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SAFETY



UNOOSA

# AeroSPACE Symposium

ICAO Headquarters, Montréal, 18–20 March 2015

PROGRAMME & EXHIBITION





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UNOOSA

# SPACE

Preparing and Connecting for the Future



Visit our Website and  
Join the Network!

[icao.int/aeroSPACE](http://icao.int/aeroSPACE)



Simonetta Di Pippo

Director  
United Nations Office for Outer Space Affairs  
UNOOSA



Nancy Graham

Director, Air Navigation Bureau  
International Civil Aviation Organization  
ICAO

## A Common Objective and Shared Trajectory: Uniting for the Safe Integration of Air and Space Transportation

Emerging space activities and civil aviation truly give rise to challenges and opportunities. This awareness is determinative for our unique and unprecedented joint inter-agency effort of UNOOSA and ICAO in addressing common concepts and features of future aviation and space transportation. This requires us to navigate through a complex set of technical and regulatory challenges that lie on the only trajectory that there is to get us to where we want to go. It is very clear that the key to success lies at the intersection between aviation and outer space operations. Both of which have very mature and time tested international frameworks. It is in that spirit that the UNOOSA and ICAO have united our efforts to approach this new horizon.

The first step is to establish a common understanding of existing regulations and practices, including safety management and systems engineering methods. This will, in turn, provide a solid foundation for identifying and addressing challenges and opportunities related to emerging space activities, taking into account the interest of all society, and ensuring that it is accessible and open to all, and certain that it will bring far-reaching benefits to all States.

While the technical elements are our primary focus, equally important is the preparation and enlistment of the next generation of aerospace workers and professionals, which starts with providing the youth of today with goals and aspirations that will transform their lives, and by extension, the future of humankind.

Safety remains the fundamental and guiding principle of both the space and air domains, so we encourage all participants to take advantage of the wealth of information and stay connected to our joint effort.

# The Future

The future is not predictable, but it is clear: just beyond the horizon is a day when humankind will be travelling on a regular basis on commercially operated sub orbital flights. Although it is not possible yet to say how and when, it is becoming clearer every day what skills are needed and who is developing this work. So while we cannot train for the future yet, we can prepare for it. This website is meant as a base-station for all those who are looking to catch up on the existing material and who want to be connected to those who, perhaps halfway across the globe, might hold the answer to the next step in this incredible journey.



## Preparing for the Future

Visit our website [www.icao.int/aeroSPACE](http://www.icao.int/aeroSPACE) to find documents and other resources provided by several regulators, industry groups, and others who are already engaged in the sector. You can browse through it by State or subject. If you have documents that you would like to share with others, please click on the “share my document” button. Websites and other resources are also welcome.

## Being Connected for the Future

In this section of our website, you will see a “who’s who” in the sector. These are the women and men who are working on the future, and represent experience and skills across all the disciplines that are required to make this endeavour a success. Also listed are those who are getting involved, or want to stay in touch, so that we are all collectively ready for the future as it happens. Feel free to add yourself to this network of Space Points of Contacts at [www.icao.int/aeroSPACE](http://www.icao.int/aeroSPACE).

Display Information By:

