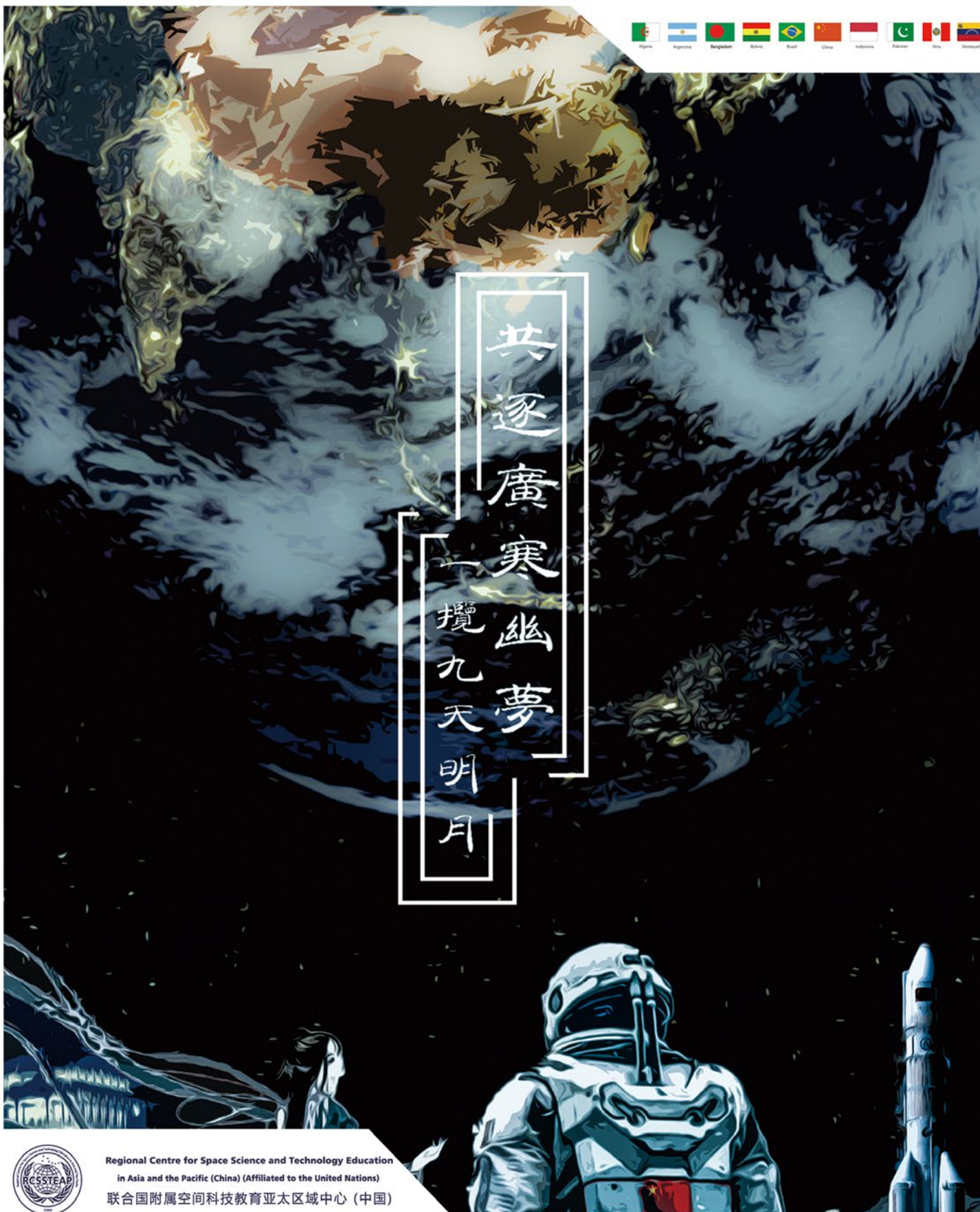


# NEWSLETTER

2019/ Vol.001 / Total Vol.017

Exchange·Promotion·Development



共逐廣寒幽夢  
一攬九天明月



Regional Centre for Space Science and Technology Education  
in Asia and the Pacific (China) (Affiliated to the United Nations)  
联合国附属空间科技教育亚太区域中心 (中国)

An aerial photograph of a large dam with multiple spillways. The dam is a long, low structure with several tall, narrow spillways. Water is cascading over the spillways, creating white foam. The surrounding area is a mix of green vegetation and brown earth. The sky is a clear, pale blue.

Consultation

Contribution



# Shared Benefits

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› The cover picture is selected from works of "Poster Design Contest for Space Day of China 2019"

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## Space Day of China

——to memorize the reunion with alumnus

Every year on April 24, we celebrate Space Day of China. It is in spring, when everything comes back to life and refresh. The annual China Space Conference is also held on April 24. The political leaders, experts and scholars in aerospace field from China and all over the world get together to show aerospace constructions and achievements, to exchange ideas about space development progress, to share aerospace science and technology fruits, and to discuss about the cooperation plan in aerospace.

This year, the grant event "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals", co-organized by China National Space Administration (CNSA) and United Nations Office for Outer Space Affairs (UNOOSA), was held from April 24 to 27 in Changsha, Hunan Province. More than three hundred (300) representatives from over fifty (50) national governmental departments and ten (10) international organizations were attracted to attend the meeting. During the annual grand meeting, we were glad to see the graduates of the Centre attend the series of Space Day of China activities as the representative of their countries. The reunion doubled the geniality and more happiness. We were deeply gratified that they had become the backbone talents in international cooperation of space technology applications in their home countries.

Ms. Vargas Cuentas Natalia Indira was a Bolivian international participant who was graduated from the Centre in 2018. She attended the conference as one of the representatives of her country. She said that she was honored to be back in China on behalf of her nation, and she was more than excited to meet the professors who had educated her. One year had passed, but she never forgot the warmth from foreign people and foreign country that she had felt by the Xiao Yue River and the Xue Yuan Bridge. She was very grateful for the cultivation of the Centre which allowed her to have solid professional basis and excellent international communication abilities, and she hoped to contribute to the cooperation between the two countries.

The international alumnus and alumna connect the Centre with different countries all over the world. Since its foundation, the Centre, with an international horizon, an open mind and inclusive educational ideas, has recruited one hundred and eighty-nine (189) participants for MASTA and DOCSTA programmes from twenty (20) countries. They study, progress and finally become talents in this beautiful campus, and start their professional voyage here. Now, many of the graduates play important roles in their post, building together the prosperity and development of international space career.

Space Day of China has been held annually for four (4) years. Today, it has become a date for which the Centre and the graduates look forward to every spring. We expect to meet more alumnus and alumna during the Space Day of China next year!

## Special Focus

### ✧ Editor's note:

All this time, the Centre, based on "Programme on Space Applications", has been continuously expanding training topics to build its international education brands. Furthermore, the Centre contributes a lot in strengthening culture construction: holding activities like "Journey of Chinese Space and Culture" which have become the highlight of the Centre and gained wide appreciation and recognition from participants and personage of various communities. This column concentrates on the educational development of the Centre, demonstrating highlight activities and showing stories of talent cultivation in space science and technology.

## Journey of Chinese Space and Culture 2019

### ✧ The 1<sup>st</sup> Stop: National Time Service Center (NTSC)

During February 25 to 28, 2019, the Centre organized a technical trip to Xi'an for 2018 MASTA and DOCSTA participants, including a technical visit to National Time Service Center (NTSC), Chinese Academy of Science (CAS). All participants enjoyed this four-day trip, and expressed their excitement and thankfulness through reports.

