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Exchange · Promotion · Development



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

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RCSSTEAP

联合国附属空间科学与技术教育亚太区域中心（中国）

Regional Centre for Space Science and Technology Education in Asia and the Pacific(China)

(Affiliated to the United Nations)

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Preface

Humans are always brimming with endless curiosity and imagination of the outer space since ancient time, thus the exploration has never been ceased. In ancient China, rich records have been inherited through observations on the earth by human beings, and numerous unique observation devices have been established, which have become a prominent part of Chinese cultural treasury. Today, we look into the earth from the outer space and further the recognition of the space, and meanwhile, we explore the sky by entering the space, going extra miles on exploring the universe and striding forward to the better achievements.

As the Regional Centre on space science and technology education affiliated to the United Nations, we have well-aligned implemented every work according to the requirement of the Governing Board since November 2014, the establishment of the Centre. Until now, the admission of the degree programs on three majors has completed, and 42 applicants have been accepted. The first short training program on satellite navigation technology and applications has completed successfully. The first Painting Exhibition on China's space exploration, flying with the wings of art will be shown in the COPUOS as scheduled.

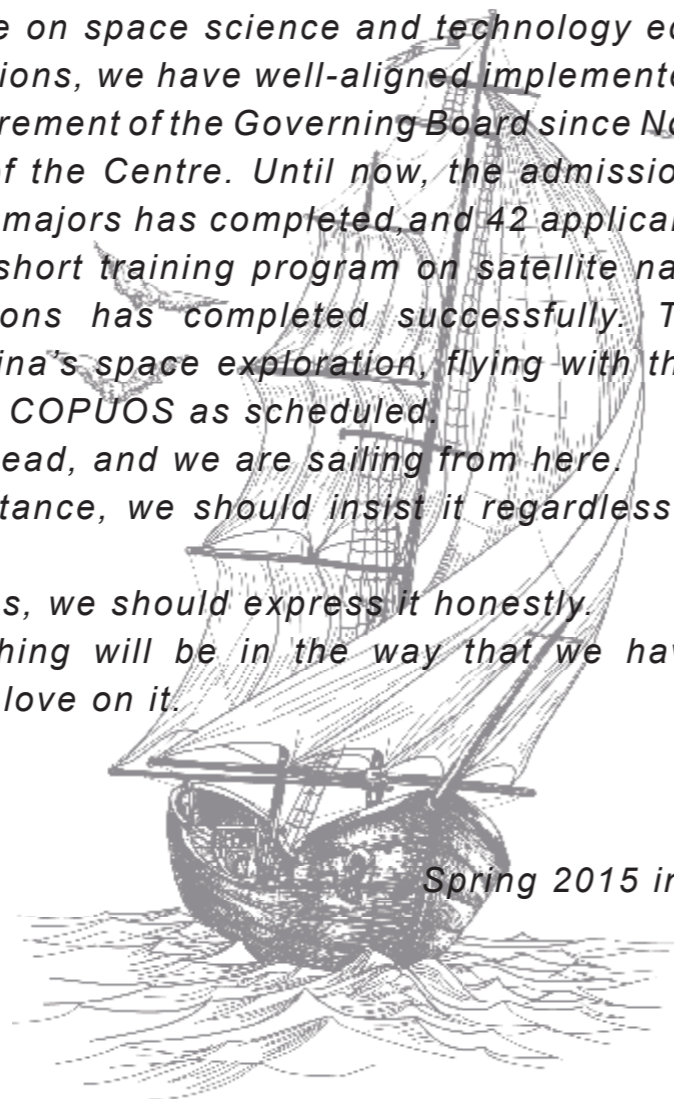
There is a long way ahead, and we are sailing from here.

We choose the far distance, we should insist it regardless of wind and rain.

We are so fond of roses, we should express it honestly.

We do believe everything will be in the way that we have been expected due to our deep love on it.