Subject  State / Group  Industry

- Australia
- European Union
- France
- United Kingdom
- United States





# SPONSORS



# MEDIA PARTNERS & SUPPORTING ORGANIZATIONS



Space Points of Contact

SPOC

SPACE2015

# GENERAL INFORMATION FOR PARTICIPANTS



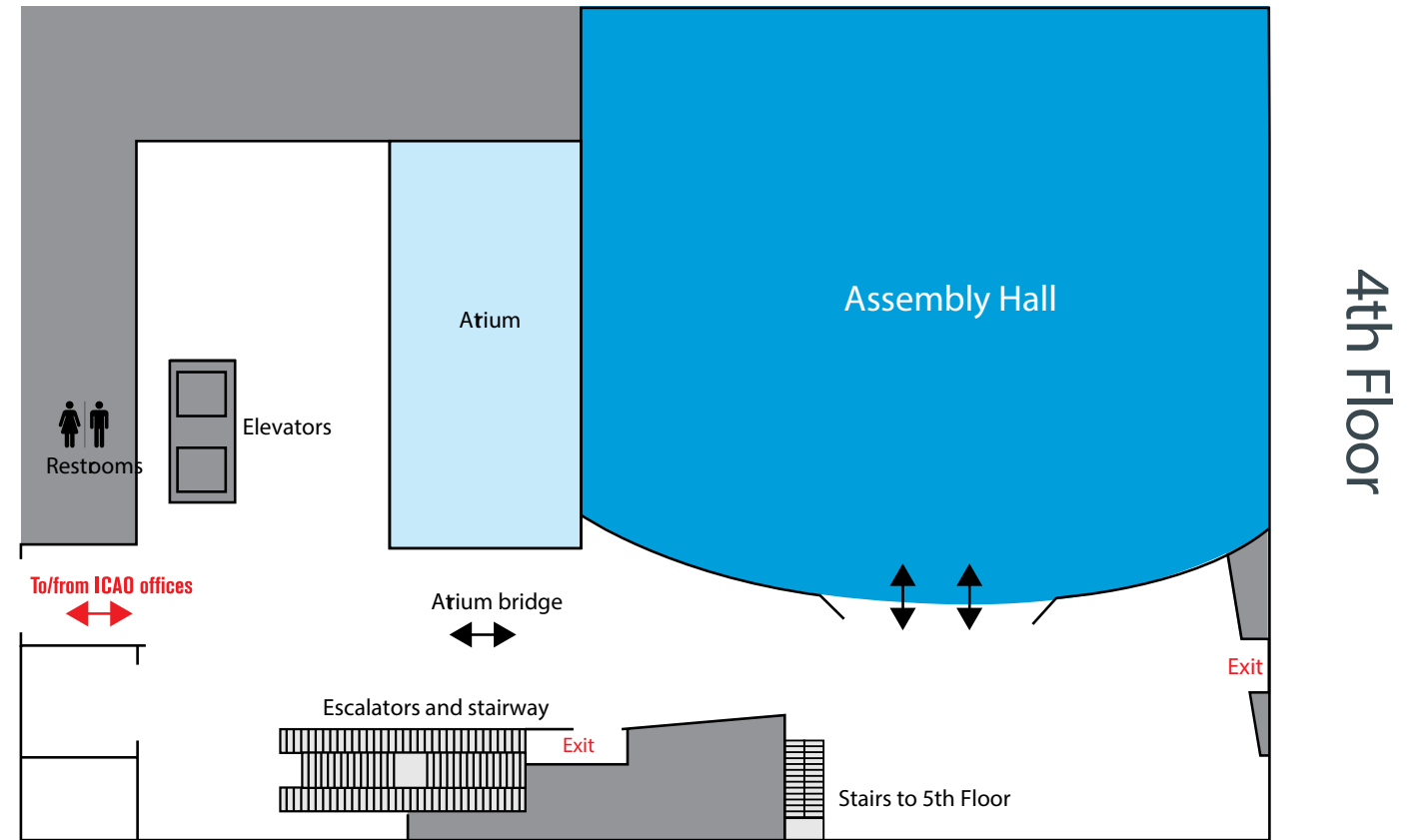
## Wireless Access

Participants wishing to connect to ICAO's wireless network must have devices equipped with an 802.11 b/g network card or comparable connectivity hardware. Consult a staff member for troubleshooting tips if you're having trouble connecting.

## Identification & Security

An ICAO security pass will be issued to each participant upon registration, which allows access to the Conference Centre. Should a pass be misplaced or lost, please notify the Security Desk immediately.

The ICAO security pass must be worn visibly at all times while on the premises.



## Tourist Info

All major hotels provide tourist information on points of interest in Montréal and vicinity, excursions, cultural and sporting events, and other activities.

Tourisme Québec, located at the Centre Infotouriste at 1255 rue Peel (corner of rue Sainte-Catherine) offers tourist information for Montréal as well as for the entire province. The office can be reached at 1-877-266-5687 every day from 0900 to 1800 hours or by consulting: [www.bonjourquebec.com](http://www.bonjourquebec.com)

## Documentation

ICAO strongly encourages the evolution toward 100% paperless conferences and events.

Whenever possible, please download the documentation from your event's web page and bring a tablet or laptop with you to consult the working papers and reports you need to reference in the course of your work.

