Council held its annual Colloquium in Glasgow with the theme 'Space, Obstacles and Opportunities'. The Colloquium was presided over by Lord Willetts and Professor Alan Smith of the University College London served as rapporteur. The ESPI Director, Peter Hulsroj, was invited to be part of the UK team. The colloquium covered a wide range of space-related issues of relevance for Canada and the UK, and both experts and non-experts on space matters participated in the discussions, bringing a particularly fruitful interdisciplinary exchange. The outcome of the discussions will be reflected in a report to be published in January and made available on the Canada UK Colloquia website <http://www.queensu.ca/canuk/>.



**ESPI Director publishes a philosophy book**



In September 2015, ESPI Director, Peter Hulsroj published a philosophy book entitled 'What If We Don't Die?' with the Springer imprint, Copernicus Books. The book deals with the very real possibility of earthly immortality, and the human and societal implications of such immortality, including whether it is desirable. What If We Don't Die?

- Presents major moral dilemmas associated with human immortality, something which seems imminent due to rapidly progressing biomedical research.
- Touches on big questions: is it acceptable that the immortal generation will be the last? How much life do you want? What is the purpose of life if life never ends?
- Will trigger your imagination by putting a new spin on free will, current concepts of time and eternity, the possibility of multiple universes and multiple yous.

The book draws extensively on philosophical and religious thought on the purpose of life and introduces novel perspectives on existence, personality and immortality based, for instance, on quantum mechanics and multiverse theory.

15 December 2015.

### **ESPI launches a SPACE BLOG!**

ESPI is pleased to announce the start of its first blog on space, which will be written by the ESPI Director, Peter Hulsroj.

The blog is not intended to keep you up-to-date with what is going on in our very dynamic environment - other sites are available for that. What this blog will do is to reflect on what is going on in space, it will try to give an input to making sense of it all. Many professions leave little time for contemplation and for digesting all the developments and new ideas. Space is no different, and one of the great attractions of the space field is exactly its dynamism. Yet, contemplation and digestion are important, if we want to make the best of our endeavours. The new blog intends to stimulate this process. Like most blogs, this ESPI blog will convey the ESPI Director's personal opinions. It is in the hope of Peter Hulsroj that these opinions might sometimes amuse you, sometimes make you change your mind, sometimes confirm your existing opinion, but, sometimes also they may irritate you, make you angry, or make you disagree completely. The job of a think tank, and its director, is to stimulate debate, and it goes with this territory that sometimes raw nerves will be hit! You be the judge!

The various posts can be found in ESPI website. Have a look!

11 January 2016.

### **The Latest Crop: ESPI presents its activities at the EEAS, Brussels**

On January 11, ESPI organised an evening event together with the European External Action Service, at their premises in Brussels. The aim of the event, which was called "The Latest Crop", was to present some of the ESPI products of particular relevance for the European authorities that were published in the last year. Welcoming words were given by Carine Claeys, Head of the EEAS Space Task Force. The event was then introduced by the ESPI Director Peter Hulsroj, followed by a keynote speech of Josef Aschbacher, Head of Programme Planning and Coordination in the ESA Earth Observation Programme Directorate, on the role of EO in broader policy debates. Following this, ESPI Resident fellows Arne Lahcen, Marco Aliberti, Matteo Tugnoli and Stefano Ferretti, and former Fellows Letizia Caito and Panos Mastorakis presented their work to the more than 50 participants, which included two members of the ESPI Advisory council, Herbert Allgeier and Frank Asbeck. The topics presented spanned the arc of space activities: from European technological non-dependence to the future of European Flagship Programmes in space, from the social impact of space to geopolitics. The event was concluded with a speech by François Rivasseau, the EEAS Special Envoy for Space, and final remarks were given by Didier Schmitt of the EEAS Space Task Force.

During the following two days, the ESPI delegation in Brussels attended the "8th Annual Conference on European Space Policy", organised by the European Commission on 12 and 13 January 2016.

