

The Seamless Chain of Innovation

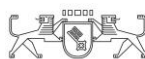
From Space Science to Business



9th IAF International Meeting for Members of Parliaments

69th International Astronautical Congress – IAC 2018

Bremen State Parliament
Am Markt 20, 28195 Bremen, Germany



**BREMISCHE
BÜRGERSCHAFT**



Welcome Message

Dear Members of Parliaments,

The International Astronautical Federation (IAF) is glad to join with the Bremen State Parliaments to host the 9th IAF International Meeting of Members of Parliaments alongside the 2018 International Astronautical Congress (IAC). We are proud to provide this opportunity for Members of Parliaments from around the world to interact and to benefit from exchanges and presentations for their work in the legislatures of their countries. IAF knows how important Members of Parliaments are for nurturing a flourishing space sector and appreciates the interest and efforts you put in participating in the meeting. We are confident that we have prepared a programme for you, which will inform and inspire you and offer you additional opportunities to explore the universe of our Congress.

We thank our hosts, the Bremische Buergerschaft, the Bremen State Parliament, which has been a promoter for space since decades, successful as few regions in Europe. Our theme “The Seamless Chain of Innovation. From Space Science to Business” fits perfectly to Bremen, where the whole chain from first class universities and R&D establishments to a vibrant start-up entrepreneurship scene and major space manufacturing companies is constituting a “City of Space” as the motto of Bremen says very appropriately. We are sure that all this will stimulate interesting and valuable discussions and exchanges amongst you and in the context of the IAC and we hope that your work in your Parliaments will benefit from this experience.



Jean-Yves Le Gall
President,
International Astronautical
Federation (IAF)



Jan Wörner
Vice President for
Agency, Parliamentary
and Ministerial Relations,
International Astronautical
Federation (IAF)

Welcome Message

Dear Members of Parliaments,

It is a great honor for Germany and especially the host city Bremen to be home to the most important international space conference, the International Astronautical Congress 2018. Space with its technological innovations is vital for our economic and scientific development. Therefore, the German Bundestag, as well as the Bremen State Parliament, strongly support the German and the European space initiatives and development.

Space emphasizes the need for and the significance of international cooperation. This is a very important message especially in times when long-standing partnerships and relationships between countries all over the globe are being called into question or are even breaking up.

For those reasons and in recognition of the motto of the 69th IAC 2018 “involving everyone”, we are proud to host the 9th International Meeting of Members of Parliaments and to involve all of you in enlightening and fruitful discussions during your stay in Bremen.

Events like the Members of Parliaments Meeting are crucial in fostering a common understanding as well as international cooperation in regard to space.

We wish you all an interesting and stimulating stay in Bremen.



Christian Weber
President,
Bremen State Parliament



Klaus-Peter Willsch
Member of German
Bundestag,
Chairman of Aviation and
Space Group

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Sunday 30 September

08:30 – 09:00 **Welcome Coffee**

09:00 – 09:30 **Welcome Remarks**



Christian Weber
President,
Bremen State Parliament



Jean-Yves Le Gall
President,
International Astronautical Federation (IAF)



Jan Wörner
Vice President for
Agency, Parliamentarian and Ministerial Relations,
International Astronautical Federation (IAF)



Klaus-Peter Willsch
Member of German Bundestag,
Chairman of Aviation and Space Group



Chris Schacht
Former Senator of Australia,
Board Member of the Space Industry Association of Australia,
IAC 2017 Host Country

09:30 - 09:45

Keynote 1: *Space in Germany: A Case for Business and Science*



Pascale Ehrenfreund
Chair of Executive Board,
German Aerospace Center (DLR)

Born in 1960, Ehrenfreund obtained degrees in Astronomy and Biology at the University of Vienna. She was appointed as a Fellow of the European Space Agency (ESA) at the Leiden Observatory in the Netherlands, upon completion of her doctoral studies. Between 2001 and 2005, Ehrenfreund held a professorship in Astrobiology at the University of Amsterdam and the University of Leiden, where she remains a Visiting Professor today. In addition, between 2005 and 2008 she was a Distinguished Visiting Scientist at the Jet Propulsion Laboratory in Pasadena, USA, which is part of the California Institute of Technology. Further, Ehrenfreund obtained a Master of Arts in Management and Leadership in 2008. Since then, she has been Professor of Space Policy and International Affairs at the Elliott School of International Affairs, George Washington University, and Lead Investigator at the NASA Astrobiology Institute. She was the first female President of the Austrian Science Fund (2013-2015), from which she stepped down upon her appointment at DLR, where she has been Chair of the Executive Board since 17 August 2015.

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09:45 – 10:00

Keynote 2: SPACE 4.0: The Value of STE(A)M



Jan Woerner
Director General,
European Space Agency (ESA)

Jan Woerner was born in Kassel, Germany in 1954. He studied civil engineering at the Technical University (TU) Berlin and TU Darmstadt, from where he graduated in 1985.

