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NEWSLETTER

No.5 2 0 1 6
The First Issue
Serial No.005

Exchange · Promotion · Development



*Enhance the understanding and
subsequent use of space technology for peaceful purposes*

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RCSSTEAP

Regional Centre for Space Science and Technology Education in Asia and the Pacific (China)
(Affiliated to the United Nations)

联合国附属空间科学与技术教育亚太区域中心 (中国)

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RCSSTEAP

Preface

The warmth spreads making all flowers bloom. The spring is all in the air.

Spring is a season for realistic persons. Only the person of action can truly feel the intimacy with the earth. After one-year operation, the Centre has successfully accomplished the scheduled tasks allocated by governing board with the strong support from the government of host country and host institution, Beihang University, as well as the great efforts by the whole faculty. Centre has enrolled 42 students from member states to study master's and doctoral degree. About 100 trainees participated in the Short Training Programs on Space Technology Application held by the Centre. The most impressive event is the "Painting Exhibition on China's Space Exploration—Flying with the Wings of art" held at the headquarter of Vienna Committee on Peaceful Use of Outer Space. It is an important attempt for centre's image construction which has received enthusiastic response by the delegates from all member states and indeed improved the visibility of the Centre. After enduring hardship and taking rewards, the Centre got off to a good start. In this spring, there will be another goal that we are pursuing though it is still hard for us to achieve. We firmly believe that time will see and aspiration will tell.

Spring is a season for hopes and expectations. On 8th March 2016, the State Council officially set every April 24th as "Space Day of China" since the year of 2016. The setting up of "Space Day of China" aims to memorize the great achievement of Chinese aerospace industry and to propagate China's consistent purpose of peacefully using the outer space, vigorously promote aerospace spirit and disseminate aerospace science. In the spring of the year of 2016, the new-born "Space Day of China" will equip us with unprecedented joy and brand new memory.

We decided to render the first issue of Newsletter in 2016 as a tribute to the "Space Day of China". This is what the article aims about.

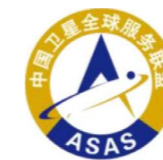
*Editor
Spring 2016 in Beijing*

Special Focus——Training Program on China Remote Sensing Technology and Data Applications

Overview

The Space Remote Sensing Technology and Data Applications Training Program which was jointly organized by RCCSTEAP and the International Alliance of Satellite Application Service(ASAS) has been held successfully in Beihang University from 26th to 30th March, 2016.

This training program was mainly for 40 current students who study for Satellite application-related majors from countries of Association of Southeast Asian Nations (ASEAN) and other 13 countries, including Mongolia, Pakistan, Nigeria, Mozambique, Bolivia, Algeria, Iran, Peru, Venezuela, etc. The content of the training program covered Space remote sensing system introduction, demo of terrestrial system, remote sensing data processing and application. The program lasted 5 days from 27th to 30th March, and invited experts from 7 top scientific research institutions and enterprises to give face-to-face lectures.



The training program was supported by China Association of Remote Sensing Application, China Space News, Beijing Xiang Chi Information Technology Co., Ltd., Beijing Aerospace TITAN Technology Co. Ltd., Beijing Aerospace World View Technology Co. Ltd., China Spacesat Co. Ltd., National Disaster Reduction Center of China, Space Star Technology Co.Ltd., China RS Geoinformatics Co.Ltd., Beijing Panorama Space Technology Co. Ltd. and other domestic important research institutes and enterprises.

ASEAN member states are China's friendly neighbors as well as the important cooperative partners in "the Silk Road Economic Belt and the 21st-Century Maritime Silk Road". Up to now, they have conducted many effective cooperation including the areas of data reception of remote sensing, marine applications, resources and environmental monitoring. This training program is aimed to extend and deepen the cooperation in the field of Space Remote Sensing Technology and Data Applications to expand new areas of cooperation and also we hope to share the benefits of aerospace science and technology progress, and accelerate coordinated development of regional economy.

Opening Ceremony

The opening ceremony of China Space Remote Sensing Technology and Data Applications Training Program which was organized by RCCSTEAP and the International Alliance of Satellite Application Service has been held at the 8th conference room of New Main Building at Beihang University in the afternoon of 26th March, 2016. Mr. Huang Haijun, Vice President of Beihang University, Mr. Xu Chunrong, Vice Director of Major Special Engineering Centre of Space Administration, Mr. Luo Ge, President of China Association of Remote Sensing Application, Mrs. Wu Xiaomei, Secretary General of the International Alliance of Satellite Application Service, Mr. Jiang Hui, Division Chief of China National Space Administration. Mr. Ni Jingsheng, General Manager of Beijing Aerospace TITAN Technology Company Limited, Mrs. Xu Liping, General Manager of Beijing Aerospace World View Technology Company Limited, representatives of experts and all trainees have attended the opening ceremony.



Experts

10 Lecturers from leading companies and agencies in the field of space technology in China, gave wonderful presentations which cover China remote sensing satellites and data application, and they are Beijing Aerospace TITAN Technology Co., Ltd, China RS Geoinformatics Co., Ltd, Siwei Worldview Technology (Beijing) Co.,Ltd, DFH Satellite Co.,Ltd, National Disaster Reduction Center of China, Beijing Panorama Space Technology Co., Ltd, and Space star Technology Co., Ltd.



Cui Yufu
China Spacesat Co., Ltd

Wang Jinnian
China RS Geoinformatics Co., Ltd

Ni Jingsheng
Beijing Aerospace TITAN
Technology Co., Ltd



Xu Liping
Beijing Space View
Technology Co., Ltd

Li Suju
National Disaster
Reduction Center of China

Zhao Jun
Beijing Space View
Technology Co., Ltd

Liu Xiang
Beijing Aerospace TITAN
Technology Co., Ltd



Lv Yaxun
Beijing Aerospace TITAN
Technology Co., Ltd

Zhu Jidong
Beijing Space View Technology
Co., Ltd

Hao Rong
PANSPACE--Beijing Panorama
Space Technology Co., Ltd

Closing Ceremony

On 30th March, 2016, the training came to a successful end. The closing ceremony was held by Mr. Wang Guozhong, the Deputy Executive Director of ASAS. All participants and volunteers attended the ceremony. Mr. Ni Jinsheng, the specially-invited representative of instructor and the General Manager of Beijing Aerospace TITAN Technology Company Limited, and Mrs. Tan Yumin, Doctor of Beihang University who was in charge of the organization of the training program summed up the training from different aspects. In the end, they awarded certifications to participants and volunteers.