#### **FOLLOW OUR ACTIVITIES ON THE SOCIAL MEDIA !**

Following the official launch of its social media pages in 2012, ESPI has been active in contributing highly relevant issues to the public. We are on Facebook, Twitter, Youtube, and LinkedIn. You can follow us to get regular updates on our activities and events:



<https://www.facebook.com/EuropeanSpacePolicyInstitute>



<http://twitter.com/ESPIspace>



[www.youtube.com/user/ESPIfilm/](http://www.youtube.com/user/ESPIfilm/)



[www.linkedin.com/company/european-space-policy-institute](http://www.linkedin.com/company/european-space-policy-institute)

## Future ESPI Activities and Opportunities for ESPRAN Members

### Ongoing ESPI Studies

#### *The Future of the GNSS Governance*

Project led by ESPI Resident Fellow Serge Plattard

As the Global Navigation Satellite Systems (GNSS) are moving ahead with two operational constellations, GPS and GLONASS, and two others in development, Beidou and Galileo, by 2020 the end users will have the possibility to use signals provided by these constellations for a large variety of applications. In addition, two regional systems are also gearing up: the Japanese QZSS and the Indian RNSS. Thus the users should have the ability to use multi-GNSS receivers to increase performance in positioning, navigation, timing and velocity determination. In a sense, the signals delivered by the GNSSs will progressively acquire the status of a world public good, becoming indispensable for everyday life but with an imbedded fragility. If consensual governance among the providers, as a start, is not reached by then, we might be dealing with a complex system of systems whose management is not fully foreseen today. In view of this perspective, it is fair to ask if manufacturers and users destined to work together are setting the proper pace towards a soothed environment rather than having to live in a maze of competing technological specifications and management regimes. After describing the current status and the development of GNSS, the study addresses the importance of the governance issues such as compatibility, interoperability, commonality of standards, interchangeability, dedicated constellations and the providers-users interaction. The role of the UN-ICG as a very useful informal platform for exchange of information is also underlined.

#### *The future of Spacecraft Manufacturing in Europe*

Project led by ESPI Resident Fellow Cenan Al-Ekabi

The ESPI Report on “The Future of European Commercial Spacecraft Manufacturing Manufacturing” will assess how Europe can preserve its role in commercial satellite manufacturing, if it is assumed that low-cost manufacturers will become ever more relevant. The days when commercial barriers kept traditional market leaders in their comfort zone due to the specialized knowledge, export controls, and few competitors are fading with the existence of ITAR free satellites and the increasing capabilities of low cost manufacturers. This study will explore whether there are lessons to be learned from automotive and aircraft manufacturers, while also investigating whether ESA enlargement might provide a path in the commercial field to ‘outsource’ part of the manufacturing to low cost producers. The role of neighbouring states within and outside of the EU will also be touched upon.

#### *Mechanisms for the Development of International Norms regarding Space Activities*

Project led by ESPI Research Fellow Anja Pecujilic with former ESPI Resident Fellow Annette Froehlich

This ESPI Report intends to offer a comprehensive overview of the main existing legal methods used to create hard international law norms, and their application in the space domain. Currently, law is lagging behind technical advancement, creating legal loopholes that are endangering future space activities, space environment and sustainability. Therefore, the latest elaborated space treaty, the Cape Town Convention and its Space Asset Protocol, are analysed in depth as well as the lessons learned. Secondly, the existing five space treaties and the reasons for the decline of hard law making have been addressed, followed by the description of the development of soft law and its insufficiency. Lastly, a number of international organizations have been scrutinized in order to establish if their hard law norm creating mechanisms could be applied in the space sector. Built on these three pillars, the Report tries to provide an answer how to overcome the existing legal stalemate and efficiently create new hard law regulations.

## Ongoing ESPI Studies

### ***The European Launchers between Commerce and Geopolitics***

Project led by ESPI Resident Fellows Marco Aliberti and Matteo Tugnoli

Following the decisions taken at the ESA Ministerial Conference held in December 2014, this report aims at providing an in-depth reflection on the medium-term prospects for Europe's access to space (i.e. over the next 10-15 year time-frame). Starting with the Resolution on Access to Space, the project intends to assess the scope, implications, opportunities and constraints of the European strategy in the launcher sector with respect to the broader and rapidly evolving international context, and how it will position Europe at the nexus of commerce and geopolitics. The report will provide a detailed analysis of the worldwide commercial and political dynamics shaping this domain, investigate key unfolding trends and their future impacts, and in turn assess the ensuing challenges and opportunities to be faced by European institutions and industry in safeguarding the future competitiveness and optimizing political benefits of Europe's autonomous access to space

### ***Europe in the Future and the Contributions of Space.***

Project led by ESPI Resident Fellows Marco Aliberti, Stefano Ferretti and Arne Lahcen

The main objective of this project is to look at how European societal needs ('grand challenges' in EU terminology) can be expected to develop in the medium term, and to seek to map onto that how space can help fill those needs, so that maximum socio-economic benefits can be reaped. The project will look at both the methods for defining future needs (being aware that needs must be looked at generically, rather than in the perspective of: this is the app that will be all the rage in 2030), and have a first stab at the trends that can be identified in terms of actual future needs. How Europe can become a leader in identifying needs – and satisfying needs - will be investigated, as well as the structural impediments that may stand in the way of Europe assuming such a role. In the latter context reflections will also be made on how Europe can become more agenda setting in the global context. In addition, the report provides an argument for society to invest more than in the past in observatories for demand evolution (as distinct from technology evolution), both institutional and private, in order to allow both institutional space and private actors to navigate as well as possible in these rather murky waters.

## Future ESPI Activities and Opportunities for ESPRAN Members

### Upcoming ESPI Studies as part of ESPI's Workplan 2016

#### Space and its Institutions in Society

This project would have a two-fold objective: first, to investigate what society expects from space, and, second, how the institutions of space, particularly the space agencies, should be organized in order to be optimally positioned to help space meet the expectations of society.

On the first score, it can be noted that much societal dialogue has been centered on what space expects from society rather than the other way round. Dialogue has consisted of much more push than pull. Yet, the key thing to capture is the societal pull. The study will seek to establish current and foreseeable expectations of society (and of involved stakeholder groups) by deploying various dialogue tools, such as focus groups (including the use of control groups), modern survey methods such as those used by SurveyMonkey, simulation methodologies. Particular attention will be given to establishing consumption and cultural preference patterns, as distinct from how such patterns are served, in order to gauge the societal 'pull' in the most unadulterated form. In turn, this is relevant for an assessment of how the institutions of space, and particularly the space agencies, should be organized in order to fill true societal needs in the best possible fashion. If societal expectations, as expressed, could be satisfied purely by the commercial sector, the role of space agencies would become very narrow or disappear. If the public purse will be necessary to a large extent it does not necessarily mean that space agencies will have a dominant role, but it will mean a different level of public management and supervision. The need for the public purse will, again, largely be determined by what needs society will have.

The project will yield an extensive description of societal expectations relative to space, based on quantifiable inputs collected by the diverse means described, and the related corrective elements established through a 'bias and drag' analysis. In addition it will provide orientations and input elements on how institutions might have to evolve or change in order to best serve societal expectations.

#### Space for Sustainable Development

The UN Post-2015 Development Agenda will be the successor to the Millennium Development Goals. The endorsement of the Agenda will again draw the spotlight on what different economic sectors can do to ensure success. Among many sectors, space will be called on. The study would first survey the current role of space in development efforts, would thereafter look at neglected areas and where efforts could be increased, and would then, based on the findings, seek to assess where space could have most impact. One element of the project would be to map possible space involvement onto the priorities defined in the Post-2015 Development Agenda, and, in this context, seek to reinforce a dialogue between space stakeholders and Post-2015 Development Agenda actors. Another element would be to look beyond the space infrastructure issues (space as part of the creation of connectivity for Africa, for instance) to applications that optimize the usefulness of space infrastructure. Space can be central for improved agriculture, water management, the fight against desertification, protection of cultural heritage, establishment of renewable energy facilities. And more can be done on space-enabled telemedicine, e-health, tele-learning and tele-epidemiology, also in terms of making key actors, such as NGOs, aware of the possibilities. Regional space cooperation might foster peace and economic and cultural cross-fertilisation.

Africa is seen as the rising continent, and in this respect space may also play an important role in positioning African societies in the international knowledge-based economy. Space science can perhaps be leveraged more effectively in an African context, and it would be investigated whether space science could be integrated more firmly in aid-related educational and scientific endeavours. Europe is a key player in the global development architecture and the project would thus seek to ensure that space will be remembered as an important element in building Europe's approaches in this field, be it nationally or at a pan-European level, such as the efforts of DGs DEVCO and ECHO of the EC.

## Upcoming ESPI Studies as part of ESPI's Workplan 2016

### The Rise of the Private Actor

A much discussed phenomenon in recent times has been the rise of the private actor in a domain that historically has been dominated by state activity, at least outside telecommunication. Entrepreneurs like Elon Musk have shaken up views on how and who to do things. Although the private actor in the United States is not as independently and extensively involved as the public debate would have it, an asymmetry is evolving with more and more prominence given to the private actor in the United States, with Europe in a middle position, and many emerging space-faring nations (and Russia) being firmly in the traditional 'state activity' camp.

