

## **International Space Development Conference**

**May 24-27 2018**

**Sheraton Gateway LAX**

### **CALL FOR ABSTRACTS**

#### **OVERVIEW**

The National Space Society (NSS), the premier organization focused on the goal of space settlement and development (see [www.nss.org](http://www.nss.org)) organizes a major international meeting event each spring: the International Space Development Conference (ISDC). ISDC 2018 will be held at the Sheraton Gateway Hotel in Los Angeles, California near LAX during May 24-27, 2018. We are anticipating a large and exciting meeting in the center of the US aerospace industry. Past events have involved notables such as Buzz Aldrin (second human on the Moon), the Administrator of NASA (several), the Executive Secretary of the recently reestablished National Space Council (Dr. Scott Pace), the Director General of the European Space Agency (Dr. Jan Woerner), and many others.

ISDC 2018 will be organized around four major themes: Theme 1 - The Settlement of Space; Theme 2 - Space Development & Business; Theme 3 - Infrastructure & Foundations; and Theme 4 - Discovery & Innovation. Each of these four major themes will be organized into a number of Symposia and Sessions – described below – with both invited presentations and presentations selected from proposals made by space community thought leaders from across the spectrum of technical and business interests. In addition, there will be several special events, student competitions and educational outreach events. If there is sufficient interest, a poster session is being considered.

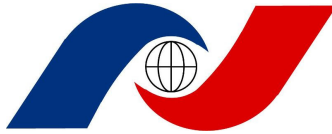
For additional information, please see the ISDC 2018 website – [http://isdc2018.nss.org/](http://isdc2018.nss.org) – or contact us at [contact.ISDC2018@gmail.com](mailto:contact.ISDC2018@gmail.com).

#### **ABSTRACT SUBMISSION DETAILS**

Abstract submissions should comprise the following information for the proposed presentation: (1) the title; (2) the Abstract itself, i.e., a summary description of not less than 125 words, nor more than 300 words, any figures that you wish to include, etc.); (3) the author(s), including professional title(s) and affiliation(s); and, (4) contact information (e.g. email address) for at least one of the proposing authors.

To submit an abstract, please send a pdf or .docx format document to [contact.ISDC2018@gmail.com](mailto:contact.ISDC2018@gmail.com). Please indicate in the email your suggestions, if any, regarding which theme, symposium or session (described below) would be appropriate for your presentation.

If you submit an Abstract you will be notified as to whether your proposed presentation has been accepted. Authors of accepted abstracts will be expected to make a presentation at the ISDC, and will be published in a “book of abstracts”. It is our intention to request approval from all presenters for slides to be provided after the Conference. Also, we are considering whether to invite selected presentations to develop more formal “academic style” papers for future publication.



## ISDC 2018

### CONFERENCE ORGANIZATION & TOPICS

The following paragraphs summarize the organization of ISDC 2018 and the several topics within which presentation abstracts are invited.

#### **Theme 1: The Settlement of Space**

This theme comprises the primary mission of the NSS: future human settlement beyond Earth. Abstracts are invited in several areas.

1.1: Human Space Settlement Symposium. The topics to be addressed include humans-in-space health and welfare issues, life support, habitat systems concepts for human space stations, larger-scale space settlement and others. The symposium will also address the topic of habitats in space (harkening back to the earlier years of space settlement concepts), including the possibility of habitats in both Earth orbit (low and other), in Earth-Moon space (such as the Libration points).

1.2: Development and Settlement of the Moon Symposium. Invited topics for include: lunar resources discovery and use (including both volatiles and regolith), habitats on the lunar surface, systems that support these goals in cis-lunar space, and lunar surface support systems. The symposium will discuss key infrastructures such as power, and possible lunar commercial / government markets and missions.

1.3: Exploration and Settlement of Mars Symposium. Presentations are invited including but not limited to the following topics: surface access and mobility, life support and habitats on Mars, recent ambitious plans concerning the settlement of Mars, and more.

#### **Theme 2: Space Development & Business**

This theme comprises a fundamental requirement to increase the benefits of space activities to humanity and to enable an economic foundation for future settlement: the development of space and opportunities for new space business. Abstracts are invited in the following areas.

2.1: SPS-2018 International Workshop & Symposium, discussed in greater length below under “Special Events”. The topics to be addressed may include solar power satellite (SPS) concepts, key technologies, supporting infrastructures and others. This event substitutes for the space solar power (SSP) track at past ISDCs. A separate program committee has been formed; it will manage the detailed preparation for this special event. Abstracts related to SSP in response to this Call will be forwarded to the SPS 2018 Program Committee for consideration.