Feedback

- ◆ This training is a very good training. We hope that you will organize this training every year. All of the companies are professional in this field and have a great background
- ◆ It's a great chance for us to make a general information about this industry in China. The training was very effective for sharing the new tools, applications, technique about remote sensing among the international participants.
- ◆ Training needs more participants sharing their ideas and experiences too.
- ◆ Excellent presentation. There are many details and products which China can provide to international customers not only the satellite data but also technology in remote sensing satellite, communication satellite, navigation satellite and integrated satellite.
- ◆ The contents of the presentations were very interesting that showed a wide range of RS&GIS applications which helped us to get a broad understanding of RS Technology and Data application.
- ◆ Very useful technology for customers to process geo-information online, especially for emergency response.
- ◆ That was great for the group activity. We all brainstormed to share some idea for applying Remote Sensing in more beneficial and helpful ways.
- ◆ Very good examples of natural disasters and Disaster Management using remote sensing technology in China which can be applied for country.

RCSSTEAP(China) Activities

Centre Representatives Attended the 53rd Session of the Scientific and Technical Subcommittee of UNCOPUOS

From February 22nd to 25th in 2016, Weng Jingnong, executive director of Regional Centre for Space Science and Technology Education in Asia and the Pacific(China)(affiliated to the United Nations), and the Project Manager of the Centre Guo Yuanyuan attended the 53rd Session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space as members of the Chinese delegation.

Weng Jingnong, the executive director of the Centre and expert on Beidou international cooperation, made the conference speech on China's progress in Beidou Navigation Satellite System. On behalf of the Regional Centre, he gave an English technical report on the progress of Centre and 2016 education and training program. The report got enthusiastic response and attracted delegates from the International Space University, Mexico, United Arab Emirates, Switzerland, Sri Lanka, Thailand, Oman and Iraq. They communicated with representatives of the Centre to pursue cooperation.



General chair Vinay Kumar DADHWAL, UNCOPUOS Space Applications expert Takao Doi, and delegates from Nigeria, Sri Lanka and World Meteorological Organization all mentioned Regional Centre's work in their speeches. They praised the Regional Centre's fruitful works since its establishment a year ago which promoted communication and cooperation between regional Centers and pushed forward the development of the UN Space Applications Program.

The meeting was very productive. During the conference, Centre's representatives communicated with Simonetta Di Pippo, the Director of the Office for Outer Space Affairs (UNOOSA) and Niklas Hedema, leader of Policy and Legal Affairs Department of UNOOSA, discussed with Ganiy I.Agbaje, the director of Nigeria Centre, Sergio Camacho, director of Mexico Centre, Doctor Sanath Panawennag, from Ministry of Science and Technology of Sri Lanka, representatives of Swiss Space Office and professor Renato Filjar from University of Rijeka in Croatia and reached preliminary cooperation intentions on some specific works. Many internationally famous experts on Space Applications, including Ms. Mazlan Osman, former Director of UNOOSA, Doc. Niklas Hedema, leader of Policy and Legal Affairs Department of UNOOSA, Stephan Hobe, professor in Koeln University, accepted the invitation to pay a visit to the Centre and give lectures to students.

Session of the Scientific and Technical Subcommittee of UNCOPUOS is held every February in Vienna. 83 member states and more than 30 nations and international organizations that have observer status attended the session. It provides them multiple ways to communicate, such as speech on a topic, technical report, seminar, working group meeting and etc. The Session invited High level guests, gets grate attention from various countries and has broad influence.

Visit to Cooperative Partners

The Space Debris Monitoring and Application Centre of China National Space Administration

On March 9th, 2016, delegates of RCSSTEAP visited the Space Debris Monitoring and Application Centre of China National Space Administration. On the base of knowing works of each other, delegates had a wide communication about the future cooperation with staffs of the Space Debris Monitoring and Application Centre. This survey defined the direction of future cooperation between RCSSTEAP and the Space Debris Monitoring and Application Centre, and laid a good foundation for establishing cooperative relations in the future.



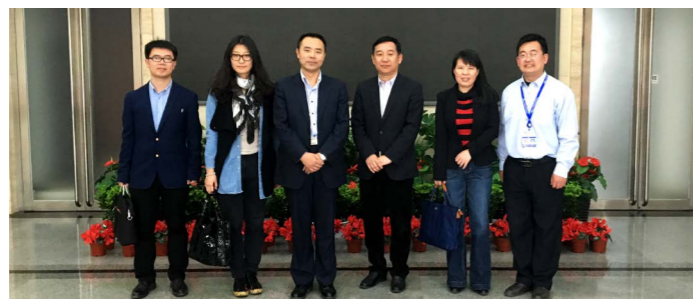
China RS Geo informatics Co. Ltd.

On 15th March, 2016, delegates of RCSSTEAP went to China RS Geo informatics Co.Ltd. for communication. The visit has renewed the concept and idea in education and training of the Centre and effectively promoted the future cooperation between RCSSTEAP and the company.



Beijing Aerospace TITAN Technology Co. Ltd.

On 1st April, 2016, delegates of RCSSTEAP visited Beijing Aerospace TITAN Technology Co. Ltd. They had a meeting to discuss cooperation with Mr. Ni Jinsheng, the General Manager of Beijing Aerospace TITAN Technology Co. Ltd. and other staffs. At the meeting, cooperating intention and contents had been discussed. The visit and exchange expanded the idea of Centre's cooperation, and cohered new energy for the future development.



