International Symposium on
Impact of Space Technology Innovation on Economic Development

April 17 - 20, 2001, Shanghai, China

Co-Sponsored by

Chinese Academy of Astronautics
International Academy of Astronautics

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AIM OF THE SYMPOSIUM

At the beginning of the new millennium, the Chinese Society of Astronautics (CSA) and the International Academy
of Astronautics (IAA) were pleased to hold jointly an International Symposium from April 17 to 20, 2001, with the theme of "Impact of Space Technology Innovation on Economic Development". The aim of the Symposium was to provide a forum to discuss and exchange ideas on how space technology innovation impacts the sustainable economic growth and brings benefits for the mankind, at the same time, to explore the possibility for developing cooperative projects.

OPENING CEREMONY AND CLOSING CEREMONY

OPENING CEREMONY
hosted by Prof. Zhang Baoqian, Vice President of CSA.

Opening Addresses:
oProf. Wang Liheng, Chairman of Local Organizing Committee
oShanghai City Government Representative
oDr. Jean Michel Contant, IAA Secretary General

Theme Addresses:
oMr. Philippe Couillard, President & CEO of EADS Launch Vehicles Company
"Impact of Technology Innovation on Economic Development"
oProf. Guo Baozhu, Vice Administrator of China National Space Administration

CLOSING CEREMONY

Special Address:
oProf. Alain Bensoussan, President of CNES & Chairman of ESA Council
"The European Strategy: Meeting the New Demands of our Society"

Closing Addresses:
oProf. Liang Sili, IPC Co-Chairman
oDr. Dietrich E. Koelle, IPC Co-Chairman

PLENARY SESSION
MAIN TOPICS
1. Predicting the Future of Space Technology Development
2. Space Technology for Sustainable Development to Human Society and Economy
3. Space Technology and Innovation of Traditional Industries
4. Approaches to Develop Space Technology for Developing Countries
5. Commercialization of Space Technology (Competition and Cooperation)
6. Exploration of Possible Space Cooperative Projects

Wednesday April 18

Co-Chairmen: Dr. Dietrich E. Koelle(Germany)
Prof. Zhuang Fenggan(China)

Recent Advances in Space Science and Application Research in China
Jiang Jingshan, China

European Strategy for Space Technology Research and Development
Angelo Atzei, Italy and Hans Kappler, Germany

Building-up the Capability for Fast-entrance into Space and Swift Putting into Operation
Yin Xingliang, China
The European Ariane Launch Service and its Contribution to Economic Development
André Van Gaver, France

Wednesday April 18 (2)

Co-Chairmen: Prof. Angelo Atzei (Italy)
Prof. Wu Meirong (China)

Development of CBERS through the International Cooperation in Space
Yang Weiyuan, J.R. Coelho and Gao Yan, China & Brazil

CRESDA Data Processing System of CBERS-1 and the Key Technologies and Creative Points of the System
Wu Meirong, China

Chinese Meteorological Satellite and Its Function in the Monitoring of Natural Disaster and Earth Environment
Xu Boming, Lin Yukun and etc., China

Chinese Meteorological Satellite Program: Status and Plan
Dong Chaohua, China

Meteorological Satellite FY-1C and Its Applications
Shen Cong, Meng Zhizhong and Wang Jinhua, China

Applications of FY-1C Polar-orbiting Meteorological Satellite in Natural Disaster and Environment Monitoring
Liu Yujie and Liu Cheng, China

The Relationship Between Development of Space Industry and Increase of National Economy
Liao Shaoying, China

Cooperation on Micro Satellites As mean to Promote Space Technology in Developing Countries of the Asia Pacific Region
Lin Xiaohui, Zhang Yingchun and Cao Xibin, China, Rainer Protsch and Klaus Schonherr, Germany

Analysis on the Market and Economical Benefit of Chinese Small Satellite
Zhu Hongguang, China

Chinese Meteorological Satellite and Its Technological Development Approach
Meng Zhizhong, Hou Jianwen and Zhu Hong, China