*Editor
Spring 2015 in Beijing*



Special Focus on IASA 2015

General Information

The International Aerospace and Satellite Applications (IASA) Training program (2015), which is organized by Beihang University, Regional Centre for Space Science and Technology Education in Asia and the Pacific (China) (affiliated to the United Nations), China Great Wall Industry Corporation (CGWIC) and Beidou International Exchange and Training Center, has been successfully held at Beihang University from April 20th to 29th, 2015.



International Aerospace and Satellite Applications (IASA)
Training Program (2015)



This training program focused on the Satellite Navigation Technology and Application. The program invited 14 experts from Croatia, France, domestic universities, Satellite Navigation Companies and research institutions as lecturers. 50 trainees from 15 countries participated in the training program. 20 of them are from member states of the Centre and Countries of Association of Southeast Asian Nations (ASEAN), including Algeria, Brazil, Bolivia, Myanmar, Croatia, Indonesia, Laos, Pakistan, Slovakia, Thailand, Turkey and Venezuela. In addition, 30 graduates majoring in International Space Technology Application and staff of relevant scientific research institutions participated in the program as well. The content of the training program covered theory of Satellite Navigation, software, hardware and applications, containing relevant skills of systematic design, groundwork and air work strengthen, terminal and algorithm and application technology. The training program included lectures, practice training, technical visits and communication among trainees.

The training program was supported by Ministry of Foreign Affairs of China, Ministry of Industry and Information Technology of China, China National Space Administration, China Satellite Navigation Office and Ministry of Science and Technology of China as well as relevant companies including National Disaster Reduction Center of China, Beijing BDSStar Navigation Co., Ltd., Beijing UniStrong Science & Technology Co., Ltd. and Beijing SuperMap Software Co., Ltd.

Opening Ceremony

The opening ceremony of IASA (2015) was held at the 8th conference room of New Main Building at Beihang University in the morning of April 20th, 2015. Mr. Tao Zhi, Vice President of Beihang University, Mr. Yin Liming, President of China Great Wall Industry Corporation (CGWIC), representatives of experts, all the participants as well as representatives from Department of Military-Civil Technology Integration of Ministry of Industry and Information Technology of the People's Republic of China(MIIT), China National Space Administration(CNSA) and the National Disaster Reduction Center of China (NDRCC) attended the opening ceremony. The ceremony was hosted by Mr. Weng Jingnong, Executive Director of the Regional Centre and Dean of the International School of Beihang University.

Mr. Tao Zhi delivered a speech on behalf of Beihang University and the Regional Centre. He expressed a warm welcome to all the guests and participants, and sincerely expressed his appreciation to the great support to the Regional Centre from MIIT, CNSA, China Satellite Navigation Office (CSNO), CGWIC and other partners. He hoped the program would give participants an in-depth understanding of the latest research and practical achievements of China aerospace and satellite application technology, and promote exchanges among international space communities. He also expected the program to strengthen mutual trust and cooperation in this field. He believed all of the participants could benefit a lot from the program not only in academic issues, but also in practical aspects.



Experts

Five-day lectures was carried out in the program which consist of four units every day. The program has invited 14 experts from domestic and international universities, relevant scientific research institutions, government and companies, including Prof. Renato FILJAR from University of Rejeka, Dr. Christophe MACABIAU from ENAC, Researcher Jing Guifei from National Remote Sensing Center of China, Prof. Han Chunhao form Beijing Satellite Navigation Center, Prof. Dang Yamin from Chinese Academy of Surveying and Mapping, Dr. Zhang Lei from Beijing Institute of Technology, Mr. Xu Jiang, CEO of Homcom Technology Co., Ltd., Associate Prof.Li Suju and Dr. Liu Ming from National Disaster Reduction Center of China, Prof. Jin Shuanggen form Shanghai Astronomical Observatory, and Prof. Qin Honglei, Prof. Yang Dongkai, Associate Prof. Jin Tian, Associate Prof. Wu Falin, Dr. Xiu Chundi, Dr. Zhang Bo from Beihang University.



Prof. Han Chunhao form Beijing Satellite Navigation Center



Prof. Jin Shuanggen form Shanghai Astronomical Observatory



Prof. Jin Tian from Beihang University.