Centre Representatives attended The United Nations/India Workshop on the Use of Earth Observation Data in Disaster Management and Risk Reduction

The United Nations/India Workshop on the Use of Earth Observation Data in Disaster Management and Risk Reduction: Sharing the Asian Experience, was held in Hyderabad, India on 8-10th March 2016. The main aim of the workshop was to contribute the experiences-sharing on disaster management with Earth Observation (EO) and geo-spatial technologies towards implementing the Sendai Framework for Disaster Risk Reduction: 2015-2030. The conference was built upon the outcomes of the Third United Nations Conference for Disaster Risk Reduction (WCDRR) (Sendai, Japan, March 2015) and on the related commitments of Office for Outer Space Affairs which facilitates the coordination of Earth Observation (EO) stakeholders. 120 participants from 26 countries participated in the workshop. A series of sessions were conducted on challenges in Disaster Management with respect to earth observation satellites, field experiences, disaster risk assessment, early warning system and emergency response, capacity building in disaster management and fostering international cooperation for promoting space technology. Dr. Tan Yumin, the expert in Remote Sensing & GIS from the UN Regional Centre (RCSSTEAP) China, participated in the workshop, and gave a presentation named "Capacity Building and Cooperation plan in UN-Regional Centre (China)".



The Kick-off Preparation Meeting of APSCO Student Small Satellite (SSS) Project Held at Beihang University

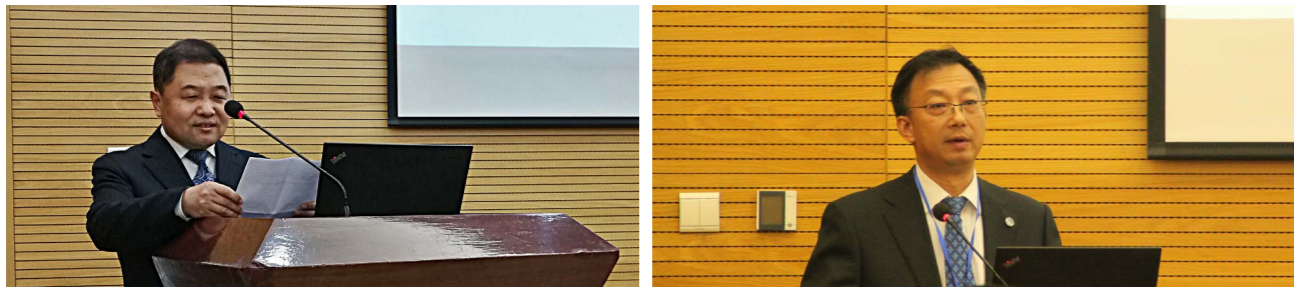
APSCO Student Small Satellite (SSS) Project Kick-off Expert Meeting, hosted by APSCO, organized by Beihang University, was held in Beihang University from March 28th to 31st. The delegates from the Space Agencies of APSCO Member States, including China, Pakistan, Iran, Thailand, Peru, Turkey, Bangladesh and Mongolia, as well as more than 30 representative experts from universities attended this meeting. Fang Jiancheng, vice president of Beihang University, APSCO secretary-general Li Xinjun, section chief of National Space Agency Xu Yansong and deputy section chief of Ministration of Industry and Information Technology of the People's Republic of China Li Yue, gave speech at the meeting. They looked highly upon this opening as well as the significance of this project and offered sufficient affirmation to the great amount of pre-session preparation by the experts from all Member States. At the meantime, they also expressed their enthusiastic greeting for the arrival of all experts.

During the sessions, each expert that attended the meeting participated in the heated discussion on how to build and develop the multilateral cooperation mechanism as well as other related issues. They also arranged the sequential works that every member university would do with careful thoughts. That assured the specific division of labor and every member state's responsibility and obligation so that the good foundation for further opening and implementing could be firmly established.

APSCO SSS Project was initiated by APSCO, aiming at cultivating students and strengthening exchange and cooperation over space-related field among each member state. The implement of this University Mini-satellite Project was also an important part of space education system for all member states. Early in November 2011, academician Fang Jiancheng from Beihang University, entrusted by the Ministry of Industry and

Information Technology, took part in the first expert meeting as a Chinese expert in Beijing, China. Thereafter, APSCO organized the second (in Istanbul, Turkey) and the third meeting (in Shanghai, China) respectively in January and May 2015. Amid the conventions, Professor Huang Hai, appointed as the team leader by Beihang University, the project leading university, participated in preparing the project feasibility report, together with the other two Chinese representatives, Harbin Institute of Technology, Shanghai Micro Satellite Center of Chinese Academy of Sciences as well as other APSCO member states representatives. This report then had been officially approved during the 9th APSCO board of directors in October 2015. This project is the biggest Basic Activity since the establishment of APSCO.

To fully cooperate with the implement of the project, Beihang University formed an interdisciplinary research team which was led by Professor Huang Hai and supported by all teachers and students from School of Aeronautics, School of Computer Science and Engineering, School of Instrumentation Science and Opto-electronics Engineering, in order to carry out the construction of the "Micro-satellite Formation" major system. Furthermore, the university also gave it the great support and guaranteed over the aspects of personnel appointment, financial aid and the construction of laboratories. Considering the solid foundation of the research on the micro-satellite components and the superior resources as the Asia-Pacific Space Cooperation Organization Education and Training Center in China, Beihang University will firmly guarantee the fulfillment of the assignment demanded by this project, provide practical experience for every APSCO member state about the multilateral cooperation mechanism and explore new patterns of international cooperation.



Director General of the European Space Agency made speech for "Space 4.0" at Beihang University

Doctor Johann-Dietrich Woerner, Director General of the European Space Agency, Mr. Frederic Nordlund, the Director of ESA International Department and Karl Bergquist, official of ESA International Department visited Beihang University on April 1st. Doctor Woerner's speech for "Space 4.0" in New Building Conference Centre received an enthusiastic response.