In 1990, he returned to TU Darmstadt, where he was appointed as a professor of Civil Engineering and took over as Head of the Test and Research Institute. Jan Woerner headed the university from 1995 to 2007 and succeeded in making it the first autonomous university of the Federal Republic of Germany.

From March 2007 to June 2015, he served as Chairman of the Executive Board of the German Aerospace Center (DLR). He became the ESA Director General on 1 July 2015.

10:00 – 10:15

Keynote 3: *Space Innovation in and for Africa*



Valanathan Munsami
Chief Executive Officer,
South African National Space Agency (SANSO)

Dr. Valanathan Munsami was appointed as the Chief Executive Officer of the South African National Space Agency (SANSO) on 3 January 2017. Dr Munsami has held a number of positions within the Department of Science and Technology, with the latest position held being the Chief Science and Technology Representative of the Department of Science and Technology since February 2016. Dr Munsami has a clear understanding of the space industry and has engaged with SANSO on a number of occasions. Among Dr Munsami's achievements, he was involved in the Strategy and Policy development for the South African national space programme. Dr Munsami currently Chairs the African Union Space Working Group, which developed the African Space Policy and Strategy that was approved by the African Heads of State in January this year. As the Chief Specialist for Astronomy, during his employment at the Department of Science and Technology, Dr Munsami was involved in the development of a National Multi-Wavelength Astronomy Strategy and the SKA Readiness Strategy. Dr Munsami's academic background includes a BSc in Physics & Mathematics, BSc Honours in Physics, and a PhD in Physics from the University of KwaZulu Natal. Dr Munsami has completed a Program in Business Leadership (PBL) and subsequently obtained his Masters in Business Leadership (MBL) through the University of South Africa.

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10:15 – 10:30

Keynote 4: *New Actors in Space*



Mohammed Nasser Al Ahabbi
Director General,
United Arab Emirates Space Agency (UAESA)

H.E Dr. Mohamed Nasser Al Ahabbi has been appointed as Director General of the UAE Space Agency after having the responsibility of designing and creating the agency.

He obtained his first Degree in the USA, then his MSc and PhD in the United Kingdom within the Information and Communication Technologies domain where he has published more than 20 scientific papers.

Dr Ahabbi has contributed and led numerous strategic projects in the ICT domain towards the benefit of the UAE government. He has also led a UAE Armed Forces Think Tank Project within the Centre of Excellence. His role embedded advising the military and government at a strategic level on emerging concepts and technologies in the area of smart defense, cyber warfare and space developments.

He was the head of YAHSAT MilSatCom and other Space Projects. He has an active role in ITU-R, UN Space working groups and ICT professional associations.

Dr Ahabbi is also a key speaker in a number of international conferences in the area of Smart Defense, mil-Space, Cybersecurity, and Smart governments. He is also a board member of YahSat Company, UAEU Council and of the UAE ICT fund.

In his role as the Director General of the UAE Space Agency, he leads a team of 50 that manages the UAE's space sector. He is responsible for realizing the agency's goals of growing this Sector. He recommends the National Space Strategy and related laws, policies, and regulations to the government. He promotes and supports Industrial and R&D space projects. Dr. Al Ahabbi is also responsible for establishing and maintaining international relationships and partnerships, coordinating with national concerned authorities and providing guidance to non-government space sector organizations.

10:30 – 10:45

Keynote 5: *Transforming the Space Sector*



Hiroshi Yamakawa (Invited)

President,

Japan Aerospace Exploration Agency (JAXA)

Hiroshi Yamakawa was born in Geneva, Switzerland in 1965. He received master's degree of engineering in 1990 and earned Ph. D from the Department of Aeronautics, School of Engineering in 1993 both from the University of Tokyo.

He became a research associate and an associate professor at the Institute of Space and Astronautical Science in 1993-2003, and an associate professor at Japan Aerospace Exploration Agency (JAXA) in 2003-2006. He engaged in mission design of numerous Earth-orbiting scientific satellite projects as well as in lunar and interplanetary missions. He also engaged in the navigation, guidance, and control systems of the solid propellant rocket, M-V, and liquid propellant reusable sounding rocket, RVT. He was a study manager and a project manager of the Euro-Japan collaborative mission to Mercury "BepiColombo" from 2000 through 2006. He was a visiting scientist at NASA JPL in 1997-1998 and at ESA ESTEC in 2002.

He moved to Kyoto University in 2006 as a professor of the Research Institute of Sustainable Humanosphere, a professor of the Graduate School of Engineering (cooperating chair) and a deputy director of the Unit for Synergetic Studies of Space. His academic interest lay in orbital mechanics, trajectory optimization, space propulsion, and space situational awareness.