Jing Guifei from National Remote Sensing Center of China



Prof. Li Suju from National Disaster Reduction Center of China



Dr. Liu Ming from National Disaster Reduction Center of China



Dr. Christophe MACABIAU from ENAC



Mr. Xu Jiang, CEO of Homcom Technology Co., Ltd



Dr. Zhang Lei from Beijing Institute of Technology

Participants' Forum

In order to increase the mutual understanding, communication and cooperation, a forum was arranged for the trainees of the program. Representatives of trainees from Algeria, Bangladesh, Brazil, Bolivia, Myanmar, India, Indonesia, Nigeria, Pakistan, Slovakia, Turkey, Thailand and Venezuela had full communication on the current situation, development trend and focus of attention of satellite navigation technology and applications.

RCSSTEAP



Algeria Ms. SEKKOUR Khadidja



Pakistan Mr. Danish Anis Khan



Brazil Mr. Geovany Araujo Borges



Bolivia Mr. Martin Guillermo Garcia Vasquez



Bangladesh Mr. Sanjeev Delwar



Indonesia Mr. Dwiko Unggul Prabowo



Nigeria Mr. Echoda Ngbede Joshua Ada



Thailand Mr. Suramongkong Siripon



Turkey Mr. Okan Emre OZEN

Technical and Cultural Visits

Two half-day technical visits and half-day culture visits were arranged during the training. The participants visited Beijing Supermap Software Co.Ltd , Beijing UniStrong Science & Technology Co., Ltd , Beijing BDStar Navigation Co.Ltd, and the Summer Palace. The visits have deepened the participants' knowledge of China satellite navigation companies and products, and user experience of Beidou. Meanwhile, the understanding to Chinese culture has been increased.



Closing Ceremony

The closing ceremony was hosted by the Executed Director of RECSSTEAP, Dean of the International School of Beihang University, Mr. Weng Jingnong. Representatives of China Great Wall Industry Corporation, Beihang University and experts, all participants and volunteers attended the ceremony. Mr. Shirish Ravan, Head of UN-SPIDER Beijing Office delivered a speech. As the representative of the organizing committee, Dr. Xiu Chundi summarized in the ceremony. In the end, Mr. Shirish Ravan and Mr. Weng Jingnong issued the certificates to the trainees, experts and volunteers.



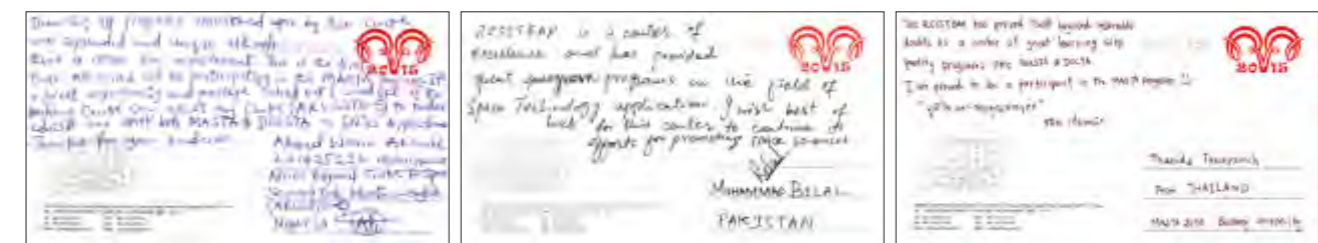
To explore the mysteries of science, you will be one of the most strong sails in the scientific oceans

The vastness of the universe, you will become the most shining star in the universe in the galaxy

Feedback from the participants

The organizing committee designed a questionnaire to know the comments and suggestions to the program schedules and arrangements from the trainees. The trainees filled out the questionnaires seriously. The feedback is as follows.