On Day 1, participants went to see the Small Wild Goose Pagoda and took an interesting class of "Chinese Calligraphy. "

The next day, participants visited the Big Wild Goose Pagoda and the Square, a Buddhist pagoda located in southern of Xi'an City. They also visited the famous Terra-Cotta Warriors, a world-renowned symbol of Chinese history.



On Day 3, participants paid a visit to National Time Service Center (NTSC), Chinese Academy of Science (CAS), a national-level base-type research institute doing the tasks of national standard time generating, keeping and transmitting. NTSC, previously called Shaanxi Astronomical Observatory, is a scientific research institution engaged in the fundamental research and technology R&D in the fields of time-frequency and satellite navigation. NTSC undertakes the task to generate, maintain and transmit the national standard of time-frequency, and operates a national major scientific infrastructure – the long and short wave time service system.

During the visit of NTSC, participants learned several important things and gained knowledge about how the National Standard Time kept by NTSC, which had high stability and accuracy. It can test and evaluate the atomic clock in different location through the technology of remote time comparison. In the BPL system, time-frequency standard is generated by the cesium atomic clock whose performance has a direct impact on the time service precision. The participants also learned how to generate and maintain Time and Frequency standards, synchronization between Universal Coordinate Time (UTC) and BeiDou Time (BDT). Besides, they went to see the Time Science Museum as well and witnessed many important historical facts and achievements regarding Time.

On the last day, participants went to the Xi'an City Wall which is an impressive and well-preserved construction. They discovered the history behind the Ming Dynasty and Tang Dynasty while walking on the City Wall. Besides, they also visited the Bell Tower which has a long history, the Forest of Steles which preserved tons of treasures created by famous calligraphers.

Some participants shared their review regarding this unforgettable visit:

*"Overall, the visit to the National Time Service Center (NTSC), Chinese Academy of Science (CAS) was very informative for us because most of the things I studied in the MASTA Course 'GNSS Reference System' were recalled and I felt lucky enough to gain sound practical knowledge through this technical visit."*

——Muhammad Shan-e-Hassan, GNSS, MASTA 2018

*"I truly believe that the comprehension of real time technology equipment, dynamic interaction with researchers, and significant shared knowledge, represented a key development scenario for all MASTA&DOCSTA students from Beihang University. The visit to Xi'an city was considered as an invaluable opportunity for constructive experiences complementing knowledge earned during the semester, where the applications of space technology, time science applications, and technical R&D works done by NTSC profiles for the contextualization, innovation, and further works for the students in the program. Furthermore, Xi'an has shown itself as an amalgam of ancient heritage and modernization projects, in which cultural exchange immersed in Chinese history was experienced by all the participants in this visit."*

——Gabriel Andres Jaimes Illanes, Micro-satellite Technology, MASTA 2018





## ✧ The 2<sup>nd</sup> stop: National Disaster Reduction Center of China (NDRCC)

On March 14, the Centre organized a technical visit to National Disaster Reduction Center of China (NDRCC). Participants from 2018 MASTA & DOCSTA Program enjoyed this technical visit, and wrote about this meaningful and interesting visit:

*"In the first session, Dr. Ming Liu presented the Application of Space Technologies in Disaster Management in China, in which he explained the need of disaster management. According to the statistics of 2018, around 130 million People were affected. 635 People were dead or missing and disasters account for 264 Billion RMB worth of economic loss. He explained the dependence of Remote Sensing on Disaster Risk Monitoring and Emergency Monitoring, showed some real life examples of how the center use Satellite Imaginary to calculate the risk of disaster and damage assessment and explained the nature of images required for monitoring different catastrophe like flood, drought or typhoon. The center not only provide the services to the China but also provided services to different country having catastrophic event. He also showed the contribution of center in providing services during Dam collapse in Lao Po, Tsunami in Indonesia and drought in Afghanistan.*

*After the session, Dr. Ming Liu showed the disaster reporting system based on BeiDou. The system uses the BeiDou system to receive the update on disaster. Since in emergency or catastrophe the traditional communication system like Internet and cellular are prone to fail, the satellite based communication system is the most reliable one. They are continuously monitoring the status of each terminal placed all over the country from the center. As soon as disaster occurs, the terminal will send the data and measures can be taken accordingly.*

*In third session, the participants visited the Disaster Monitoring Station. The official explained them about how they monitor the disasters, measures the intensity and calculate the amount of loss. The system can monitor multiple catastrophic event at a time.*

*The last session was quite interesting for the participants, the participant visited the 3D Mapping Lab, the lab uses the simple images from Unmanned Aerial Vehicles flying in catastrophic areas. These images later then processed and used to make a 3D image of the area. This kind of technique not only provides easy access in isolated areas but also is very useful in analyzing the precise condition of the area."*

—Muhammad Haris, DOCSTA 2018

*"On reception, students were introduced about the services and work carried out in MEM and its National Disaster Reduction Centre of China (NDRCC) by Expert Dr. Li Suju. NDRCC is an agency providing information and technological support, including a national disaster database which local civil affairs departments access to enter details about the disaster. She explained disasters are a challenge and how space technology is used in Disaster Risk Management. How Space Technology is best for international cooperation because space does not have any boundary.*

*NDRCC is a very strong supporter of the UN-SPIDER programme and is hosting the UN-SPIDER Beijing Office. UN-SPIDER facilitates fast and efficient access to space-based information for countries as well as international and regional organizations. This includes all types of information provided by Earth observation satellites, communication satellites and global navigation satellite systems.*

*Dr. Ming Liu, Expert of Remote Sensing (RS) & Forest Fire, presented MEM institutional reforms (support to other ministries and departments), services and products at national and international level in detail and how China has faced natural disaster. Use of RS Satellite Images in Disaster Management (Tsunami, Typhoon, Flood, Volcanic Eruption, Earthquake, Forest Fire, Landslide, Avalanche, Dust Storm, Drought), various types of RS data and their suitability for each state of disaster, spatial resolution and revisit relationship was explained. MEM not only utilizes national satellites products as FY, GF, & HJ, but also brings into free available products of satellites like MODIS, NOAA and Sentinel. How use of other indicators with satellite products can provide true results and risk monitoring is performed before emergency management by using archival data, situation assessment, relief work and at last stage how recovery and relief monitoring is carried out were parts of the presentation. His presentation was concluded with International Products Service as disasters too do not have boundaries.*

*After presentation, students were taken to BeiDou Navigation Satellite System (BDS) lab. In this lab, uses of BDS in disasters*

was explained. In disaster-stricken areas, most of the time ground to ground communication e.g. Internet, landline and cellular services get down. It nearly becomes impossible to communicate and with BDS supports, reports in the field can send location and text message by using built-in Short Message Service in terminals. Reported data is displayed on map-based application and by analyzing reported data rescue and relief activities are carried out. Other than terminals, an app is also developed for disaster reporters' smart phones to report data.

Next lab to visit was Disaster Reporting System lab. Here information about disasters is collected at levels from a village to all country, from a family to all people. Based on this information, human and economic loss is estimated.

Another innovative and interested lab to visit was about Unmanned Aerial Vehicle (UAV) RS System lab. Scale and detail of work of this system was appreciable. Pre and post disaster 3-dimensional (3D) RS data of disaster-stricken places is acquired here and their 3D models are compared to see the change. Building points at national level are available in the system and based on devised algorithms, vulnerability and risk exposure of buildings in terms of counts is estimated here.

This informative and interesting visit concluded with visit to Real-time Satellites Orbiting Simulation System and group photo with MEM experts."