He was appointed as secretary general at the Secretariat of Strategic Headquarters for Space Policy, Cabinet Secretary, Government of Japan in 2010 through 2012. Then, he was assigned member of the Committee for National Space Policy, Cabinet Office from 2012 through 2018.

He was appointed as the President of JAXA in April 2018.

10:45 – 11:15

Coffee Break

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11:15 – 12:00

Interventions by Members of Parliaments and Discussion

12:00 – 13:00

Session 1: *Education to Business*

Space provides an endless reservoir for business opportunities. Incubation is one of the main tasks for space agencies to fulfill the promises in a more and more dynamic sector. This has to be based on an excellently educated workforce with a broad variety of skills including entrepreneurship.



Andres Jaadla
Coordinator ENVE Commission,
European Committee of the Regions



Jean-Claude Piedboeuf
Chair,
Canadian Space Agency (CSA)



Thorsten Rudolph
Chief Executive Officer,
Application Centre for Satellite Navigation (AZO)



Oliver Juckenhöfel
Head of Airbus Space Site in Bremen,
Vice President On-Orbit Services and Exploration,
Airbus Defence and Space

13:00 – 14:30 Lunch and Group Photo

Address by Pierre Godart, CEO, Ariane Group - IAC 2018 Team Germany

14:30 – 14:45 Keynote 6: *UNISPACE+50 Outcomes and the Way Forward on Space 2030*



Simonetta Di Pippo

Director,

United Nations Office for Outer Space Affairs (UNOOSA)

Simonetta Di Pippo is the Director of the United Nations Office for Outer Space Affairs. Her experience includes serving as Director of the Observation of the Universe at Agenzia Spaziale Italiana (ASI) (2002-2008) and Director of Human Spaceflight of the European Space Agency (ESA) (2008-2011). Prior to her appointment at UNOOSA in March 2014, she was Head of the European Space Policy Observatory at ASI Brussels.

She holds a Master's Degree in Astrophysics and Space Physics, and an Honoris Causa degree in Environmental Studies. She is Academician of the International Academy of Astronautics (IAA) and Member of its Board of Trustees. Ms. Di Pippo was knighted by the President of the Italian Republic in 2006. In 2008, the International Astronomical Union (IAU) named asteroid 21887 "Dipippo".

14:45 – 15:45

Session 2: Science to Research and Development

The space sector is based on science meeting the highest challenges posed to research and technology development and manufacturing alike. Science as the foundation of a mature and comprehensive space effort is thus pushing R&D to also enable commercial competitiveness.



Günther Hasinger
Director of Science,
European Space Agency (ESA)



Gilles Rabin
Director of Innovation, Applications and Science,
Centre National d'Études Spatiales (CNES)



Hansjörg Dittus
Executive Board Member for Space Research and Technology,
German Aerospace Center (DLR)

15:45 – 16:00

Coffee Break

16:00 – 16:15

Keynote 7: *New Space and the Economy*



Jim Bridenstine

Administrator,
National Aeronautics and Space Administration (NASA)

James Frederick “Jim” Bridenstine was nominated by President Donald Trump, confirmed by the U.S. Senate, and sworn in as NASA’s 13th administrator on April 23, 2018.

Bridenstine was elected in 2012 to represent Oklahoma’s First Congressional District in the U.S. House of Representatives, where he served on the Armed Services Committee and the Science, Space and Technology Committee.

Bridenstine’s career in federal service began in the U.S. Navy, flying the E-2C Hawkeye off the USS Abraham Lincoln aircraft carrier. It was there that he flew combat missions in Iraq and Afghanistan and accrued most of his 1,900 flight hours and 333 carrier-arrested landings. He later moved to the F-18 Hornet and flew at the Naval Strike and Air Warfare Center, the parent command to TOPGUN. After transitioning from active duty to the U.S. Navy Reserve, Bridenstine returned to Tulsa, Oklahoma, to be the Executive Director of the Tulsa Air and Space Museum & Planetarium.

Bridenstine was promoted to the rank of Lieutenant Commander in 2012 while flying missions in Central and South America in support of America’s war on drugs. Most recently, he transitioned to the 137th Special Operations Wing of the Oklahoma Air National Guard.

Bridenstine completed a triple major at Rice University, and earned his MBA at Cornell University. He has three children with his wife, Michelle.

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16:15 – 17:30

Session 3: Innovation and Regulation

Innovation is emerging from a fruitful environment, bringing together an interactiv biotope of science, R&D and industry. It also has to be accompanied by a supporting legal and regulatory framework. For this, Parliaments around the world are in the lead to establish respective provisions.