The project will seek to cut through the fog of the current rhetoric to map the actual evolution of space stakeholder categories, thus hoping to give the best possible input to an analysis of how stakeholder evolution could be reflected in policy and governance, and possible asymmetries accommodated. In this context an attempt will also be made to assess how categories of stakeholders will evolve in the future in order to allow for definition of forward-looking and sustainable policies. The project will also look at their configuration and evolution within different segments of space activity. Policy discussions have tended not to make the related distinctions, and top level governance has tended to be universalist, and did thus not cater much for the differences in stakeholder categories within the various space specializations. Yet, it would seem that, for instance, governance in domains of pure commercial activity would have to become purely regulatory, whereas in domains like exploration where the public purse is likely to be significantly in demand, governance might go beyond the regulatory to provide broader mechanisms for co-existence and cooperation. In other words, given the variety of uses of space and the fact that often the same orbits and facilities are used by different kinds of users, better governance might have to have two elements: a shared minimum set of norms, and accoutrements tailored for the specific specialization. It seems, for instance, anomalous that in the area of telecoms where private industry is overwhelmingly predominant, no independent voice is given in UNCOPOUS when matters relevant to this industry are discussed. This stands in contrast to the ITU where private actors have a formal role, despite the character of ITU as an intergovernmental organization.

### India in Space - Between Utility and Geopolitics

India has traditionally taken a very utilitarian approach to space. India was an 'early adopter' and has built a huge infrastructure with ISRO, yet the point of space exploitation by India was until recently almost entirely to gain utilitarian benefits. Space was a very useful tool to address many of the societal issues facing a huge and developing country. Things started to change with the launch in 2008 of the Indian space spacecraft Chandrayaan-1 to the Moon. And lately India has scored a huge success with the Mangalyaan Mars probe, launched in 2013 and entering a Mars orbit in 2014 - the first country to reach a Mars orbit in the first try. What is more, plans abound on human spaceflight and daring exploration missions.

The project will start out by looking at the historical path of India in space and where this path has crossed those of external partners. It will then look at India's rationales for engaging in space with a narrow focus, and how the support for the narrow focus was structured politically. The change in approach of recent years will thereafter be analysed in the context of the changing geopolitical situation and in the context of domestic Indian politics. The study will conclude with an extensive analysis of India's path forward, the toolbox India has at its disposal for indigenous versus cooperative endeavours, how India can be assumed to choose its partners, and in which fields, and to which extent India is being driven towards a rethink of its strategy by the glaring light of China's ambitions, not only in exploration, but through the use of tools such as APSCO.

Given the shared democratic values of India and Europe one would assume that there is fertile soil for far more extensive cooperation between them. And India's demographics and current strong path towards prosperity spell mutual opportunity. Surely Europe cannot afford to ignore a future behemoth! A central part of this final analytical part will be to see what the opportunities of Europe are to create mutually beneficial cooperation with India, both at the pan-European and individual nation level, and to which extent Europe can be a catalyst also for broader multilateral cooperation.

## ESPI Upcoming Events

24 February 2016

ESPI evening event "Senior Voices: Jankowitsch - Machatschke" (with Foreign Policy and United Nations Association of Austria)

Stallberg, Vienna, Austria

## Other Upcoming Events

### February 2016

15-26 February  
UN COPUOS Scientific and Technical Subcommittee  
United Nations, Vienna, Austria

28 February - 1 March  
2nd Conference on Astrophysics and Space Science  
Beijing, China

28 February - 2 March  
2nd IAA Latin America Cubesat Workshop  
Florianopolis, Brazil

### March 2016

7 - 10 March  
2016 Satellite Conference  
New Harbour, USA

8 - 10 March  
AIAA Missiles Science Conference  
Laurel, USA

8 - 10 March  
CABSAT 2016  
Dubai, United Arab Emirates

### April 2016

4 - 8 April  
International Venus Conference  
Oxford, UK

7 - 8 April  
Space Innovation Congress and expo  
London, UK

13 - 24 April  
UN COPUOS Legal Subcommittee  
United Nations, Vienna, Austria

### May 2016

10-13 May  
Earth Observation and Cryosphere Science 2016  
Prague, Czech Republic

16 - 20 May  
International Conference on Space Operations  
Daejeon, South Korea

17 - 19 May  
Humans to Mars Summit  
Washington DC, USA

**Conferences, Symposia and Workshops organised by ESA**

available at:

<http://www.congrexprojects.com/list-of-events>

## Opportunities for ESPRAN Members

### Let's interact!

The European Space Policy and Academic Network (ESPRAN) was launched in September 2007 with the aim of providing a platform for the exchange between experts and institutions involved in space policy. Through the participation of so far over 100 experts, ESPRAN fosters cross-fertilisation of ideas and their promotion vis-à-vis decision-makers. ESPRAN is a means to keep the space community updated on space policy events and provides for the opportunity of actively participating in the generation of thoughts on the most crucial topics of space policy by giving its members the opportunity to contribute to space policy publications like the Yearbook on Space Policy, ESPI Perspectives and Studies as well as the participation in conferences and events.