Deputy headmaster Huang Haijun hosted the speech.

The Secretary General of Chinese National Space Agency Tian Yulong briefly introduced the present co-operation between Chinese National Space Agency and ESA. He expressed his sincere wish to initiate new space cooperating phase for China and Europe with joint efforts from both sides. He also encouraged students in Beihang University to study hard and do more research in order to devote themselves into the further development of Chinese aerospace industry.

In his speech, Doctor Woerner firstly introduced the organizational structure and its functions of ESA and then turned his focus on the new challenge faced by all human race, the new mission of international special mechanisms as well as the new approaches of special exploration brought by the concept of "Space 4.0". He believed that science is a universally frontier-free field. The interactive, international and commercial pattern of "Space 4.0" will help tackle with multiple needs of human beings in the future. Doctor Woerner's speech had a prospective view as well as great aspirations. At the meantime his adequate preparation and humorous style had evoked plenty of strong response. After his speech, many students came to Doctor Woerner asking questions about his speech.

European Space Agency, also known as ESA, is a mechanism where European countries organize and coordinate the special technological activities. There are 22 formal member states, such as Belgium, Denmark, France, Germany, Britain and Italy. ESA sets its headquarter in Paris and researching and operating centers in Holland, Germany, Italy and other several places. The ESA takes charge of the making of space policy and plan, coordinating the space policies and activities, and promoting the special technology cooperation and integration among member states. In January 2016, ESA released its project to build a lunar base with 3D printing which had aroused a widespread attention at home and abroad.



Long March College of CALT Representatives visited Centre

On 8th April 2016, Zhou Shouming, the Vice President of Long March College of China Academy of Launch Vehicle Technology (CALT), Guo Lei, the Director Assistant of Teaching and Research Office of System Engineering, and Shi Linfeng, the Supervisor of Teaching and Research Office of System Engineering, visited Centre. They had thorough conversations about the cooperation between Centre and Long March College with the Executive Director Weng Jingnong and Centre's experts.



Poster Design Contest for Space Day of China

On March 8th, 2016, the State Council approved to make April 24 as Space Day of China.

In order to enlarge the influence of Space Day of China, promote astronauts' spirit, popularize and spread knowledge of aeronautics and astronautics, RCSSTEAP, International School, and Department of Industrial Design in Institute of Mechanical Engineering and Automation of Beihang University jointly held the Poster Design Contest for the First Space Day of China.

Participants should follow the three themes below and design plane poster or Animated GIFs.

Theme A: Art design of the three stages of space exploration: looking up at the sky from the ground, flying into space looking back at earth, roaming in space exploring outer space.

Theme B: The setting up of Space Day of China on April 24th, 2016.

Theme C: Other Space-relevant designs. All selected works would be advertised and uploaded to our website, www.rcssteap.org.

The contest attracted many teachers and students at home and abroad, aerospace culture fans and enterprises and public institutions to participant. It aroused their enthusiasm for scientific exploration. Furthermore, it promoted China's consistent principle of peaceful use of outer space and strongly carried forward the China astronauts' spirit.



Centre Representatives Attended the 55th Session of Legal Subcommittee of UNCOPIUOS

Centre's legal experts, Associate Professor Gao Guozhu went to Vienna to attend the 55th Session of Legal Subcommittee of UNCOPIUOS as a member of Chinese delegation from April 10th to 15th 2016. During the session, Mr. Gao Guozhu participated in the related work of Chinese delegation, distributed the promotional literature to other delegates and also joined the meeting about Space Mining between Space Treaties and US Commercial Space Launch Competitiveness Act which was hosted by European Space Policy Institute(ESPI). During the break of the meeting, he called on Mr. Niklas Hedman of UNOOSA, introducing the work progress of Centre and exchanging the opinions about the program of MA in Space Policy and Law that will be launched in Beihang University in September this year. This visit had reached the expectations, enhanced the international visibility of Centre and created a healthy environment for Centre to carry out more communication and cooperation.

RCSSTEAP

Education and Training Programs

Professional Visits and Academic Lectures

During March to April 2016, RCSSTEAP organized the graduated students on Space Technology Applications to visit the National Time Service Center of Chinese Academy of Sciences, China Academy of Space Technology, Institute of Remote Sensing and Digital Earth, Twenty First Century Aerospace Technology Co.Ltd., and Shanghai Academy of Spaceflight Technology. The centre also invited senior experts in related field to deliver academic lectures in order to make students know better about the splendid history of Chinese aerospace industry and the fighting spirit of workers in this field.

Here we want to show our sincere appreciation to every cooperators to provide our students with enthusiastic greeting and strong support during the session so that the students have achieved more than expectations.



Photo/Mondal Krishna Prosad

The Centre organized Midterm Assessment

In the late March 2016, students who registered in 2013 of DOCSTA Program and in 2014 of MASTA Program completed the midterm assessment in the rooms of International School of Beihang University. 18 master's candidates and 7 Doctoral candidates majoring in GNSS, Satellite Communications and Micro-satellite Technology, have reported the research progresses. Comments and suggestions were offered by their supervisors. These students will graduate in June,2016.



Proposal of Team Pilot Project

In the spring semester 2015, students who registered in 2015 of MASTA Program in GNSS, RS&GIS and Micro-satellite Technology began to start their Team Pilot Project (TP). TP is carried out in teams and arranged at the end of the first semester. 2-5 Students will be grouped into one team out of their research interests and then asked to complete a project in 3 months. The project focuses on developing the team spirits and training the students' ability of using the knowledge and skills to solve practical problems.

The Centre organized the proposal of TP in the end of March. And the projects will be completed late in May.