— Hassan Ali, RS&GIS, MASTA 2018



## ✧ The 3<sup>rd</sup> Stop: Institute of Remote Sensing & Digital Earth (RADI), CAS

On March 21, the Centre organized a technical visit to Institute of Remote Sensing & Digital Earth (RADI), CAS. Participants from 2018 MASTA & DOCSTA Program enjoyed this technical visit, and wrote about this meaningful and interesting visit.

*"At the beginning, Mr. Ma Haojie (Student of Prof. Yalan, RADI, CAS) welcomed the participants and briefly explained about the work carried out put by the institute and how different Chinese Remote Sensing satellites imagery is received at 5 Satellite Ground Stations (SGS) across the country.*

*After the introduction, we were taken to State Key laboratory of Remote Sensing Science. In this laboratory, various concepts of Remote Sensing e.g. Surface Energy Balance were studied.*

*Final visit was proceeded to Remote Sensing Science Corridor (Museum). In the corridor, number of scientific equipment was showcased. Nearly all equipment was used in old days. Air and ground field work was performed using these instruments. Few of notable instruments, High Altitude Digital Camera, Transparent Project, Geological Hardware, Manual Stereoscope, Computing Server, were described by the presenter.*

*Visit was concluded with a group photo of students with IRSDE representatives. This brief visit to nearby facility was found interesting to participants."*

—Hassan Ali, RS&GIS, MASTA 2018

*"RADI was formed in 2012, the year marked the 50<sup>th</sup> birthday of remote sensing, 30-year progress of Earth observations and the 15<sup>th</sup> anniversary of Digital Earth. The largest research institute in the field, RADI was established consolidating two CAS institutes: the Institute of Remote Sensing Applications (IRSA) and the Center for Earth Observations and Digital Earth (CEODE).*

*The primary purpose of this center is to foster research in the young generation to study the science of environment observations and remote sensing through utilizing satellite imagery. RADI consists of nine laboratories at national level, two great national earth observation centers utilizing space data accumulated through satellites. It also houses four esteemed international S&T centers which are supported by UNESCO and ICSU.*

*On reception, the visitors were shown satellite images of Beijing recorded on April 2018 proving their database prowess that old data is available to carry-on research and environment radiation modeling on them.*

*The visitors were then briefed about State Key Laboratory of Remote Sensing Science. The role of this laboratory is to study the global change in the environment. Through the studies of hydro-logical studies of the atmosphere, a simulation center has been built which monitors the radiations from the earth surface and the energy balance phenomena.*

*Later, the students were taken to a museum where various equipment of the past such as GER MARK V spectrum-scanner, a high altitude digital camera, a projector and other obsolete equipment's were placed. All these items have been used in the past for the purpose of atmosphere study and remote sensing."*

— Muhammad Shan-e-Hassan, GNSS, MASTA 2018



## ❖ The 4<sup>th</sup> Stop: International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO (HIST)

On March 28, 2019, the Centre organized a technical visit to International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO (HIST), participants from 2018 MASTA Program joined this visit. Let's take a view into this technical visit from the eyes of Muhammad Usama Sohail, 2018 MASTA participant from Pakistan:

*"International natural and cultural heritage of Space Technology Center (referred to as 'HIST') is the first UNESCO-based World Heritage research institution on space technology and Remote Sensing and Digital Earth Research. HIST aims to use space technology for UNESCO and its Member States, in monitoring and protecting the world heritage and world biosphere reserves, to deal with climate change and natural disasters, to provide technical services through education and training, and to enhance its space technology Capacity building to promote sustainable development.*

*The visit started when the participants were taken to watch a video named 'Digital Earth Science and Space Technologies for World Heritage'. The concise and interesting nature of the videos impressed all participants, and the rich content of it also stimulated participants' interest in space technology on natural and cultural heritage preservation.*

*Following this, the participants visited the Digital Earth platform, Airborne Satellite Remote Sensing Centre and Satellite Operation and Management Department, etc. During the visit, we came to have a better understanding of the relationship between the theoretical knowledge and practical cultural heritage protection. Concise and intriguing presentations were given, peaking the interest of all the participants. High Definition images were used to keep the viewers involved in the presentation at all times.*

*The visit concluded with a speech from the respectable Executive Deputy Director & Secretary General of HIST, Prof. Hong Tianhua. He summarized a report of HIST on a UNESCO designated area and finished his speech with comments on the current work being done with countries in need of space technologies.*

*The visit made us realize that the applications of space technology are very extensive and we hoped to make a contribution to heritage protection someday in the future with the help of solid professional knowledge."*



## ※ The 5<sup>th</sup> Stop: The Twenty First Century Aerospace Technology Co., Ltd. (21AT)

On April 2, 2019, the Centre organized the 5<sup>th</sup> technical visit to the Twenty First Century Aerospace Technology Co., Ltd. (21AT). Participants from 2018 MASTA&DOCSTA Program attended this visit and gave high praise to it. Here is one journal article from Mr. Bijan Mousavi, a 2018 MASTA participant in GNSS from Iran:

By brief introduction of Mr. Xu Xin, Director of Business of Development of 21AT Company, the visit started.

Then Ms. Zhang Nannan, delivered a further detailed introduction of the company as well as Beijing series satellites. After break time, we had question and answer part, during which classmates asked all their questions and discussed with the experts of the company.

I truly believe that technical visit is very important for our participants, because it offers the practical experience of observing the new technology, applications and developed world. Through this visit, I learned some new technology and utilization which would certainly become an advantage for my upcoming days.

### Brief Introduction:

The Twenty First Century Aerospace Technology Co., Ltd. (21AT), was founded on 6th June 2001 in Beijing and it was the first and only operational commercial EO satellite operator and service provider in China. The company currently has more than 400 full-time employees. It owns and operates the Beijing series of low cost EO small satellites from its satellite control & image tasking and receiving stations. Its first satellite – Beijing-1 was launched in 2005, which was named DMC+4 and is one of five satellites in Disaster Monitoring Constellation (DMC). The second generation of Beijing series satellite is the Triple-Sat Constellation launched on 10 July 2015 which named as Beijing-II in domestic market of China.

The company is capable of providing products and services for the entire space Geo-information value chain from satellite procurement/financing, satellite housekeeping, payload & satellite resources management, tasking, data acquisition, image processing, hosting/archiving, data management/distribution, multiple satellite source integration through its web portal, sophisticated Geo-information services, to application software development and integrated solutions.



## ※ The 6<sup>th</sup> Stop: Land Satellite Remote Sensing Application Center, MNR of China Surveying & Mapping Museum of China

On April 22, 2019, 2018 MASTA and DOCSTA participants of the Centre, made a technical visit to the Land Satellite Remote Sensing Application Center and MNR of China Surveying and Mapping Museum of China. Here is one journal article from Mr. Aponte Rodriguez Jose Angel, a 2018 MASTA participant in Micro-satellite Technology from Venezuela.

"We made the tour of the facilities where we could interact with various objects and simulations such as: high resolution cameras used in remote sensing satellites, scale size of the scientific works that are carried out in the Antarctic, the history of how they were the first steps for the installation of the mapping and monitoring of the land in China and many simulations in 3D about the creation of small cities.

'Surveying or land surveying' is the technique, profession, art and science of determining the terrestrial or three-dimensional positions of points and the distances and angles between them. A land surveying professional is called a land surveyor. These points are usually on the surface of the Earth, and they are often used to establish maps and boundaries for ownership, locations, such as building corners or the surface location of subsurface features, or other purposes required by government or civil law, such as property sales.

It is important to highlight that this technical visit allowed us to strengthen the knowledge acquired during our program here in China.

After this visit, we moved to Land Satellite Remote Sensing Application Center where we received an interesting talk from Mr. Sun Lebingy and Ms. Lyu Shanshan explaining the following points: Introduction of LASAC, Natural Resources Land Satellite and their applications, International Cooperation and Prospect.