- ◆ All the lectures are useful to us, but if we can extend the training cycle to get more practice, it would be perfect.
- ◆ All of the lectures are useful and the experts have delivered the presentations well.
- ◆ This training was a really good experience. It was well organized, and the topics were very interesting for me.
- ◆ All lectures are very useful. Thanks for the great program make me more knowledgeable.
- ◆ The best seminar about the satellite navigation technology and application.
- ◆ Overall the program was very good and performed very well above average.
- ◆ In my opinion, the program was just perfect. It definitely achieved its goal of providing a comprehensive overview on some areas of GNSS theory, hardware and software, as well as applications.
- ◆ The program was very much useful for the GNSS users. It represented the status of GNSS technology in China as well as the world, It was well arranged and the lecturers provided their topics with the latest technological advancement. All the lecturers were very friendly and delivered their lectures with excellent mode.
- ◆ The book with all presentations was very useful. All the presentations without exception were very interesting and with excellent quality. The levels of all experts were very high. The answers of questions were clear and exact. The course provided very important information which I think will be very useful to our countries.



Wonderful Moments

Ten-day program is short, but a lot of unforgettable memories have been left. This program has offered a platform to the trainees, experts and volunteers for mutual understanding, friendship promotion, communication and cooperation. The pictures below are some of the wonderful moments.



RCSSTEAP(China) Activities

Attending 52th STSC of UNCOPUOS

In order to intimately track and comprehend the development of space technology, publicize China's principle and standpoint on peaceful use of outer space, promote the development of RECSSTEAP, advertise space technology application programs and strengthen communication among the Member States, Mr. Weng Jingnong and Ms. Guo Yuanyuan of Beihang University attended the the Fifty-second Session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space from February 9 to 11, 2015. Mr. Weng Jingnong delivered a technical report in the session to introduce the inauguration ceremony of the RECSSTEAP and basic information on the first meeting of the Governing Board, as well as the work plan for 2015. In this session, they also distributed brochures to representatives of the 76 Member States of UNCOPUOS, exchanged ideas with member states and other regional Centres, visited Ms. Dipipo, the director of the UNOOSA, met with Mr. Takao Doi, UN Expert on Space Application and exchanged their views on work.



Enrollment of Master Students in 2015

The Centre planned to enroll master students majoring in three directions, including RS & GIS, GNSS and Micro-Satellite Technology in 2015. The new semester will start from mid-September. At present, after the reviewing of application materials and online interviews, the enrollment has ended in a satisfactory way. 42 students have been admitted, including 30 master candidates and 12 doctoral candidates. 35 of them obtained the Chinese Government scholarship, the other 7 acquired the Scholarship of Beihang University. Among the students, 12 of them are recommended by the member states of the Centre, 29 students are recommended by APSCO (including Pakistan and Peru, the member states of RECSSTEAP), and one student is recommended by the China Academy of Space Technology, one of the cooperative partner of the Centre.

Painting Exhibition on China's Space Exploration

Since the Regional Centre for Space Science and Technology Education in Asia and the Pacific (China) (affiliated to the United Nations) has been established at Beihang University in November, 2014, it has attracted widely attention from the international communities. In order to prompt this new UN Regional Centre, especially facilitate further cooperation with the UNOOSA in trainings on Space Law, Mr. Weng Jingnong, Mr. Gao Guozhu and Mr. Gong Haoqin of Beihang University will attend the fifty-eighth session of the Committee on the Peaceful Uses of Outer Space (COPUOS) from June 15th to 19th in 2015. They will introduce the work progress of the Centre, communicate and cooperate with other regional centers, and consult with relevant experts of the UNOOSA on the training program on the space law and policy, which will be held in the second half of the year. And during the session, the first painting exhibition on China's space exploration namely "flying with the wings of art", as well as the RCSSTEAP promotion event, will be held.

The Centre has invited Dr. Gong Haoqin from the Department of Industrial Design at Beihang University to create 20 pieces of paintings on China's space exploration and achievements. Dr. Gong graduated from Academy of Arts & Design, Tsinghua University, and he has devoted himself to paint on theme of aerospace and has gained prominent achievements. The Centre is planning to hold a reception during the fifty-eighth session of UNCOPUS, meanwhile, an painting exhibition on China's space exploration and achievements will be held, which aims to promote China's space culture.



Dr. GONG Haoqin

Graduated from Academy of Art & