



April 20-22, 2011

Dnepropetrovsk

Ukraine

Venue:

Palace of Students

3rd International Conference

Advanced Space Technologies

for Humankind Prosperity

(Space Technologies: present and future)



**MESSAGE FROM THE SECRETARY GENERAL OF THE
INTERNATIONAL ACADEMY OF ASTRONAUTICS (IAA)**

The Academy is very pleased to convey its members as well as the space community to the third IAA International Conference on Advanced Space Technologies for the Humankind Prosperity (Space Technologies: present and future) to be held in April 2011 in the beautiful city of Dnepropetrovsk, Ukraine, at the door of the Cossack historical land and in one of the most prestigious hearts of the space technology.

It is important to underline the changes occurred during the last decades in this part of Europe as exemplified by the new commercial space ventures recognized by the International Academy of Astronautics with the 2009 Laurels for team Achievements given to Sea Launch. The space community of Ukraine, experienced and very dynamic, is now in the world top ten countries of the members of our Academy.

The Academy invites space experts as well as young promising specialists to discuss the launchers design, structural concepts, guidance and navigation and propulsion. It is also an opportunity to review last technology achievements from large to small satellites. The new formula to accept presentations not only in English with the support of mobile translator teams has proven its success in bringing space experts that were previously prevented to participate due to language barriers.

Dnepropetrovsk, located a couple of flight hours from Paris or Berlin, is not a remote city and is an excellent place to build new partnership in a friendly atmosphere. I would like to congratulate the International Program Committee, the Ukrainian members of the Academy, and particularly the IAA Vice-President Stanislav Konyukhov and the regional secretary Dr. Alexander Degtyarev for their efforts in making this third conference a success.

Jean-Michel Contant

IAA Secretary General

INTERNATIONAL PROGRAM COMMITTEE:

Chairman of International Program Committee:

Konyukhov Stanislav Nikolayevich- IAA Vice-President, General Designer – General Director of Yuzhnoye SDO, IAA Academician, Ukraine

Deputies Chairman of International Program Committee:

Degtyarev Alexander Viktorovich- First Deputy General Designer – General Director of Yuzhnoye SDO, IAA Academician, Ukraine

Polyakov Nikolay Viktorovich – Rector of Dnepropetrovsk National University, Ukraine

Shnyakin Vladimir Nikolayevich – Deputy General Designer, Propulsion Systems Development, Yuzhnoye SDO, IAA Academician, Ukraine

INTERNATIONAL ORGANIZING COMMITTEE

Chairman of International Organizing Committee–

Degtyarev Alexander Viktorovich- First Deputy General Designer – General Director of Yuzhnoye SDO, IAA Academician, Ukraine

Co-chairmen of International Organizing Committee:

Contant Jean-Michael- IAA Secretary General, IAA Academician, France

Kuznetsov Eduard Ivanovich - Deputy General Director of NSAU, Ukraine

Petrenko Alexander Nikolayevich- Dean of Physical & Engineering Department of DNU, Ukraine

The main lists of International Program Committee and International Organizing Committee members are being currently drawn up.



For the first time, the conference “Advanced Space Technologies for the Humankind Prosperity” was held in Dnepropetrovsk in 2007.

The conference proved to be a great success within scientific community of Ukraine, Russia and foreign countries. Informational messages, articles and interviews resuming the conference were published in some European editions, such as weekly magazine Acta Astronautica, information digests.

Taking this into account, the conference promoters, Yuzhnoye in the first place, reached a decision, which was upheld by the IAA, to regularly hold the International Rocket and Space Conference once every two years in Dnepropetrovsk.

The second Conference was held in 2009. More than 250 people from 13 countries were the participants.



BASIC SUBJECTS OF THE CONFERENCE

1. Current and Future Space Launch Systems, Launch Vehicles, Their Components and Systems

Potential contribution of space launch systems to the solution of such global people's problems as creation of Earth anti-asteroid protection, space nuclear waste disposal, near-Earth space cleaning from man-caused debris:

- analysis of technical solutions for current and future space launch systems and launch vehicles, including expendable and reusable launch vehicles;
- analysis of contemporary trends of the global launch services market development;
- analysis of technical solutions for launch vehicles critical subsystems (control, thermostating, power-supply systems etc.).

2. Current and Future Space Satellite Systems

Current and future space satellite systems in the interests of the Earth observation, communication, science and navigation:

- technical configuration of current satellites and spacecraft;
- onboard and ground service systems for data acquisition, control and testing of spacecraft;
- space missions and technologies related to the Earth and its environment data acquisition;
- space communication technologies and systems including stationary and mobile satellite communication, TV- and broadcasting, stationary and broadband interactive multimedia satellite services;
- scientific satellite missions aimed at researches in the Earth sciences, astronomical and astrophysical observations, investigations in fundamental physics and astrophysics;
- current and future navigation systems.