Then we made a visit to Room 207 and 307, demonstration of satellite simulation system, data management system, stereo mapping of China, the cloud service platform of natural resources satellite image and its application.

This is a very important and nutritious visit for our knowledge. Through this visit, we learned some new technology and utilization which would become an advantage for our upcoming research. "



# Poster Design Contest for Space Day of China 2019

## ※ Overview

From March to April 2019, the Centre held Poster Design Contest for Space Day of China 2019 together with Qian Xuesen Youth Academy of Space, Education Committee of Fengtai District, Beijing Institute of Education Fengtai Branch, Experimental School of Beihang University, International School, Beihang University and the Department of Industrial Design of the School of Mechanical Engineering of Beihang University jointly.

The contest focused on the theme of the jade rabbit, festival commemoration, aerospace field and more, in various forms of paintings, graphic creations, graphic posters, photo collages, etc. The aim of the contest is to stimulate personage with diverse backgrounds in China and abroad, especially young people to embrace science, explore the unknown and be eager for innovation.

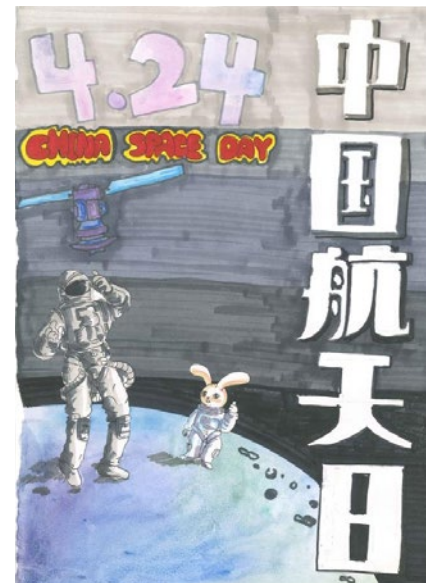
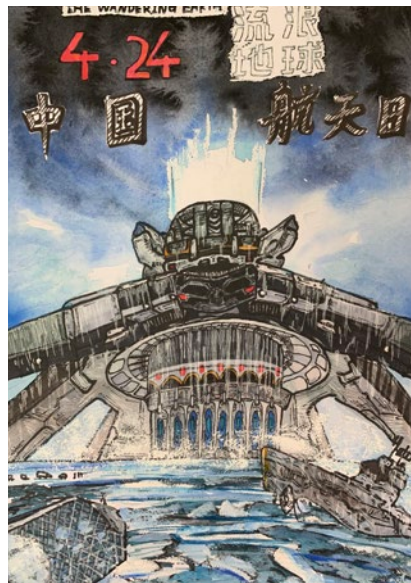
The contest has received wide attention and welcome from all walks of life. About two hundred (200) works have been received from a great many of teachers and students as well as aerospace fans of all ages all over the world.

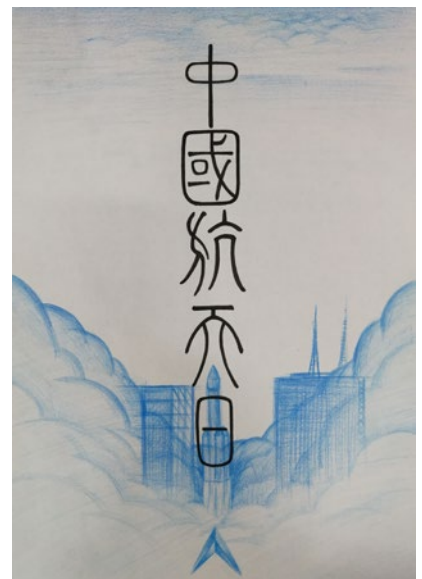
On April 16, with the ending of the contest, two (2) First Prize, four (4) Second Prize, six (6) Third Prize and forty-one (41) Winning Prize were selected after comprehensive evaluation by the contest committee.

## ※ Selected Works

### ※ Editor's Note:

On the occasion of China Space Day 2019, let's appreciate some selected amazing works together, soaring imagination of the new era in the universe and pursuing dreams about aerospace.







## Meetings

### ✧ Editor's note:

In order to follow the updates of development of the space science and technology closely, and to promote the improvement of the Centre, representatives of the Centre participate in the conference of the Committee on the Peaceful Uses of Outer Space (COPUOS) actively, promote the establishment of Alliance of Regional Centres (ARC), and provide suggestions on peaceful use of outer space. Meanwhile, the Centre tries to offer participants more opportunities to attend international conferences on Space Technology, encourages them to speak on the international stage and broadens their international horizons, which will help to expand the influence of the Centre in return.

### ✧ The 56<sup>th</sup> Session of the Scientific and Technical Subcommittee of COPUOS

From February 11 to 22, 2019, the 56<sup>th</sup> Session of the Scientific and Technical Subcommittee of United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) was held in Vienna, Austria. Mr. Weng Jingnong, Executive Director of the Centre and Dean of International School of Beihang University, attended the meeting as a member of the Chinese delegation.

The Chinese representatives introduced the outstanding work results that the Centre had achieved in 2018, and indicated that China supported actively "Programme on Space Applications" of the United Nations Office for Outer Space Affairs (UNOOSA), hoping to contribute enthusiastically our strength in the fields like space education. Representatives of Russia, South Korea, Indonesia and other countries affirmed the positive role played by "Programme on Space Applications" in helping the developing countries to promote space technology applications and capacity building, and looked forward to future cooperation with the Centre in the field of education and research.

On February 20, a work meeting of the Regional Centres organized by UNOOSA was held to discuss the issues related to Alliance of Regional Centres (Affiliated to the United Nations) (ARC) such as the establishment, agreements and operation. Mr. Shirish Ravans, Director of UN-SPIDER, Mr. Ganiyu I. Agbaje, Director of ARCSSTE-E, Mr. Weng Jingnong, Executive Director of RCSSTEAP, Mr. Igor V. Belokonov, Professor of Samara University in Russia attended the meeting. The representatives from Samara University in Russia expressed that they supported actively the suggestion made by China to establish ARC, and hoped to sign a cooperation agreement with the Centre at Beihang University so as to learn from the Chinese experience in building the Regional Centre and facilitate the establishment of a new UN Regional Centre in Russia.



## ※ Review Meeting on "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals" Session Reports

On March 12, 2019, Review Meeting on "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals" Session Reports was held at Beihang University. Ms. Jiang Hui, Division Director of Department of International Cooperation, CNSA, Mr. Zhang Zhenjun, Secretary-general of China Institute of Space Law, Mr. Zhao Yun, Professor of University of Hong Kong, and Mr. Gao Guozhu, Legal Expert of Space Law and Policy of the Centre, were invited to hold the post of expert jury. The meeting was hosted by Mr. Weng Jingnong, Executive Director of the Centre and Dean of International School, Beihang University.

The Review Meeting was divided into two sessions: candidate presentation and jury questioning. The outstanding participants selected would attend the meeting and deliver reports. After free application, there were sixteen (16) participants of the Centre from nine (9) countries participated in the selection. The reports was required to take actual space development, technology requests, international cooperation, laws and regulations of the home country as entry point, and explain how to contribute to the implement of "2030 Sustainable Development Agenda", to accelerate the solutions of capacity building problems in space science and technology, and to promote the integrating development as well as the mutual improvement of all the countries in the world.

The experts gave detailed and pertinent remarks on the defense of the participants from the aspects of topic selection, contents, logical structure, lecture performance, speech draft production, etc., hoping that they could focus on the theme, think deeply, clarify the points, enrich arguments and contents, attach full importance to the innovation so as to deliver a wonderful speech with clear ideas in a limited time.