2.2: Space Business Symposium. This symposium will span two days – Saturday (May 26) and Sunday (May 27), and will involve both presentations as well as space business plan “pitches” that will be judged as part of a competition during the conference.

#### **Theme 3: Foundations - Infrastructures & Institutions**

This theme addresses the key foundations – both physical and institutional infrastructures – to moving forward with the vision of an ambitious human future in space. Abstracts are invited in the following areas.

3.1: Space Transportation Symposium. This event will comprise topics such as: Earth-to-Orbit (ETO) large launch systems, ETO small launch systems, highly advanced transportation concepts (including space



elevators, rail launch and fusion propulsion), in-space transport (chemical and solar electric propulsion(SEP)) and lunar or planetary surface access.

3.2: Advanced Space Operations Symposium. This symposium will include, but is not limited to topics including: in-space operations, in-space assembly and construction, space debris and mitigation, and other related topics.

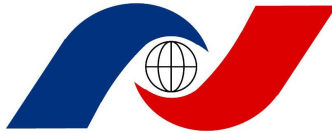
3.3: Governance & Security Symposium. This symposium will combine for the first time two closely related topics: policy and regulatory considerations related to the ongoing development and eventual settlement of space, and those concerning the provision of security for explorers and assets in space. Two sessions are planned, comprising all day on Sunday May 27, 2018.

#### **Theme 4: Discovery & Innovation**

This theme looks at the enabling discoveries and innovations that will be needed to make the vision of space exploration of our Solar System and beyond, development and settlement a reality, involving science, discovery of resources of the Solar System, and fundamental longer-term innovation. Abstracts are invited in the following areas.

4.1: Exploration and Development of the Space Frontier Symposium. This symposium will examine diverse aspects of solar system exploration and development (e.g., robotic Mars missions, exploration of small bodies), exploration beyond our Solar System, to comprise missions and technologies addressing resource prospecting and utilization of solar system resources (e.g., material resources of asteroids, comet and Moons). It will also encompass missions and technologies addressing the discovery and potential development of solar system resources (e.g., material resources of small bodies).

4.2: Innovative Concepts Workshop. Currently planned sessions include the following: a NASA Innovative Advanced Concepts (NIAC) Workshop, and a Lightning Concept Briefs Session.



## ISDC 2018 SPECIAL EVENTS

In addition to the several Symposia described above, there will be three special events at the same venue, described below.

### **Special Event: ISDC 2018 Education Program**

The NSS places a special emphasis on educating the next generation of space advocates, emerging leaders and pioneers. This program spans the four days of the Conference in several sessions, as well as being engaged in specific programs and presentations in several of the regular Themes (see above). In addition to the formal programs that are announced separately, Abstracts from Educators or Students at all levels, or others with passion and ideas to share are invited.

### **Special Event: SPS-2018 International Workshop & Symposium**

SPS-2018 will occur during Wednesday (May 23<sup>rd</sup>) through Friday (May 25<sup>th</sup>) at the ISDC Venue. Every few years, the international scientific community conducting research and development on the topic of Solar Power Satellites (SPS) gathers to review progress and planning toward the goal of harvesting solar energy in space and delivering it to markets on Earth (or in space) by means of wireless power transmission (WPT). 2018 is a special year: the 50<sup>th</sup> Anniversary of the invention of the SPS concept by Dr. Peter Glaser of the Arthur D. Little corporation, first published in the Journal "Science" (22 November 1968). Abstracts for potential presentations to be made at SPS 2018 are invited. Please inquire to receive a copy of the **SPS-2018 Call for Abstracts** at [contact.SPS2018@gmail.com](mailto:contact.SPS2018@gmail.com).

### **Special Event: Joint IAA-ISDC Space Mineral Resources Study Group Workshop**

Another special event will take place at the ISDC 2018 venue: in cooperation with the NSS International Space Development Conference, a workshop will be organized under the auspices of an ongoing International Academy of Astronautics (IAA) study group on the topic of "Space Mineral Resources" (this is the second recent IAA study addressing this topic; for information on the first study, see: <http://www.spaceref.com/news/viewpr.html?pid=46378>.) This is a focused special event; Abstracts for potential presentations to be made at this event will be forwarded to the IAA-ISDC workshop organizers.