Felix Menicocci
General Secretary,
Comisión Nacional de
Actividades Espaciales
(CONAE)



Sergio Marchisio
Professor and Chairman,
European Centre for
Space Law (ECSL)



Marc Avila
Executive Director,
Center of Applied Space
Technology and
Microgravity (ZARM)



Fritz Merkle
Representative of the Board,
OHB SE



Lionel Suchet
Chief Operating Officer,
Centre National d'Études
Spatiales (CNES)



Gabriel Swiney
Attorney Adviser,
U.S. Department of State

17:30 – 17:40

Closing Remarks



Klaus-Peter Willsch
*Member of German Bundestag,
Chairman of Aviation and Space Group*

17:40

Adjourn

18:30

Joint IAF MoP and IAA Dinner

Dorint Park Hotel Bremen:



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Moderation by:



Kai-Uwe Schrogl

*Chief Strategy Officer, and Head, Strategy Department,
European Space Agency (ESA)*

Prof. Dr. Kai-Uwe Schrogl is the Chief Strategy Officer of the European Space Agency (ESA, Headquarters in Paris, France). From 2007 to 2011 he was the Director of the European Space Policy Institute (ESPI) in Vienna, Austria, the leading European think tank for space policy. Prior to this, he was the Head of the Corporate Development and External Relations Department in the German Aerospace Center (DLR) in Cologne, Germany. Previously he also worked with the German Ministry for Post and Telecommunications and the German Space Agency (DARA) in Bonn, Germany.

He has been a delegate to numerous international forums and has served from 2014 to 2016 as chairman of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, the highest body for space law making, comprising 73 Member States. He also was chairman of various European and global committees (ESA International Relations Committee and two plenary working groups of the UNCOPUOS Legal Subcommittee, the one on the launching State and the other on the registration practice, both leading to UN General Assembly Resolutions). He presented, respectively testified, at hearings of the European Parliament and the U.S. House of Representatives.

Kai-Uwe Schrogl is the President of the International Institute of Space Law, the professional association of space law experts from 48 countries, Member of the International Academy of Astronautics (recently chairing its Commission on policy, economics and regulations) and the Russian Academy for Cosmonautics as well as Corresponding Member of the French Air and Space Academy. He holds a doctorate degree in political science and lectures international relations as an Honorary Professor at Tübingen University, Germany.

Kai-Uwe Schrogl has written or co-edited 15 books and more than 130 articles, reports and papers in the fields of space policy and law as well as telecommunications policy. He launched and edited until 2011 the “Yearbook on Space Policy” and the book series “Studies in Space Policy” both published by ESPI at SpringerWienNewYork. He sits on editorial boards of various international journals in the field of space policy and law (Space Policy, Zeitschrift für Luft- und Weltraumrecht, Studies in Space Law/Nijhoff; previously also Acta Astronautica).

Monday 1 October Programme:

08:00 – 08:30 VIP Gathering (IP Hall)

09:00 – 10:30 IAC 2018 Opening Ceremony (ÖVB Arena)
(reserved seats for MoPs)

10:30 – 11:30 Opening of the IAC 2018 Exhibition and VIP Tour (Exhibition Hall)

- Gathering at the Entrance area of the Exhibition Hall
- Opening and Tour through the Exhibition
- End of visit at the DLR Booth

12:00 – 13:00 EUMETSAT Luncheon (ÖVB Olbers)

**13:15 – 14:45 Plenary Event 1: Heads of Space Agencies “Involving Everyone-
What is New for Space Agencies?”** (DLR Hall)

15:00 – 16:00 Free time to visit the Exhibition (Exhibition Hall)

16:00 Gathering point at the “Meeting Point” in the Foyer of the
Central Area for transfer to the reception

16:30 – 17:30 Reception “The Earth from outer Space” hosted by the Mayor of
Bremen, Dr. Carsten Sieling (Bremen Town Hall)

17:30 Transfer to Exhibition & Conference Center Bremen

**18:15 – 19:30 Plenary Event 2: Host Plenary “How to Live and Work on ISS,
Moon and Mars”** (DLR Hall)

19:30 – 21:30 IAC2018 Welcome Reception (Festival Hall)

Tuesday 2 October Programme:

08:30 - 14:00 MoP Technical Visit

08:00 Gathering Point in the Foyer of the Central Area of the Exhibition and Conference Center Bremen

09:00 - 10:30 ZARM Tour

At choice

10:30 - 14:00 Tour to DLR and OHB

14:00 Transfer to the IAC2018 Venue

Alternatively

10:30 - 13:30 Tour to Airbus and ArianeGroup

13:30 - 14:00 Transfer to IAC2018 Venue

15:00 Team Germany Reception (Exhibition hall, Booth D20)

19:00 - 22:00 German Night (Dorint Park Hotel Bremen)

MoP Venue: **Bremen State Parliament**

Am Markt 20, 28195 Bremen, Germany

IAC2018 Venue: **The Exhibition & Conference Center Bremen**

Halle 7, Findorffstraße, 28215 Bremen, Germany

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Notes

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Connecting @ll Space People