From April 24 to 27, 2019, China National Space Administration (CNSA) will hold "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals" jointly with United Nations Office for Outer Space Affairs (UNOOSA). As a part of "Space Day of China" series of activities, the forum is aimed to build a bridge between user demands and solutions in spatial domain, using the aerospace technologies to facilitate the realization of the sustainable development goals of each country. The activity was listed as the flagship conference of UNOOSA. The Centre will select and send representatives to attend the meeting in the hope of providing a good platform for the participants to have their voice heard in international conferences.



## ✧ United Nations/Jordan Workshop: Global Partnership in Space Exploration and Innovation

From March 25 to 28, 2019, United Nations/Jordan Workshop: Global Partnership in Space Exploration and Innovation was held in Amman, Jordan. The workshop was co-organized by United Nations Office for Outer Space Affairs (UNOOSA) and Regional Centre for Space Science and Technology Education for Western Asia (RCSSTEWA). More than two hundred (200) scientists, engineers, educators and government representatives from forty-three (43) countries attended it to discuss how to create new global partnership, construct a new model in space exploration international cooperation so as to support the implement of "2030 Sustainable Development Agenda" and benefit all human beings. Mr. Weng Jingnong, Executive Director of the Centre and Dean of International School of Beihang University was invited to attend the workshop.

During the meeting, Mr. Weng Jingnong delivered a report titled "ARC-New Global Partnership for SDG and SPACE2030" and Ms. Cui Yizhuo reported on "Promoting Women in Space Application Education", elaborating on the thinking and suggestions about how to optimize the global partnership network from respectively two aspects: Alliance of Regional Centres (Affiliated to the United Nations) (ARC) promoting the sustainable development and RCSSTEAP playing an active role in educating female space science and technology talents.

On the afternoon of March 25, UNOOSA organized Meeting of the Directors of the Regional Centres for Space Science and Technology Education (Affiliated to the United Nations) to discuss the future development of ARC. Ms. Simonetta Di Pippo, Director of UNOOSA, Mr. Ganiyu I. Agbaje, Director of ARCSSTE-E, Mr. Anas Emran, Director of CRASTE-LF (Morocco), Mr. Awni Khasawneh, Director of RCSSTEWA, Mr. Weng Jingnong, Executive Director of RCSSTEAP, Ms. Jiang Hui, Division Director of Department of International Cooperation, CNSA attended the meeting. Mr. Senthil Kumar, Director of CSSTEAP joined the meeting through Skype. The meeting was hosted by Mr. Ibrahim Albaddawi, Vice Director of RCSSTEWA.

During the meeting, Ms. Simonetta Di Pippo highly appreciated the contribution made by the Regional Centres to cultivate young space science and technology talents. She pointed out that the initiative of ARC provided a good platform for each Regional Centre to gather force and share resources. The Regional Centres has jointly conducted plenty of fruitful work in the hope that the construction and development of the courses could be innovative and keep pace with times. The Directors of the Regional Centres briefly introduced the work progress of their Centres for the past one (1) year and expressed their expectation to enhance continuously the cooperation in resource sharing, course construction, exchanges and training. Meanwhile, Mr. Weng Jingnong indicated that, covering seventy-three (73) countries, ARC, as a new-type partnership, would have positive influence in the sustainable development in space science and technology. He suggested that ARC should build an optimized operation mechanism under the direction of UNOOSA, and attend related meetings as observer of UNCOPUOS.

On the afternoon of March 28, the Chinese delegation visited Jordan University of Science and Technology, and conducted deep communication with its President around the topic of improving the exchange of professors and students .



## ※ The 58<sup>th</sup> Session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space



From April 7 to 12, 2019, Professor Gao Guozhu, Legal Expert of the Centre and the General Coordinator of Space Law and Policy, attended the 58<sup>th</sup> session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS).

During the session, in addition to listening to the deliberations of the Legal Subcommittee on related issues, Professor Gao Guozhu met with Dr. Niklas Hedman, Head of the Policy and Legal Affairs Department of the United Nations Office for Outer Space Affairs (UNOOSA), and introduced the recent work of Centre, especially the basic situation of enrollment, curriculum and training of MASTA Programme in Space Law and Policy in 2018.

During the session, Professor Gao Guozhu also exchanged opinions on related cooperation matters with a number of space law scholars, such as Mr. Armel Kerrest, professor of University of Western Brittany, France, Mr. Steven Freeland, professor of University of Western Sydney, Australia, Mr. Philippe Achilleas, professor of Université Paris-Sud, and Ms. Setsuko Aoki, professor of Keio University, Japan.

## ※ United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals

On April 24, 2019, the ceremony of Space Day of China was held in Changsha, Hunan. The main celebrations were hosted by the Ministry of Industry and Information Technology (MIIT), the State Administration of Science, Technology and Industry for National Defense (SASTIND), China National Space Administration (CNSA), and the Hunan Provincial People's Government. Mr. Tao Zhi, Director of the Centre and Vice President of Beihang University, led the delegation to attend the meeting.

During the celebration days, "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals" was held. The Centre was invited as a support unit to participate in the exhibition, presenting educational concepts and achievements of internationalization of the Centre with more than three hundred (300) representatives from more than fifty (50) countries around the world and exploring the new model of "wide consultation, joint contribution and shared benefits". It sought to write a new chapter of win-win cooperation, which received wide attention and praise from the participants.

On the afternoon of 24<sup>th</sup>, Ms. Simonetta Di Pippo, Director of the United Nations Office for Outer Space Affairs (UNOOSA), and Mr. Wu Yanhua, Secretary General of CNSA, visited the booth of the Centre and exchanged views with Mr. Weng Jingnong, Executive Director of the Centre and Dean of International School, Beihang University as well as representatives of outstanding participants of the Centre. Ms. Simonetta Di Pippo spoke highly of the achievements of the Centre. She thanked the Chinese Government and Beihang University for their prominent contributions in promoting the Centre's development and international space personnel

training. She hoped that the Centre would continue to enrich the form of and content of cooperation, building a new type of partnership. Mr. Wu Yanhua thanked UNOOSA for its attention to the Centre and said that the government would continue to support the work of the Centre, promote the sustainable development of space, and help China and other developing countries work together to build a community of shared future for mankind.

From 25<sup>th</sup> to 26<sup>th</sup>, Mr. Weng Jingnong and two (2) representative participants, Ms. Arpawadee Nuntree and Mr. Gabriel Andres Jaimes Illanes, made a meeting report respectively. They took space users and solutions as the core point, sharing new concepts, new ideas and new programs to promote the implementation of "Space2030" agenda.

The theme of "Space Day of China" in 2019 is "Pursue space dream for win-win cooperation", aiming to call on the vast number of scientific and technological workers as well as space workers to make arduous efforts, striving to become the dream seekers and dedicators of the new era. With the rest of the world, China would like to contribute more Chinese wisdom for the peaceful use of space and the promotion of human well-being.



## Education and Training Programs

### ✧ Editor's note:

Educational training is the core of the Centre work, which includes postgraduate degree programs and short-term training programs. In 2019, the Centre provides three (3) educational fields for postgraduates: Remote Sensing and Geographic Information System (RS&GIS), Satellite Communications and Global Navigation Satellite System (SC&GNSS) and Micro-satellite Technology.

In order to share the resources, promote the efficiency, and enjoy a win-win cooperation, the Centre jointly organized short-term training programs with its partners and other Regional Centres and began to carry out science education training for young people, which gained expanding influence.

