### SYMPOSIUM DATES AND LOCATION

A new three-days International Symposium on the future of Space Exploration will be organized by the International Academy of Astronautics and Politecnico di Torino. The symposium will be held in Torino, on 27 – 29 June 2017.

#### SYMPOSIUM GOALS

The International Academy of Astronautics is fostering global cooperation in Human and Robotics Space Exploration since more than 5 decades.

The International Space Station program is expected to be completed by 2024 and there is no global program agreed for Human Space Flight.

The goals of this new Symposium are to present the final results of IAA activities related to programs beyond Low Earth Orbit and discuss the Moon Village vision. The Moon Village is considered by many as the logic step for humans beyond LEO and a stepping stone for Mars exploration

The aim is to promote an exchange of ideas and experiences, within the Space community, discussing the activites presented and proposing new concrete global space exploration activities involving established and emerging space agencies and industries.

Special effort will be devoted to involve young professionals and new space start-up companies related to exploration acting as a forum for fostering new initiatives

Papers related to Technology, Science, Programmatics, Economics, Ethical and Cultural aspects of the Moon Village and beyond are solicited, papers dealing with advanced concepts and new ideas are encouraged

#### AGENCIES/INDUSTRIAL PARTICIPATIONS

Space Agencies/Industries participants are solicited to present their concept and programs for supporting the Moon Village vision as well as to join the discussions on new global programs beyond LEO including the IAA proposals

#### AREAS OF INTEREST

• Technology

Propulsion and power generation Mission and trajectory design Attitude dynamics Navigation, guidance and control Very deep space telecommunications Sensors, detectors and lens systems Precursor interstellar missions Nanotechnology and robotics Innovative concepts Regenerative life support systems ISRU systems Planetary protection Telepresence

• Science

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Scientific objectives and payload requirements Present outgoing scientific missions Biosignatures from space Medical problems of very long range spaceflight Hybernation Planetary environments

- **Programatics** Cooperation schemes and roadmaps Reporting of the ongoing IAA Study Groups Role of the ISS in space exploration
- Motivations
   Motivations and human aspects
   Policy and international cooperation
   Ideas from science fiction to technology

   Economics
  - **Economics** Funding aspects and economic sustainability Space mineral resources Space resources exploitation
- Ethics

Ethical aspects of long range exploration
From exploration to colonization
Ethical aspects of terraforming
Robot ethics
Adaptation of humans to new environments
Experience of 10 Years of ISS permanent activity

• Cultural Multicultural aspects of human space exploration Outreach aspects of Space Exploration Access to space for emerging countries **CO-CHAIRS** Les Johnson

Giuseppe Reibaldi

### SCIENTIFIC COMMITTEE

Catharine Conley Bernhard Hufenbach Greg Matloff Suzan McKenna Lawlor Maria Antonietta Perino Yury Razoumny Andrea Sommariva Antonio Viviani Giancarlo Genta Jan Kolar Les Johnson Yoshinari Minami Sundaram Ramakrishnan Giuseppe Reibaldi Yuichi Tsuda Yang Yuguang

#### LOCAL ORGANIZATION COMMITTEE

Sabrina Corpino Nicole Viola Giancarlo Genta

## VENUE

Politecnico di Torino Corso Duca degli Abruzzi 24 Torino

Abstracts of papers intended for Presentation at the Symposium must be written in English on a single A4 page with the title, author's name affiliation and complete address. Authors are encouraged to send abstracts by e-mail.

Abstracts must be mailed to:

Prof. Giancarlo Genta Dept. of Mechanical and Aerospace Engineering Politecnico di Torino Corso Duca degli Abruzzi 24 I-10129 Torino (TO), ITALY Phone: +39 011 564 6922 Fax: +39 011 564 6999 E-mail: <u>conference@iaamail.org</u> www.iaaconferences.org/futureofexploration2017

All intended papers will be examined by an International Scientific Committee

### DEADLINES

Submission of abstractMarch 31, 2017Notification of acceptanceApril 30, 2017Submission of camera-ready textsMay 31, 2017

# SYMPOSIUM FEE

The Symposium Fee is  $450 \in$ , entitling to receive a copy of the Symposium Proceedings (expected to be available at the symposium). For payments received after April 30, 2017 a surcharge of  $\in$  80 will apply.

Official language of the Symposium will be English.

A Program for Accompanying Parties will be arranged, if the number of participants will be sufficient.

## SECRETARIAT

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## INTERNATIONAL ACADEMY OF ASTRONAUTICS

# POLITECNICO DI TORINO





# 10th IAA SYMPOSIUM ON THE FUTURE OF SPACE EXPLORATION

TOWARDS THE MOON VILLAGE AND BEYOND

# CALL FOR PAPERS



27 – 29 June 2017 Torino, Italy