



# International Academy of Astronautics

## Heads of Space Agencies Summit

on

## Climate Change and Disaster Management

Space Systems for the Benefit of Earth and Humankind

September 18, 2015

Mexico City, Mexico

### SUMMIT PROGRAM



# 2015 IAA Climate Change and Disaster Management Summit **PROGRAM**

09:30 – 10:30          Registration

Thursday 18 September 2015          10h30-11-15    Room: Fiestas

## **Opening ceremony of the Heads of Space Agencies Summit**

Session Chair : Dr. Jean-Michel Contant, Secretary General International Academy of Astronautics  
Rapporteur: Miss Sandra Cabrera

Dr. Francisco Mendieta, video on Climate Change and Disaster Management from Mexico

Dr. Madhavan Nair, President, International Academy of Astronautics

Dr. Francisco Mendieta-Jimenez, Director General, Mexican Space Agency, Space Agency Host

Dr. James H. Crocker, Vice President & General Manager, Lockheed Martin Space Systems Company

Dr. Simonetta Di Pippo, Director UNOOSA

Dr. Johann-Dietrich Woerner, Director General ESA

Dr. Jean-Yves Le Gall, President CNES, France, IAA COP21 Coordinator

Minister of Telecommunications, Mexican Government, Mexico

11h15-11:30    *Coffee-Break*  
                    *Video Movies from Russia, France and Mexico*

# 2015 IAA Climate Change and Disaster Management Summit **PROGRAM**

Thursday 18 September 2015

11h30-13-15 Room: Fiestas

Rapporteur: Miss Sandra Cabrera

## **Roundtable on Climate Change**

The Global Climate-Carbon Observing System: Achieving a dense, robust and sustained international climate-carbon observing system.

Changes in atmospheric radiative forcing arising from greenhouse gas emissions are the most important driver of climate change. Primarily because of anthropogenic activities, the atmospheric concentrations of greenhouse gases, principally carbon dioxide and methane have increased substantially over the last century. Importantly, CO<sub>2</sub> concentrations would be even higher if it were not for large compensating uptake by the terrestrial biosphere and oceans, offsetting roughly 50% of anthropogenic CO<sub>2</sub> emissions to date. Increasing CO<sub>2</sub> concentrations and surface temperature have direct carbon cycle feedback effects on the biospheric and oceanic uptake of CO<sub>2</sub>; however, the magnitude and range of these feedbacks remain uncertain.

There is a clear need to better understand and predict future climate change, so that science can more confidently inform climate policy, including adaptation planning and future mitigation strategies. The Intergovernmental Panel on Climate Change has recognized understanding the climate-carbon system, with its complex array of feedbacks, as an important goal. Emerging measurement systems, including the Japanese Greenhouse gases Observing SATellite (GOSAT), the NASA Orbiting Carbon Observatory-2 (OCO-2), and other new sources of data offer a vision for the future. While these pioneering missions do not provide the spatial/temporal coverage needed to answer the key climate-carbon feedback questions, nor do they address the distribution and quantification of anthropogenic sources, they do clearly demonstrate that a well-planned future international system integrating space-based and in situ observations and measurements could provide the accuracy, spatial resolution, and coverage needed to address the climate-carbon system.

### **Discussion**

The technical/scientific challenge: what are the challenges to achieve real measurement of CO<sub>2</sub> emissions, with good spatial/temporal coverage? What are the space agency's plans and specific projects to improve the quality of the space based data?

The international cooperation challenge: CEOS is targeting LEO/GEO/HEO constellations measuring greenhouse gases in the atmosphere. These constellations will rely on specific satellites developed by national space agencies, but CEOS has no real lever to "force" its members to contribute. How roundtable participants intend to contribute to this very important objective.

The governance challenge for climate treaties verification: satellites measuring GHG concentrations and emissions from space have been used for scientific modeling of climate evolution, but they might become important tools for the verification of countries commitments in terms of GHG emissions reductions. This new role raises the issue of the governance for such an application, for which transparency and fairness of the emission budgets using space based data should be guaranteed by an organization which does not yet exist. What are the views of roundtable participants on this subject?

13:15-14:15 *Lunch Restaurant Bugambillas*

# 2015 IAA Climate Change and Disaster Management Summit *PROGRAM*

Thursday 18 September 2015

14h15-16-00 Room: Fiestas  
Rapporteur: Miss Sandra Cabrera

## **Roundtable on Disaster Management**

Space and Preventing and Treatment of Natural Risks:

Earth observations and Space-based technologies are already playing a crucial role in contributing to the generation of relevant information to support informed decision-making regarding risk and vulnerability reduction and to address the underlying factors of disaster risk. International cooperation is needed more to access to and the sharing and use of non-sensitive data and information, as appropriate, communications and geospatial and space-based technologies and related services; maintain and strengthen in situ and remotely- sensed Earth observations.

Further international coordination on satellites orbit assignment is required in order to receive the observation data from satellites as immediately as possible after the disaster. R&D should be accelerated to observe the earth surface anytime and to get information for prediction. Regional mechanisms have to be established in African and South America regions for disaster management. Developed countries should assist the nations without space resources for capacity building.

*16h00-16:15 Coffee-Break*

*Video Movies from Russia, France and Mexico*

# 2015 IAA Climate Change and Disaster Management Summit *PROGRAM*

Thursday 18 September 2015      16h15-16-45    Room: Fiestas

Session Chair : Dr. Jean-Michel Contant, Secretary General International Academy of Astronautics  
Rapporteur: Miss Sandra Cabrera

## **Heads of Space Agencies Summit Conclusions**

Heads of Space Agencies Summit Declaration by  
Dr. Jean-Yves Le Gall, President CNES, France, IAA COP21 Coordinator

Dr. Francisco Mendieta-Jimenez, Director General, Mexican Space Agency

Dr. Madhavan Nair, President, International Academy of Astronautics

*16:45 End*

*17h00-17:45*    **Press Conference**  
Madhavan Nair, Francisco Mendieta-Jimenez, Jean-Yves Le Gall  
and Jean-Michel Contant

**Room: Fiestas**

*17h00-17:45*    **Meeting of Heads of Space Agencies with Mexican students**  
All

**Room: Duque**

*18h30-19:30*    **Cocktail**

**Room: Fiestas**