### ✧ Admission Interview for Programme on Space Technology Applications 2019

Starting from April 2019, the enrollment of Programme on Space Technology Applications 2019 has officially launched. The Centre promoted this programme through recommendation of the other Regional Centres, Asia-Pacific Space Cooperation Organization (APSCO), partners of the Centre and the publication of the Admission Brochure on the Centre's official website, etc. The enrollment mainly targeted on recommendation of the Member States of the Centre, APSCO and Centres' partners. By April 2019, the Centre received one hundred and eleven (111) recommendations, including fifty-two (52) from APSCO, thirty-one (31) from the Member States of the Centre, two (2) from another Regional Centre (CRASTE-LF), six (6) from self-registration and seven (7) from other channels.

From March to April 2019, staff of the Centre and APSCO conducted a preliminary review of the applicants' materials. After the initial review of the materials, a total of forty-six (46) candidates recommended by APSCO Member States (Bangladesh, Iran, Mongolia, Pakistan, Peru, Thailand and Turkey) and thirty-eight (38) recommended by the Centre and other channels participated in the online interview. More than ten (10) professors from Beihang University in Satellite Communications, GNSS, RS&GIS and Micro-satellite Technology, as well as foreign experts from APSCO attended in the interview.

The online interview was divided into two (2) parts: self-introduction and Q&A. The judges followed the principle of "fairness, justice and openness" and scored on the basis of four (4) aspects: language communication ability (30%), professional background (30%), education and work experience (20%) and Q&A/others (20%). The interview time was fifteen (15) minutes per person. Through material review and online interview, the experts conducted a comprehensive assessment of the candidates' professional background, work and training experience, learning ability, understanding of the intended major, study plan, English proficiency and communication skills, etc.

Programme on Space Technology Applications is a degree programme of the Centre. Graduates will be awarded Master's/Doctoral degree of Beihang University. This programme is supported by Chinese Government Scholarship, Beijing Government Scholarship and Beihang Scholarship. In 2019, this programme provides three (3) educational fields for forty (40) masters and ten (10) doctors in the directions of Satellite Communications and Global Navigation Satellite System (SC&GNSS), Remote Sensing and Geo-information System (RS&GIS), Micro-satellite Technology.



## ❖ Midterm Assessment

In late March 2019, the midterm assessment of MASTA 2017 was held at the Centre. Forty (40) Master's candidates, majoring in Global Navigation Satellite System (GNSS), Remote Sensing and Geographic Information System (RS&GIS) and Micro-satellite Technology, did reports on their research progresses. Then, the supervisors gave comments and suggestions upon the their reports. These participants will graduate in June 2019.



## ※ Proposal Defense of Team Pilot Project

In the spring semester of 2019, thirty-three (33) participants of MASTA 2018, majoring in Global Navigation Satellite System (GNSS), Remote Sensing and Geographic Information System (RS&GIS) and Micro-satellite Technology, started their Team Pilot Project (TP). Arranged at the end of the first semester's theory learning, TP adopts the way of team cooperation. Two (2) to five (5) participants will be grouped into one team out of their research interests. They will be given three (3) months to complete this project. TP focuses on improving participants' competence of using theoretical knowledge and skills they have learnt to solve practical problems as well as developing their spirit of teamwork.

The proposal of TP was organized by the Centre in mid-March. It is supposed to be completed at the end of May.

## ※ The 2<sup>nd</sup> BeiDou Short Training Program of China-Arab States BDS Cooperation Forum

In order to promote the satellite navigation cooperation between China and Arab, the Second China-Arab States BDS Cooperation Forum was successfully held in Tunisia City of the Republic of Tunisia on April 1, 2019 according to the Action Plan of China-Arab States Cooperation Forum from 2018 to 2020. This was the first time that BDS has its own important activity in the countries along the Belt and Road and in neighboring regions since it provided global services.

Media Reports:

### 1. Beihang University

The 2<sup>nd</sup> BeiDou Short Training Program of China-Arab States BDS Cooperation Forum Was Held in Tunisia

President Xi Jinping proposed "to ensure the smooth flow of talents and ideas along the Belt and Road" in his report delivered at the Arab League Headquarters in 2016. In order to implement President Xi's proposal, the 2<sup>nd</sup> BeiDou Short Training Program of China-Arab States BDS Cooperation Forum was held in Tunisia from April 1 to 2, 2019.

Dean of International School, Dean of BeiDou Belt&Road School, professors of School of Electronic and Information Engineering as well as School of Transportation Science and Engineering participated in this BeiDou/GNSS short training program as the representatives of BeiDou International Exchange Training Center and Beihang University together with the Arab Information and Communication Technology Organization. During the training, thirteen (13) experts from China delivered thirteen (13) reports, introducing the fundamentals of Satellite Navigation System, BeiDou and Geographic Information, BeiDou and Precision Agriculture, the trends of Micro-satellite technology, BeiDou Education and Training capacity building and BeiDou products and application system experiences to forty-eight (48) participants from Arabian countries such as Algeria, Egypt, Iraq, Mauritania, Tunisia. A visit to BeiDou/GNSS Center in Tunisia was organized during the training. The objective was to promote the understanding, perception and applications of BeiDou and other GNSS systems among Arabian users, and make full use of this training program to facilitate the promotion and application of BeiDou and other GNSS systems in Arab region.

Before the training, Mr. Weng Jingnong issued the pre-admission letters to three (3) candidates who were going to pursuing Master's Degree on Space Technology Applications in China during the opening ceremony of the 2<sup>nd</sup> China-Arab States BDS Cooperation Forum. He also attended the High-end Dialogue Session. This training program was appreciated by all parties. The representatives who attended it showed great interest in





BeiDou system technology and applications. The training will contribute to the project that aims to enhance the friendship between China and Arab region, and improve the joint cultivation of professional technical talents in the field of satellite navigation between China and African/Arabian countries.

(<https://news.buaa.edu.cn/info/1002/48081.htm>)

## 2. BeiDou Navigation Satellite System

Interview | Weng Jingnong: Promoting Cooperation between China and Arab Countries in the Field of Talent Cultivation

On April 2, 2019, in order to let the Arab personnel know more about BeiDou and better apply BeiDou, thematic training on GNSS was organized during the 2<sup>nd</sup> China-Arab States BDS Cooperation Forum. This is also the 3<sup>rd</sup> thematic training activity held by BeiDou/GNSS Center of China-Arab. Experts and scholars from Beihang University, China Agricultural University and BeiDou superior enterprises, delivered lectures on the topics about the basic principles of satellite navigation, BeiDou and geographic information, BeiDou and precision agriculture, new technology of micro-satellites, BeiDou education and training capabilities construction, BeiDou products and application system experience. Forty-eight (48) participants from various Arab countries including Algeria, Egypt, Iraq, Mauritania and Tunisia participated in the training. Reporters from BeiDou.com interviewed Mr. Weng Jingnong, Director of BeiDou International Exchange and Training Center, China Satellite Navigation System Management Office.

**Reporter:** The China-Arab Cooperation Forum held a one-day education and training program in Tunisia. Would you please introduce the features of it?

**Mr. Weng Jingnong:** BeiDou International Exchange and Training Center of China Satellite Navigation System Management Office has been actively promoting education and training activities for Arab countries. In April 2018 and September 2018, the Center held two (2) BeiDou education and training activities in Tunisia and Sudan. In this training, a total of five (5) BeiDou new technology training reports and eight (8) business-oriented BeiDou new application sharing reports were arranged, and BeiDou product booth demonstration activities were held. The purpose is to provide participants with a deeper understanding of BeiDou System principle and application technology through training activities.

**Reporter:** For the first time, this year's forum has released five Chinese scholarships for international students in the Arab countries majoring in space technology applications. Would you please talk about the specific situation?