Earth Remote Sensing-as a Universal Technology for Reception of Information Necessary to Solve Social and Economic Tasks, Natural Resources and Ecological Monitoring
G.P. Anshakov, Russia

Improving the Applicability of Earth Observation Data
Jean Pierre Guignard and Ivan Petiteville, France

Demands of Satellites Communication to Laser Intersatellite Links in 21st Century
Ma Jing, Tian Liying, and etc., China

Development and Application of Spaceborne Microwave Radiation Imager
Chen Weiyi, Wang Yun, Shi Bangyao and etc., China

Thursday April 19
Co-Chairmen: Prof. Gunther Seibert (France)
Prof. Huang Zuoyi (China)

How Much New Technology is Required for Future Reusable Launch Systems?
Dietrich E. Koelle, Germany

New Concepts of Space Launch Risk
Control Huang Zuoyi, China

Wider Utilization of Space Enabled by the Future Space Transportation System
Ryojiro Akiba, Takaji Kuroda and Noboru Wakasugi, Japan

New Propulsion System for China Future Aerospace Applications
Zhang Guitian and Liu Hongjun, China

Companion Satellite and International Space Cooperation for International Space
Station Zhang Xiaomin, Xiao Yelun and etc., China

Tourist Space Flights-A Vision for 2020 and its Challenges for Today
Werner Inden, Germany

Potential Use of Space Environment in Creating New Genotype of Crop Improvement
Sun Yeqing, Gao Yahua, and etc., China

Closed Life Support Systems As An Impetus To Advanced Technology
Xi Risheng and Qiu Jiawen, China

Spin-offs and Technology Transfers from European Microgravity Research
Programmes Gunther Seibert, France

Thursday April 19 (2)

Co-Chairmen: Dr. R. Bryan Erb (Canada)
Prof. Zhuang Hongchun (China)

Earth Remote Sensing Constellations
Design Veniamin V. Malyshev, Russia

The Effect of Space Technology and Innovation to the Related Industry
Zhou Limin, Wang Qianwu and Liu Xiaodi, China

Space Solar Power for Sustainable Economic Development
R. Bryan Erb, Canada

General Approach for Developing Country to Speed the Development and Application of Space Technology
Ma Wenpo, China

SC Power Complexes Development Prospects and Some Aspects of Application in the National Economy
Valery I. Pushkin, Russia

The Concept Study of Space-Based Deep Space C&T Network
Jiang Chang, China
Autonomy Technology--the Key Technology on the Deep Space Exploration
Cui Pingyuan, Xu Rui, Cui Hutao, China

Strengthening the Study of The Space Debris Problem
Xue Fuxing, China

Fault-tolerance and Disaster Protection of the Complex Technical Systems
Gennyady P. Anshakov, Iakov. A. Mostovoy, Russia

Feasibility of Voltage Homogenizing Technique by Space Plasma Used As Lightning Protection on the Ground
Zhuang Hongchun, China

Nongovernmental Channel for Developing Countries to Develop Space Technology
Zhang Xiaomin, Tian Yan and etc., China

Friday April 20

Co-Chairmen: Prof. Hans Kappler (Germany)
Dr. Jack M. Cherne (U.S.A.)

The Role of Foreign, Private Capital in the Development of A Space Economy
Fabian Eilingsfeld, Germany

The Integrative Application of Forecast Methods in Satellite Cost Estimating
Wang Zhaoyao, Chen Bin, and Cui Baoling, China

Decision-Making Models For Budget Optimization: A Sizable Impact on Economic Development
Jean Michel Contant, France

Financing New Commercial Space Ventures
Joerg Kreisel, Germany

Space -Borne Flywheel and the Commercialization of Its Technology
Meng Zhizhong, Liu Shengzhong and etc., China

Developing An Economically Viable, International, Large-scale Lunar Colony
Jack M. Cherne, U.S.A.

Risk Management Systems: The Example of PACTES for Flood Management
Fabienne Jacq, France