Photo/Mondal Krishna Prosad

Capacity Building

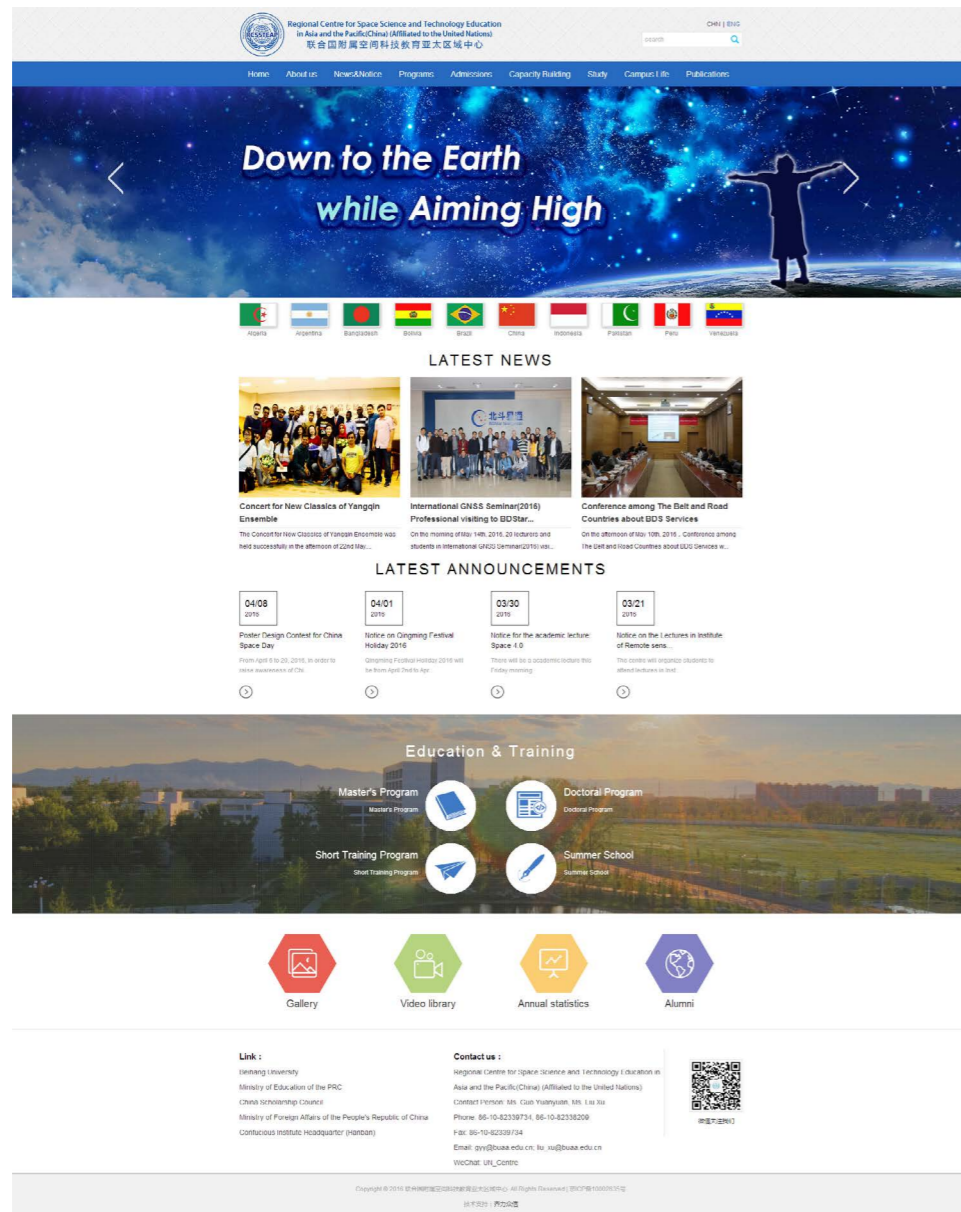
Ride the wind and waves because of the dream, make still further progress after success." After many efforts and preparations, the official website (English and Chinese versions) of RCSSTEAP formally launched On 25th March, 2016!

Centre Website

www.rcssteap.org

Interface Layout

Main tone of the entire interface is blue. On the top of the page is the Centre's LOGO and navigation bars, under which large pictures are trundling and national flags of the ten Centre members arranged in turn. The middle part of the interface is Latest News and Announcements. Quick links of Education & Training Programs and Gallery, Video Library are below the Announcements. The overall layout of the website is full of sense of design, concise but atmospheric. In addition, Chinese and English version can be freely switched.



Special Topic Sections


As the launching of website step into the right track, the topic-dominated dynamic updating mechanism of the website is ultimately determined. The form of page-presenting is mainly via big-picture-scrolling, with links to the designed sections, News or Gallery. There are six sections classified by different contents: About us, News & Notice, Programs, Admission, Capacity Building, Study, Campus Life and Publications.





Development Process


Scanning our website, you can have an overview of the Centre's development process from its application of building, preparation to its gradual improvement. The Historical Events sector in About us column presents some wonderful moments which are worth our remembering and spur us on to great improvement.

Historical Events

- 
2004
 2016-03 The Establishment of the International Space Education Centre

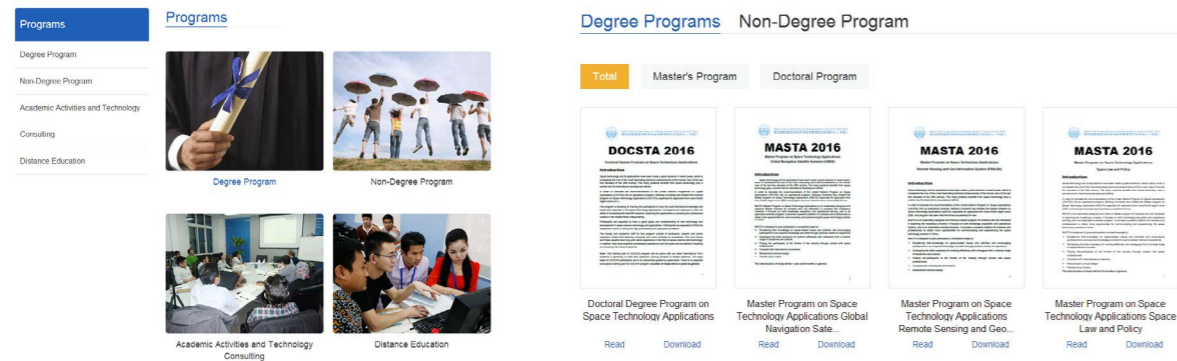
- 
2006
 The Master Program on Space Techonology Applications Approved by theChina's Ministry of Education