3. Future Rocket Engines and Power Plants

- technical solutions used to create up-to-date liquid, solid, hybrid and electrical rocket propulsion systems used in expendable and reusable launch vehicles and spacecraft;
- future power plants for launch vehicles.

4. Materials and Technologies

- recent developments and prospective investigations in new materials and structures used in expendable and reusable space transportation systems and spacecraft, as well as technologies for their creation;
- methods of new space-rocket materials and technologies quality assessment.

5. Space for the Humankind

- methods and prospects of space education of youth;
- remote design and training using Internet global network;
- space exploration: political, economical and legal aspects;
- outer space exploration and international cooperation;
- impact of space activity on social and economic development and everyday life of society.



Dnepropetrovsk

Dnepropetrovsk is one of the biggest regional centers of Ukraine. The city has a favorable geographical position. Widely spread on both banks of the river Dnepr, it is located at the intersection of important railways and highways.

In 1776, Prince Grigory Potyomkin by order of Yekaterina II founded the city that was called in her honor – Yekaterinoslav. According to the initial plan of Yekaterina II, the city had to become the third, southern capital of the Russian Empire.

In 1926, the city was given a new name – Dnepropetrovsk – in honor of Grigory Petrovsky, a Soviet statesman and communist party figure.

Since the beginning of the 19th century, the city has been the most important center of metallurgical and machine-building industry: and since the 1950s it has also become the center of space launch systems production.

Today, Dnepropetrovsk is a rapidly growing city, gaining a truly European look day by day, with a modern social and economic structure. It is also the biggest cultural center of the region with numerous theatres, cinema and concert halls, museums, and diverse services. The city is the main commercial and industrial center of the Eastern Ukraine, and it is the biggest center of Pridneprovye.



Palace of Students

Among the oldest buildings in Dnepropetrovsk (former Yekaterinoslav) there is a palace of Prince Potyomkin built in the 1790s, which is now known as the Palace of Students of Dnepropetrovsk National University.

A prominent Russian architect I.E. Starov was engaged in development of Yekaterinoslav. It was he who created a construction project of the future palace. The palace had to play an important composition role in the formation of the downtown on a vast hill. At that time, the garden of Lazar Globa, a retired Cossack captain of Zaporozhye, was located in the place of the future palace. So Prince Potyomkin had to buy the plot from Lazar Globa. The palace was built in the classicism style, typical at the end of the 18th century.

The building was burnt down during the Second World War. Just walls and columns were left from the former palace.

In 1952, the palace was restored and rebuilt by joint efforts of Dnepropetrovsk students, so that it acquired the present look. The former Potyomkin Palace has turned into the Palace of Students. The Palace of Students has become a real cultural, spiritual, and entertainment center for the students.



Space Industry of Ukraine

The history of missile development in Ukraine traces its roots back to the beginning of the 16th century when the Cossacks commanded by hetman Ruzhynsky used missiles in 1515.

General Zasyadko was the first in the regular army to apply jet projectiles that were successfully employed in 1828-1829 during the war with Turkey.

The beginning of the 20th century was characterized by a rapid development of the missile production theory and practice:

1881 – Kibalchich N.I. – Project of a manned launch vehicle;

1919 – Kondratyuk Y.V. – Theory of development of a multi-stage liquid rocket;

1940 – Kharkov rocket group under the direction of Proskura G.F. launched an experimental solid rocket.

The space launch technologies started to be put in practice after the Second World War. Remarkable models of missile and spacecraft were designed by the people who were born or worked in Ukraine: General Designers Korolyov S.P., Yangel M.K., Glushko V.P., Sergeyev V.G. and others.

One of the world's best launch vehicles were developed in Dnepropetrovsk. Four generations of intercontinental missiles, seven types of space launch systems, and more than seventy types of spacecraft were designed in this space center.

The development of Ukrainian space launch technologies continues in close cooperation with various countries of the world.



REGISTRATION FEE

Registration fee includes costs of abstracts and Conference program publication, holding of meetings, organizing of social events, and amounts to:

in Ukraine – 600 UAH (including VAT)

for participants from CIS countries – 4000 rubles

for foreign participants – 350 euro

Participation of students in the Conference is free of charge.

Registration fee can be made by:

- bank transfer;
- Visa or Master Card;
- cash directly during registration (in case of preliminary agreement with the Organizing Committee).

For current information, accommodation and details about the Conference visit Web-site:
<http://www.dpukrconfiaa.org>

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