To locate the meeting's web page, please visit [www.icao.int/space-2015](http://www.icao.int/space-2015).



## ICAO Boutique and Online Store

For a wide range of ICAO clothing, gifts and other merchandise, please visit the ICAO Boutique located near the Registration areas and Information Desk on the main floor.

ICAO products and services including publications, ICAOData+, training courses, as well as meeting, exhibition and sponsorship opportunities, are conveniently browsable online at:

[icao.int/store](http://icao.int/store)



# 4 STEPS TO MOTIVATE THE NEXT GENERATION

1 Attend the Day 3 Session  
“Motivating the Next Generation”

2 Ask our Youth Panelists a Question  
using Twitter *#icaoSPACE*

3 Join our  
Community  
[icao.int/aeroSPACE](http://icao.int/aeroSPACE)

4 Register on Day 1 to “Speed Network”  
with Aerospace Professionals!



## EVENT PROGRAMME

FOR MORE INFO VISIT [ICA0.INT/SPACE-2015](http://icao.int/space-2015)

      **#icaoSPACE**

INTERACT WITH SPEAKERS, ASK QUESTIONS,  
AND SEE YOUR POSTS LIVE AT THE EVENT

### DAY 1 WEDNESDAY 18 MARCH 2015

09:30

#### OPENING SESSION

##### WELCOME REMARKS

- Dr. Olumuyiwa Benard Aliu, President of the Council, ICAO
- Simonetta Di Pippo, Director, United Nations Office for Outer Space Affairs (UNOOSA)



10:00

#### KEYNOTE SPEECH

- Julie Payette, OC, CQ, Former Astronaut CSA,  
Chief Operating Officer of the Montreal Science Center



10:30

COFFEE BREAK





### DAY 1 WEDNESDAY 18 MARCH 2015

11:00

#### THEME 1 UNITING THE COMMUNITY

##### UNITING THE AEROSPACE COMMUNITY

Regulators, industry and service providers all have different objectives in the realm of space. However, they all share a common objective vis-à-vis the commercialization of outer space and all stakeholders need to come together to realize this. This session will provide a forum for exchanging the various points-of-view, as well as discussing lessons learnt from aviation's 100 years of experience.

##### MODERATOR:

Stephen Creamer, Appointed Director, Air Navigation Bureau, ICAO

##### PRESENTATIONS:

- Angela Gittens, Director General, Airports Council International (ACI)
- Doug Davis, Chair of CANSO's Collaborative Airspace Workgroup (CAWG), CANSO
- Margaret Jenny, President, RTCA
- Niklas Hedman, Chief of the Committee, Policy and Legal Affairs Section, UNOOSA
- Yuri Fattah, Programme Manager, Multidisciplinary Priorities, ICAO

12:00

LUNCH 

### DAY 1 WEDNESDAY 18 MARCH 2015

13:30

#### REGULATORY PRACTICES IN AEROSPACE ACTIVITIES

The session will give an understanding on regulatory mechanisms under international aviation law and international space law. It will provide a first-hand experience of how regulators are currently carrying out their duty for the safe and orderly development of aerospace activities. This will also be a forum for sharing experience from different regulators. The session will also look at current authorization, certification and licensing practices for commercial space transportation.

##### MODERATOR:

Niklas Hedman, Chief of the Committee, Policy and Legal Affairs Section, UNOOSA

##### PRESENTATIONS:

- Tanja Masson-Zwaan, Asst. Prof./Deputy Director — International Institute of Air and Space Law, Leiden University, President - IISL
- Steven Freeland, Professor of International Law, University of Western Sydney, Australia
- Jeremy Stubbs, Programme Lead Commercial Spaceflight Regulation, UK Civil Aviation Authority
- Charles Leader, Director of Strategic Planning, Office of Commercial Space Transportation (AST), FAA, United States
- TBD, Japanese Representative
- Paul Dempsey, Director, McGill Institute of Air and Space Law