- 
2012
 BeiDou Internation Exchange Centre was set up in Beihang University with the support of China's Satellite Navigation Systems Management Office

- 
2013
 2013-02 The Proposal of a New Regional Centre at Beihang University was made at the 50th Session of the Scientific and Technological Subcommittee of COPUOS

Education & Training

Click on the Education & Training column, you can preview the Admission Brochure of Master and Doctor programs on Space Technology Applying and see about the training plans of three main directions: Remote Sensing and Geo-information System(RS&GIS), Global Navigation Satellite System(GNSS), as well as Space Law and Policy. Furthermore, you can apply for short-term training programs online. In addition, the website introduces the Centre's plentiful teaching and internship resources, including hard facilities like key laboratories, video-conference classrooms, professional reference rooms, and other living facilities.



Cooperation and Communication

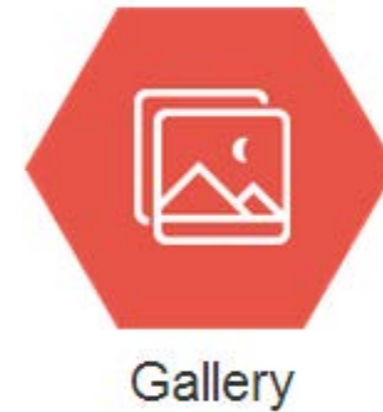
Newsletter is one of the important media for Centre's communication and promotion which can be previewed and downloaded online without any charge. It will keep you inform of the latest special reports, events consultation and education news. Those pictures and videos which present Centre logo's design concept and its designing process can also be downloaded. Websites of the Centre and cooperative partners link to each other so that you can get whole information of our cooperative partners via the links.

Newsletter



Image Database

Gallery, Video Library sections are at the bottom of the home page recording all kinds of conferences, events, external communications happened in Centre in the form of image. The scrolling large pictures offer the reader a stunning visual experience.



Every magnificent transformation must endure years of delicate polish. We will not be content merely with the present achievements, but keep pace with the times and optimize and revise the website constantly. Your comments and suggestions are highly welcomed. The wonderfulness is surely to be continued.

Participants Forum

Editor's notes : To celebrate the first Space Day of China, the Centre solicited articles with the theme of My View on Aerospace Technology Development towards Centre's participants. In this issue, we published two articles from an Indian student and an Iranian student to share their views and feelings with us.

Space technology promote the life's quality

By: Ehsan Sherkatghanad

Preface

The involvement of a growing number of countries means that space exploration and the use of outer space are now truly global undertakings.

The period between 1957 and 1991 saw the dawn of the space age with flights to the planets, footprints on the Moon, and global communications; however, this history of space was anchored in the global cold war with its massive budgets for military space exploitation. In fact, Space exploration fires people's imaginations. Since the first human space flight in 1961, over 500 explorers from different nations have ventured into space, motivated by curiosity, the drive for knowledge and the belief that space exploration could benefit people on Earth.

The last ten years, however, have brought about a new era of space exploration, images of distant stars and galaxies, international cooperation and a focus on our own planet. The involvement of a growing number of countries means that space exploration and the use of outer space are now truly global undertakings.

In the not-too-distant future we may have unlimited, clean, solar energy from space powering our industries as well as heating and lighting our homes. Our nuclear waste may be safely and inexpensively disposed of by being carried up a Space Elevator and released towards the Sun. We may become a tourist in Earth orbit or on the Moon. We may carry out extra-terrestrial mining and even introduce the development of a multi-planet economy. In addition to the enormous knowledge that space exploration has already delivered, space technologies have become integrated into everyday life so deeply that modern society could not function without them. Weather, telecommunications, environmental analyses and national security are only the most obvious space technologies that humanity relies on, though spinoffs and transfers from space to non-space sectors provide many additional indirect benefits.

Introduction

Experts say space technology is one of the best tools to overcome many challenges in all countries. According to some pioneer specification of space, improving space technology can change all aspects of human's life basically and properly. Nowadays in all developed and some developing countries, cutting edge and high technologies, which cause a great expense, are leading to solve and eliminate their national challenges and improve their life's quality. As an example they are using all of space technology applications to solve the problems which can suffer them, and also to make their life easier.

Some specifications of space which make it different from others (some pioneer specification)

Space is a joint and common arena between all countries and political geography is not able to limit it, then it has an important and strategic condition.

In space you can widely and comprehensively observe the earth. In addition not limited range from space to whole the earth's geography can give us this opportunity to have many kinds of information about everywhere whenever for any user. Also it cannot be affected by some earthly disasters and space equipment are able to work when ground stations have some problems or were destroyed.

So such specifications cause an appropriate condition to search about universe and gathering different information from the earth.

Most important problems and challenges

In not far future countries will face some seriously economic, security, social and cultural challenges and also some of them already made some problems. In addition natural and man-made disasters and events are becoming more important.

Experts believe that telecommunication, media and dependence of countries with international networks, cause significant link between national and international revenues and problems and we will not able to consider our problems just nationally, such as water resources, weather changing, security and population increase. If we have a look to some zones which had crisis which are suffering from lack of water and food, you will find a close relationship between them and local and national wars. Then it caused countries to make

some treats and international organizations which are increasing every day and perhaps it will make big changes in country's sovereignty.

Some applications

When we are watching our favorite game on TV, in fact we are using one of the benefits of space explorations. We have been able to correct our theories about the world with the help of satellites and space crafts. Accurate weather forecasting is possible by using satellite, also they help us in harvesting, monitoring of pest infestation, under cultivation lands, forest cover, soil erosion, floods control and so on.

Also we can use for communication specially local and international telecommunication. Navigation is also one of the old space applications which significantly improved depending on satellite improvement.

In fact, in each corner of our houses, we can also see things that one day have been used in the most advanced space crafts to their ages such as smoke sensor (1970-Skylab spacecraft), quartz crystals (Apollo spacecraft), lightweight tools with battery sources (Black & Decker - mobile vacuum cleaner), sport shoes, barcodes and so on.

Materials, insulations, coating, water filtration and medical science are other arenas than could improve by space technology significantly.

An example for medical application of space technology Are You Asthmatic? Your New Helper Comes From Space

Kallie, a 10-year-old boy, is already in favor of space technology. In the future, he could control his asthma with a small device also used by crew members on board the International Space Station. Because of it, he knows almost everything about nitric oxide, an important gas we all breathe out. Nitric oxide, or nitrogen monoxide, as it is properly called, is both a good and bad molecule, found almost everywhere as an air pollutant that is produced by vehicle exhaust and industrial processes burning fuel. Nitric oxide is a contributor to the damage of the ozone layer and easily converts into nitric acid, which may fall as acid rain.

Intriguingly, tiny amounts of nitric oxide are released locally in inflamed tissue of humans and other mammals. Tracing it back to its source can reveal different diseases.

In people with asthma, inflammation in the lung adds nitric oxide to exhaled air. Measuring the gas can help to diagnose the disease and may prevent attacks if the levels of nitric oxide indicate that medication should be adjusted.

Nitric oxide is also an interesting molecule on the space station. Dust and small particles floating around in weightlessness can be inhaled by the astronauts, possibly triggering inflammation of the airways. It also plays a role in decompression sickness that may arise from spacewalks.

The European Space Agency, or ESA, uses a lightweight, easy-to-use, accurate device for measuring nitric oxide in exhaled air. The aim is to investigate possible airway inflammation in astronauts and act before it becomes a health problem.

Following its development by the Swedish company Aerocrine AB and ESA, the device has been found beneficial in space exploration and everyday use on Earth.

NIOX MINO® is now used by patients like Kallie at health centers. They can monitor levels of asthma control and the efficiency of medication, leading to more accurate dosing, reduced attacks and improved quality of life.

Conclusion

There have always been explorers and pioneers, it is a basic instinct, and not necessarily only a human instinct, for animals in search of new pastures, for prehistoric man who crossed continental divides in pursuit of food and to find new places to live, and for people in our own times who have sailed the oceans and traversed the land in search of adventure. Where would we be today without the great explorers of the past? So we have an in-built need to explore new places, especially the tiny pinpricks of stars in the night sky, simply because they are there and we are human expedition are still just that, soon we will be able to buy a ride to space at a price equal to two or three years' salary. Inspiration comes from the vastness of space and the ability to see beyond our limited horizons. The great telescopes of our time are indeed enabling us to see into our past and view our future, thus yielding ever more puzzles to challenge us further.

In addition obviously we will use a lot of advantages of space technology and its application to improve our life's quality and we can make our life easier with the help of space.



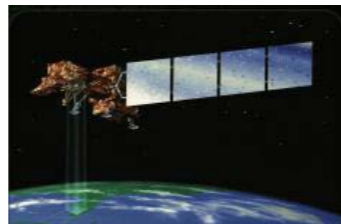
Sherkatghanad Ehsan, Iranian, current doctoral student of DOCSTA program, Beihang University.

“Space” for growth

By-Advait Kulkarni

We are close to completing our time in the second decade of the 21st century. An era of information, and era of connection and global connectivity. The time when we as a species are planning to explore the solar system in person. As we make our flight to the stars, we need to take care of the place we call home. This is the only place we call home for now. Humanity must acknowledge the problems that face the Earth. Natural disasters, climate change, and access to clean water are just a few of the serious issues that pose a threat to our world and our future. Space technology provides awareness of how the sustainability of the world is affected and contributes to its improvement. Industry should be challenged to assist in this process, not only because it has a social responsibility but because innovative business models can take economic advantage of carrying out their activities in a sustainable manner. Space technologies can help taking care of our home before we take off for the stars.

Remote sensing satellites that monitor the Earth as it changes over time. They offer consistent, accurate and relatively low cost data. This is invaluable to a wide range of socio-political, educational and industrial activities.



Position, Navigation and Timing (PNT) satellite systems that can be effectively used alongside Geographical Information Systems (GIS) for personal navigation, mapping and surveying, disaster relief, transportation, and emergency response.



Tele-communication satellites that transfer information across the globe, without requiring the extensive ground based infrastructure needed for terrestrial systems. They are used for education, health, and disaster warnings to remote locations across the globe.



In the last decade, natural disasters have increased in frequency and severity, causing over a million deaths and more huge financial damages. Disasters impacts get magnified with rising population, predominantly near the coastal areas, which are prone to flooding and cyclones. Space applications play a vital role in mitigating the impact of disasters. Estimates suggests that, in Australia alone between A\$100 million per annum is saved by utilizing remote sensing data. Analyzing how space technology has been used in the past, when disaster

strike, the immediate need of food, water, shelter and medical supplies are easily supplied and coordinated with use of space based communications. In case of damaged of ground based infrastructure, satellite systems can facilitate links between victims and relief workers. PNT satellites can provide accurate and fast positioning services for emergency response teams to coordinate volunteers, materials, and financial aid.