**Mr. Weng Jingnong:** In response to President Xi Jinping's initiative on "hundred, thousand and ten thousand" project between China and Arab countries, Beihang University decided to set up a special enrollment plan for Arab countries. In 2019, it plans to provide five (5) quotas of Chinese Government Scholarship to candidates in Arab countries who pursue a master's degree in space technology applications. We issued the above notice on January 18, 2019, and communicated with relevant organizations through the League of Arab States in China. Six (6) applications from Algeria, Egypt and Libya were received as of March 15. After a video interview, three (3) students from Algeria and Egypt were admitted. We hope to cultivate BeiDou overseas talents through this program.

**Reporter:** Education and training is an important part of China-Arab cooperation. What role do you think that these training have played in promoting cooperation between China and Arab countries?

**Mr. Weng Jingnong:** When Chinese President Xi Jinping visited the Arab League Headquarters in January 2016, he proposed that "In order to ensure the smooth flow of talents and ideas along the Belt and Road, we will implement the 'hundred, thousand and ten thousand' project for enhancing China-Arab friendship". education and training program on GNSS is also the clear priority cooperation project in the memorandum of understanding on cooperation between China and Arab countries. The education and training program will closely cooperate with the theme of "cooperation, application and service" of the forum. We will actively advance China-Arab cooperation in the field of personnel training through degree programs, promote the understanding of application of BeiDou Satellite Navigation System through short-term education and training activities, and provide services for the companies to go out globally by means of the BeiDou application experience activities.

**Reporter:** What achievements have been made in the Center in terms of foreign education and training?

**Mr. Weng Jingnong:** Since its establishment in 2012, the Center has organized eighteen (18) short-term training programs on satellite navigation technology and application through cooperation with enterprises, government departments, research institutes and famous universities in China and overseas. Over eight hundred (800) participants from more than forty (40) countries attended the programs. At the same time, domestic experts were selected to give lectures in Tunisia, Sudan, Morocco, Egypt, Nigeria, Australia, Croatia, Singapore, Pakistan, Indonesia, Thailand, Bangladesh, Brazil and other thirteen (13) countries to carry out training programs. In addition, we have a series of English textbooks and handouts for these programs, which have become an important base for training talents of BeiDou satellite navigation technology and application. In recent years, ninety-six (96) master's candidates and more than forty (40) doctoral candidates have graduated from the Center, who are now overseas high-level talents for the BeiDou satellite navigation system.

([http://www.beidou.gov.cn/yw/xwzt/dejzabdhzlt/gdxw/201904/t20190404\\_17743.html](http://www.beidou.gov.cn/yw/xwzt/dejzabdhzlt/gdxw/201904/t20190404_17743.html))

## Cooperation and Exchanges

### ✧ Editor's note:

In order to expand its influence and promote long-term sustainable development, the Centre actively promote communication and cooperation with other countries, seeking new partners. On April 2019, Mr. Wang Haitao, vice president of SuperMap Group and president of SuperMap International visited the Centre and hoped to cooperate with the Centre to contribute to the cultivation of space technology talents. In the same month, Ms. Nivin Hasan, Deputy Director of RCSSTEWA, exchanged views on talent training with Mr. Weng Jingnong, Executive Director of the Centre and Dean of International School, Beihang University, and hoped to enhance communication in the future and achieve win-win development.

### ✧ President of SuperMap International Limited Visited the Centre

On April 18, 2019, Mr. Wang Haitao, Vice President of SuperMap Software Co., Ltd. and President of SuperMap International Limited, and Ms. Sun Liping, General Manager of the Regional Center visited the Centre. Mr. Weng Jingnong, Executive of the Centre, Ms. Tan Yumin, expert of RS&GIS of the Centre, and Ms. Guo Yuanyuan, Program Director of the Centre warmly welcomed the guests.

Mr. Wang Haitao and Ms. Sun Liping introduced the structure, philosophy and core values of SuperMap, as well as GIS Platform Software Business, GIS Application Business, GIS Cloud Service & Big Data Business, International Business. Mr. Weng Jingnong briefly introduced the development history, characteristics of talent cultivation, curriculum construction and international cooperation of the Centre. The two sides expressed the hope that they would make full use of advantages respectively, and build a laboratory jointly, set up student practice bases, and jointly organize short-term training programs to contribute together to the cultivation of space technology talents while promoting Chinese GIS software to go globally.

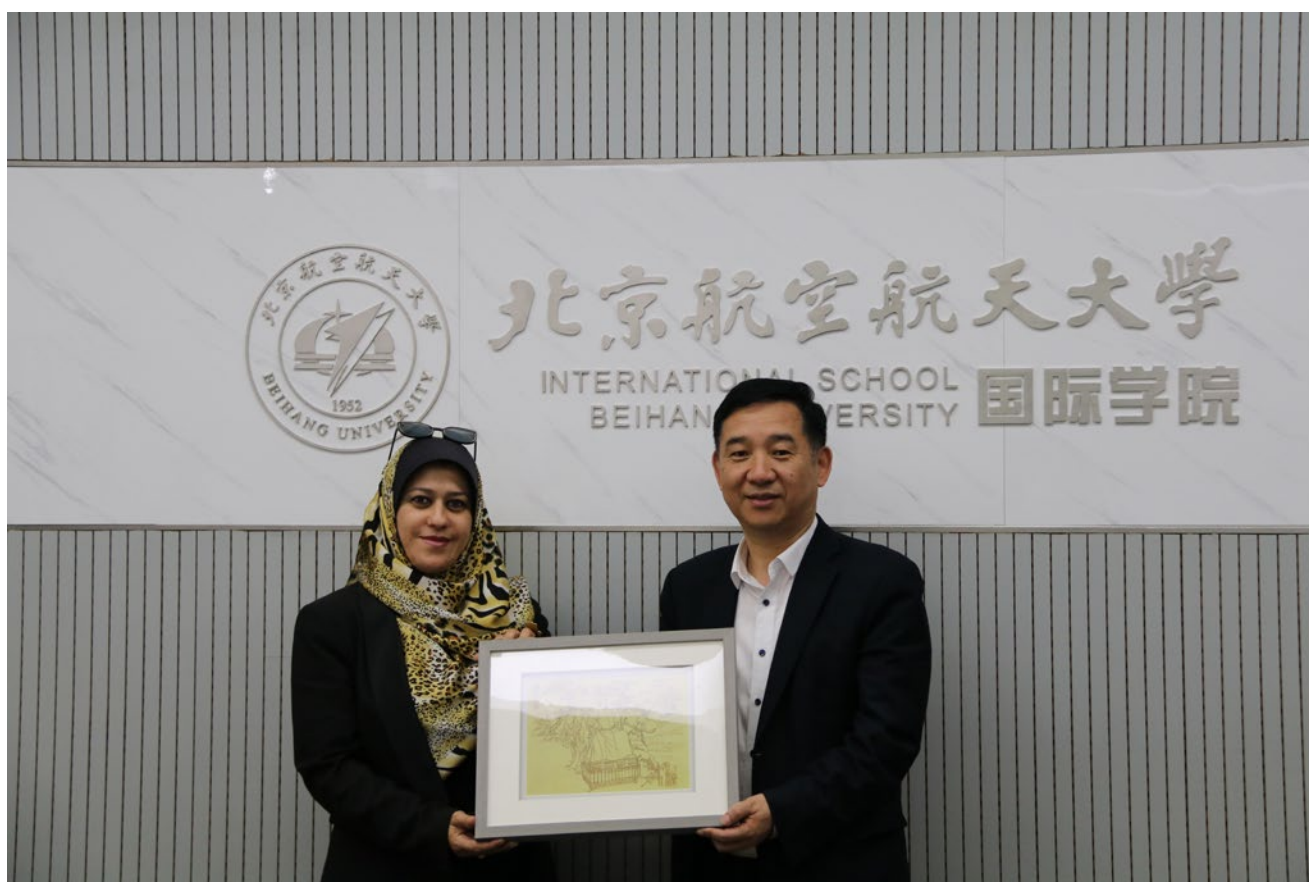


Subsequently, the guests visited the computer lab, distance education and video conference room, RS&GIS lab, STA library, publication show window, participant archive shelves, etc.