15:30

NETWORKING BREAK





## DAY 1 WEDNESDAY 18 MARCH 2015

16:00

### REGULATORY PRACTICES IN AEROSPACE ACTIVITIES (continued)

#### MODERATOR:

Paul Dempsey, Director, McGill Institute of Air and Space Law

#### PRESENTATIONS:

- Tommaso Sgobba, Executive Director, Int'l Association for the Advancement of Space Safety (IAASS), with Edward Mango, Board Member, International Space Safety Foundation (ISSF)
- Taro Kuusiholma, Special Advisor, CAA Finland
- Marcel Zuckschwerdt, Head of Aviation Policy and Strategy, Federal Office of Civil Aviation (FOCA), Switzerland
- Benedetto Marasa, Deputy Director General, Italian Civil Aviation Authority with Ferdinando Dolce, Head of Aero-Space System Engineering Group, Italian Air Force
- Martin Griffin, Strategy Division, Directorate of Air Traffic Management, EUROCONTROL
- Malgorzata Polkowska, Representative of Poland on the Council of ICAO, ICAO

17:30

### WELCOME RECEPTION



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END OF DAY 1

## DAY 2 THURSDAY 19 MARCH 2015

09:00

### THEME 2 ENSURING THE SAFE LAUNCH AND EVOLUTION OF AEROSPACE TRANSPORT

#### INTEGRATION WITH AVIATION - AEROSPACE TRANSPORTATION PROVIDERS/AEROSPACE OPERATORS

Safety management and systems engineering practices are becoming common practice now in aviation. These are very useful concepts that will help integrate the operations of all aerospace vehicles within the controlled airspace.

#### MODERATOR:

Eric Stallmer, President, Commercial Spaceflight Federation (CSF)

#### PRESENTATIONS:

- Jeff Greason, CEO and Chairman of the Board of Directors, XCOR Aerospace
- Pascal Jaussi, Founder, Swiss Space Systems (S3)
- William Pomerantz, Vice President, Special Projects, Virgin Galactic
- Daniel Murray, Manager, Space Transportation Development Division, FAA
- Cassie Kloberdanz Lee, Business Development Manager, Space Systems, Sierra Nevada Corp.
- Christophe Chavagnac, SpacePlane Programs Manager & Chief Engineer, Airbus Defence & Space
- Hideyuki Taguchi, Section Leader, Japan Aerospace Exploration Agency (JAXA)

11:30

LUNCH







### DAY 2 THURSDAY 19 MARCH 2015

13:00

#### INTEGRATION WITH AVIATION – LAUNCH SITE / AIR AND SPACE PORT OPERATIONS

**MODERATOR:**

José Mariano López Urdiales, Founder and CEO, Zero2Infinity Spain

**PRESENTATIONS:**

- Stuart Witt, CEO and General Manager, Mojave Air & Space Port
- Sven Kaltenhaeuser, Head of Department : ATM Simulation, DLR, Institute of Flight Guidance
- Simon Kloppenburg, Commercial Developer, Airport Development, Curacao Holding Company
- Satoshi Fujiwara, Senior Engineer, Mitsubishi Heavy Industries, Ltd.
- Karin Nilsson, CEO SpacePort Sweden (tentative)

**VIDEO MESSAGE:**

- Franklin Chang Diaz, former Astronaut NASA, Chairman of the Board and CEO, Ad Astra Rocket Company



15:00

NETWORKING BREAK

#### NGAP SPEED NETWORKING SIDE EVENT

### DAY 2 THURSDAY 19 MARCH 2015

15:30

#### NOT BEYOND REACH – ACCESS AND EQUITY TO AEROSPACE TRANSPORTATION

Like air transportation, the space sector must be inclusive and open to all. This session will look at the many opportunities of all States and stakeholders with regards to the burgeoning industry of space transportation.

**MODERATOR:**

Yuri Fattah, Programme Manager, Multidisciplinary Priorities, ICAO

**PRESENTATIONS:**

- Oscar Garcia, Chairman and CEO, InterFlight Global Corporation
- Andy Quinn, Managing Director, Saturn SMS
- Luciano Saccani, Director, Int'l Business Development, Space Systems, Sierra Nevada Corp.
- Sanat Kaul, Chairman of IFFAAD India Chapter, former representative of India on the ICAO Council
- Ram Jakhu, Associate Professor, McGill Institute of Air and Space Law
- Joseph Pelton, Director Emeritus of the Space and Advanced Communications Research Institute (SACRI) at George Washington University
- Phetole Sekhula, Advocate of the High Court of South Africa

17:30

END OF DAY 2



## DAY 3 FRIDAY 20 MARCH 2015

09:00

### THEME 2 ENSURING THE SAFE LAUNCH AND EVOLUTION OF SPACE TRANSPORT (continued)

#### MOTIVATING THE NEXT GENERATION

As a community, we need to motivate and inspire the youth of today and give them confidence that a career in the commercial space industry is not a gamble or a dream, but is quickly becoming a reality and taking shape under our very eyes.