ESPI intends to further broaden the basis of ESPRAN and open a platform for ESPI partners and ESPRAN members and to share their perspectives and plans. Within this issue, the opportunities offered by the Committee on Space Research (COSPAR) are presented at page 20 of this Newsletter.

If you want to become member of ESPRAN and/or present space-related activities, please write to: [marco.aliberti@espi.or.at](mailto:marco.aliberti@espi.or.at)

### Autumn Conference 2016: We welcome your ideas!

In September ESPI organises its yearly Autumn Conference, which takes place at the Institute's premises in Vienna and captures the different facets and perspectives of an overreaching annual theme. To elaborate on the theme, the Institute brings together eminent professionals in the relevant fields. Their findings are presented in the second part of the Yearbook on Space Policy - which will be published in 2017 by SpringerWienNewYork – in the form of external contributions.

In view of the recently adopted UN Post-2015 Development Agenda, the selected overarching theme for the 10th Autumn Conference is "Space for Cooperation and Development". As ESPI strives to be an open platform think-tank, we welcome your input and suggestions in the organisation process of the Conference; more specifically we welcome your suggestions on the different topics and perspectives that should be covered as part of this overarching theme.

Please direct your inputs to: [arne.lahcen@espi.or.at](mailto:arne.lahcen@espi.or.at)

### ESPI Perspectives: Publish with us!

ESPI is calling for contributions to ESPI Perspectives. Since the Perspective series is an open format, we welcome contributions from both experts and the general public that are in line with the nature of the Perspective series. ESPI Perspectives are short papers, typically about five pages, presenting a concise analysis on innovative ideas in the field of space policy or societal impacts of space technology. Ideally, this takes the form of an existing unpublished paper or reflection. Depending on the nature of the topic, however, an inspiring idea can also be taken as a starting point for further elaboration. In the latter case further reflection in consultation with professionals in the field might take place during the writing process. All accepted ESPI Perspectives are reviewed and edited on a joint basis. This is necessary to ensure the consistency of our publication series. While ESPI Perspectives do not necessarily represent the views of ESPI, they can be very relevant for stimulating discussion in the field of space policy, or space-society relations in general.

Please direct proposals to: [arne.lahcen@espi.or.at](mailto:arne.lahcen@espi.or.at)

#### Editor:

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## News from ESPRAN Partners

### THE COMMITTEE ON SPACE RESEARCH (COSPAR)

The Committee on Space Research (COSPAR) was established in 1958 by the International Council for Science. COSPAR's objectives are to promote on an international level scientific research in space, with emphasis on the exchange of results, information and opinions, and to provide a forum, open to all scientists, for the discussion of problems that may affect scientific space research. These objectives are achieved through the organization of Scientific Assemblies, publications and other means.

Below please find information about the forthcoming meetings of the 41<sup>st</sup> Scientific Assembly of COSPAR. The complete list of scientific events comprising the Assembly is posted on the web page.

#### 41<sup>st</sup> Scientific Assembly of the Committee on Space Research (COSPAR) and Associated Events "COSPAR 2016"

**Date:**

30 July – 7 August 2016

**Place:**

Istanbul, Turkey

**Scientific Program Chair:**

Prof. Ersin Gogus, Sabanci University



**Contact:**

COSPAR Secretariat, 2 place Maurice Quentin, 75039 Paris Cedex 01, France

Tel: +33 1 44 76 75 10

Fax: +33 1 44 76 74 37

cospar@cosparhq.cnes.fr

**Abstract Deadline:**

12 February 2016

**Topics:**

129 meetings covering the fields of COSPAR Scientific Commissions (SC) and Panels:

- SC A: The Earth's Surface, Meteorology and Climate
- SC B: The Earth-Moon System, Planets, and Small Bodies of the Solar System
- SC C: The Upper Atmospheres of the Earth and Planets Including Reference Atmospheres
- SC D: Space Plasmas in the Solar System, Including Planetary Magnetospheres
- SC E: Research in Astrophysics from Space
- SC F: Life Sciences as Related to Space
- SC G: Materials Sciences in Space
- SC H: Fundamental Physics in Space
- Panel on Satellite Dynamics (PSD)
- Panel on Scientific Ballooning (PSB)
- Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)
- Panel on Radiation Belt Environment Modelling (PRBEM)
- Panel on Space Weather (PSW)
- Panel on Planetary Protection (PPP)
- Panel on Capacity Building (PCB)
- Panel on Education (PE)
- Panel on Exploration (PEX)
- Special events: interdisciplinary lectures, round table, etc.

Selected papers published in *Advances in Space Research* and *Life Sciences in Space Research*, fully refereed journals with no deadlines open to all submissions in relevant fields.