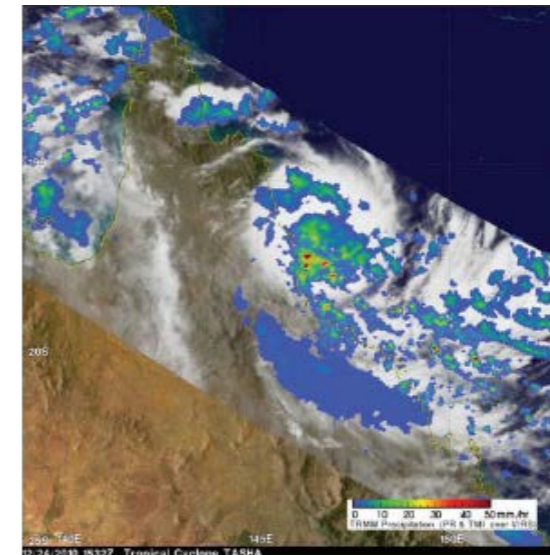
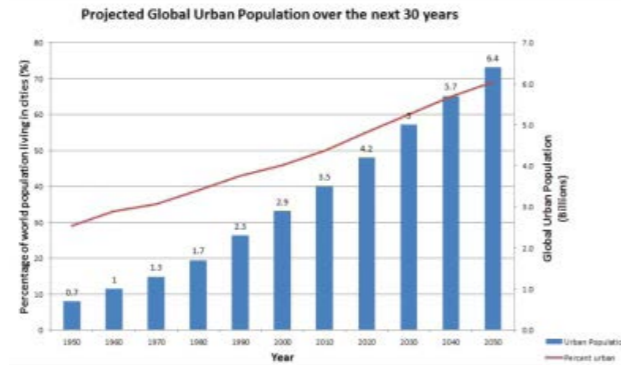


Figure 1 Precipitation of Queensland Cyclone

Space based data can also help in managing the sudden growth in urban areas. Increasing urban population is a result of global displacement from rural to urban areas. On an average more than five million people move to urban areas every month, resulting into informal settlements that lack proper planning and infrastructure. These settlements often have poor sanitation and little access to health and education facilities. Growing urban areas in India like Pune, are home to highly populated informal settlements. It is examples like improved settlements conditions in Pune are proof of utilization of satellite data for better planning for resettlement. Informal settlements have benefited from remote sensing where spatial correlations between areas of land cover and land use patterns have been used to estimate the vulnerability to natural disasters in Earth Sustainability order to improve quality of life. Non-governmental organizations have used the data made available with remote sensing technologies in such areas to make governments aware of the problem and help formulate future policies to mitigate shortage of housing across India.

Space technology is also widely used in other areas like providing high speed internet services, traffic and vehicular movement supported using PNT satellites, remote sensing data used for improvement of agro technologies, and efficient use of resources for agro applications, education facilities using advanced space based communication. Space based communications have also proven wide application in health industry. Tele-medicine is crucial

in providing doctor patient interaction over vast distances. This helps quality medical aid in situations where physical presence of doctor with the ailing is not possible.



To conclude, space applications have seen wide use in all different aspects of our modern society. The one thing that makes the 21st century different from all the other times in history is our knowledge of outer space and utilization of space as a resource. We have been successfully able to utilize space so far but we need to do more we expect to sustain our life on this planet while taking care of our home. Space opens up a whole new aspect of research and possibilities, while also becoming a great weapon if militarized. Care must be taken all along that this is not done, and that space resources are used only for peaceful purposes.



Kulkarni Advai, Indian, current postgraduate of MASTA program on SATCOM, Beihang University.

Additional Words

With the new hope, the RCSSTEAP(China) ushered in the New Year. Our Newsletter brought in its first issue of 2016.

This issue records the main works of RCSSTEAP from January to April, 2016. The Centre starts a new chapter in 2016 and those activities it has launched recorded every footprints RCSSTEAP moved forward and witnessed its faith, "Down to the Earth while Aiming High". The setting of Centre's website online marked that the Centre's promotion work reached a higher level. More information of our Centre will be released on this platform efficiently and immediately.

The Newsletter is holding us together. Exchange, Promotion and Development are the eternal purpose of this issue. Your concern and support have always been our motivations. And your comments and suggestions have always been our encouragement. We believe the Newsletter will have a bright future with your support.

Editor

Glance of the Centre

Name List of the Governing Board Members

No.	Title	Name	Gender	Country	Affiliation & Title
1	Chairperson	Xu Dazhe	Male	China	Administrator of China National Space Administration (CNSA)
2	Member	Felix Menicocci	Male	Argentina	Secretary General of Argentina National Commission of Space Activities
3	Member	Houari Karim	Male	Algeria	Director of International Cooperation of Algerian Space Agency (ASAL)
4	Member	Shaheen Khan	Female	Bangladesh	Chairman of Bangladesh Space Research and Remote Sensing Centre
5	Member	Jaime Antonio Mendoza Gonzales	Male	Bolivia	Space Segment Enginee of Bolivian Space Agency (ABE)
6	Member	Jose Raimundo Braga Coelho	Male	Bolivia	President of Brazilian Space Agency (AEB)
7	Member	Thomas Djameluddin	Male	Indonesia	Head of National Institute of Aeronautics and Space (LAPAN)
8	Member	Imran Iqbal	Male	Pakistan	Member of Pakistan Space and Upper Atmosphere Research Commission (SUPARCO)
9	Member	Jose Julio Cesar Humberto Acuña	Male	Peru	Representative of National Commission on Aerospace Research and Development (CONIDA) of the Republic of Peru
10	Member	Victor Cano	Male	Venezuela	President of Bolivarian Agency for Space Activities of Venezuela (ABAE)

Name List of the Representatives of Observers

No.	Name	Gender	Affiliation & Title
1	Simonetta Di Pippo	Female	Director of United Nations Office For Outer Space Affairs (UNOOSA)
2	Li Xinjun	Male	Secretary General of Asia-Pacific Space Cooperation Organization (APSCO)

Name List of the Advisory Committee

No.	Title	Name	Gender	Country	Affiliation & Title
1	Director	Xu Huibin	Male	China	President of Beihang University



The 1st GB meeting, Nov 17, 2014



The 2nd GB meeting, Nov 28, 2015

Campus of the Centre



Secretariat of the Centre