#### MODERATOR:

- Mohamed Elamiri, President, International Foundation for Aviation and Development

#### PRESENTATIONS:

- Lewis Groswald, Representative, Space Generation Advisory Council (SGAC)
- Andrea Harrington, Erin JC Arsenault Fellow, McGill Institute of Air and Space Law (IASL)
- Gwendolyn Mazzotta, Embry-Riddle Aeronautical University (ERAU)
- Jeffrey Osborne, Researcher, University of Toronto Inst. for Aerospace Studies, International Space University (ISU)
- Benjamyn Scott, Alumnus, International Institute of Air and Space Law Leiden University
- Karima Laib, Graduate student, HEC Montreal, International Space University (ISU)

## DAY 3 FRIDAY 20 MARCH 2015

10:30

### PUTTING IT ALL TOGETHER / NEXT STEPS

#### MODERATORS:

- Simonetta Di Pippo, Director, United Nations Office for Outer Space Affairs (UNOOSA)
- Nancy Graham, Director, Air Navigation Bureau, ICAO

#### PANELISTS:

- Dr. Olumuyiwa Benard Aliu, President of the Council, ICAO
- Stephen Creamer, Appointed Director, Air Navigation Bureau, ICAO
- Niklas Hedman, Chief of the Committee, Policy and Legal Affairs Section, UNOOSA
- Paul Dempsey, Director, McGill Institute of Air and Space Law
- José Mariano López Urdiales, Founder and CEO, Zero2Infinity Spain
- Yuri Fattah, Programme Manager, Multidisciplinary Priorities, ICAO
- Mohamed Elamiri, President, International Foundation for Aviation and Development
- Charles Leader, Chairman of the ICAO Space Learning Group, Director of Strategic Planning, Office of Commercial Space Transportation (AST), FAA, United States

12:00

### CLOSING SESSION

Closing Remarks

- Simonetta Di Pippo, Director, United Nations Office for Outer Space Affairs, (UNOOSA)
- Nancy Graham, Director, Air Navigation Bureau, ICAO

12:30

### END OF SYMPOSIUM



## Introducing the future aviation system: from global planning to local benefits

The ICAO Block Upgrade Demonstration Showcase and Symposium will provide a unique opportunity for States, international organizations and other stakeholders to discuss and identify available technologies that can bring measurable, operational performance improvements at a global, national and regional level.

Join a diverse audience from airlines, airports, and industry, including regulators, ANSPs,

infrastructure operators and manufacturers to learn about the regulatory approval process for aviation system block upgrades (ASBUs) and upgrade options in ASBUs. End-to-end concepts will be showcased from the aircraft to the ground systems. An industry exhibit will provide additional interactive opportunities.

For information please visit [www.icao.int/Meetings/BUDSS](http://www.icao.int/Meetings/BUDSS)



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# ICAO 2015 EVENTS



# MARK YOUR CALENDARS

GAIN EXPOSURE AND REACH YOUR TARGET MARKET AT THESE UPCOMING ICAO EVENTS

## TENTATIVE SCHEDULE OF SELECT UPCOMING EVENTS

Block Upgrade Demonstration Showcase and Symposium  
19-21 May 2015, ICAO Headquarters, Montréal, Canada

ICAO Environment Seminar  
17-19 Sept. 2015, ICAO Headquarters, Montréal, Canada

MRTD / TRIP 11th Symposium  
14-16 Oct. 2015, ICAO Headquarters, Montréal, Canada

ICAO Air Transport Symposium (IATS)  
21-23 Oct. 2015, ICAO Headquarters, Montréal, Canada



[events.icao.int](http://events.icao.int)



[mem@icao.int](mailto:mem@icao.int)



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UNITING AVIATION

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