SuperMap GIS is developed by SuperMap Software Co., Ltd. and it is a complete integration of a series of GIS platform software, including Desktop GIS, Service GIS, Component GIS and Mobile GIS platforms and spatial data production, processing and management tools. Through continuous technological innovation, market exploring and experiences accumulation, SuperMap GIS has constructed a good GIS software brand with full angle, and strong functions which can meet different requirements for a wide range of industries, and it has been deeply applied in each GIS industry in China, inspiring a large number of secondary development companies.



## ✧ Deputy Director of RCSSTEWA Visited the Centre



On April 29, 2019, Ms. Nivin Hasan, Deputy Director of RCSSTEWA, visited the Centre. Mr. Weng Jingnong, Executive Director of the Centre, Ms. Tan Yumin, expert in RS&GIS and Ms. Guo Yuanyuan, Project Director of the Centre, warmly welcomed the guest. Two sides exchanged views on personnel training, exchange of visits, short-term training, etc., and hoped to strengthen cooperation in the future to achieve win-win development.

Regional Centre for Space Science and Technology Education for Western Asia (RCSSTEWA) was inaugurated on May 29, 2012 at the Royal Jordanian Geographic Centre (RJGC) in Amman, Jordan. It assists Member States in enhancing indigenous capabilities in different areas of space science and technology that have the potential to advance social and economic development. It provides in-depth education, research and application programmes with an initial emphasis on space-based remote sensing, satellite communications, satellite meteorology and space sciences.

## Participants' Forum

### ✧ Editor's note:

From April 24 to 27, 2019, UN/China Forum on Space Solutions: Realizing the Sustainable Development Goals, jointly organized by China National Space Administration (CNSA) and the United Nations Office for Outer Space Affairs (UNOOSA), was held in Changsha, Hunan. This conference was one of the activities of "Space Day of China". It attracted more than three hundred (300) representatives from more than fifty (50) national government departments and more than ten (10) international organizations. The aim was to build the bridge between the needs of space users and space solutions, using astronautical technology to help achieve the sustainable development goals of all countries. The event was listed as the flagship meeting of UNOOSA this year. The Centre selected fourteen (14) participants to attend the conference, providing a good platform for the participants to speak at the international conference.

### ✧ Experiencing "Space Day of China"

✧ I am pretty glad that we all acquired more knowledge and networking skills after attending those events, plus we also got to see the beautiful city of Changsha in Hunan Province. Thanks to Beihang University and RCSSTEAP for this opportunity!

✧ International conferences are great opportunities to connect with attendees from different perspectives and views, learn from them, make new relationships, and strengthen existing ones.

✧ This conference provided me excellent learning opportunity related to space activities and towards the realization of United Nations Sustainable Development Goals. I really appreciate this solid platform to gather and learn from experts in this very field, meeting with professionals and acquiring knowledge about related fields and professionalism.

✧ It is a very good training for me. As a participant of such kind of program, I have gathered a lot of knowledge and experiences. I had a good opportunity to meet with different people from different fields. Meeting with this people and sharing knowledge always improve our experience and knowledge. There were gathering of people from governmental and Non-governmental organizations. By talking with them, I have learned how they are dealing with space activities and pursuing their space goals.

✧ As a student of Space Technology, I found this event a great opportunity in terms of experience and knowledge. It was a perfect platform to witness international and national experts, collaborating for development and peaceful use of Space. Numerous works and ideas were presented during the proceeding.

✧ Being part of this mega event and representing my Centre and university was an excellent experience. I have learnt many new things in this event and tried my best to represent my Centre and university in the best possible manner. I am looking forward to taking part in such activities in the future to contribute in success of my Centre.

✧ It was an unforgettable experience and I'm really grateful to the Centre to support us to make part of this prestigious celebration and also to be able to see closely China's impressive development in the space industry.

※ I cannot thank the Management and Staff of RCSSTEAP enough for their wisdom and competence applied on the whole process of how the whole things were conducted for the success of this mighty United Nations/China Forum on Space Solutions, the first of its kinds held in Changsha, Hunan Province of China.

※ It was the biggest opening ceremony that I had experienced in my life, this big event for Space Day of China and the number of guests in that ceremony shows how much space is important for Chinese people and the government. I really liked the parts that children were engaged in that kind of big event. I hope I could see moments like this one day in my country.

※ I got more my own perspective and more ambition to make policy to drive space and satellite to be sustainable for other people in the world not only in Thailand. The real issue in accessibility in Space technology is also politic. I think the good policymakers have to find out the ways to solve the problem and I have been to go on to solve this issue and space cooperation. The forum made people in space industries become closer and make possibility to better cooperation.

※ I would like to say that it was a great experience ever and earn knowledge about space technology application realizing SDGs, culture of China, history of China and beautiful site seen of Changsha, Hunan.

※ From this event I gained unforgettable experiences, generated relevant knowledge, and coexist with representatives of actual space technology industry focused on criteria to support initiatives as UN - Agenda 2030. Consequently, I give my sincerely thanks to Beihang University and RCSSTEAP for this opportunity.

※ After attending to the United Nations/China conference, I learnt so much. This event was rich in content and valuable in creating better understanding the space solutions on realizing the sustainable development goals.



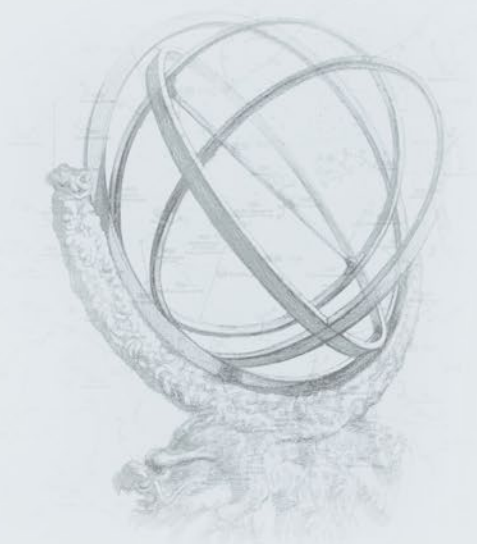
## Additional Words

In this episode, News Letter records the main works of the Centre from March to April, 2019, including Journey of Chinese Space and Culture 2019, Poster Design Contest for Space Day of China 2019, online interview for 2019 new participants, etc.

This episode contains a new column named "Participants' Forum", publishing some of the testimonials of participant representatives who have attended "United Nations/China Forum on Space Solutions: Realizing the Sustainable Development Goals" in the hope to share and communicate with the readers as regards the new ideas about how to promote the implementation of the sustainable goals of the United Nations.

This year is the fifth anniversary of the Centre, and also a new historical beginning. Looking back to the past, we have achieved countless fruits; looking forward to the future, we are full of confidence. We are sincerely grateful for your constant support and concern, and we are willing to hear your precious suggestions and opinions. Thanks to you, we have new expectations.





联合国附属空间科技教育亚太区域中心（中国）  
Regional Centre for Space Science and Technology Education in Asia and the Pacific (China)  
(Affiliated to the United Nations)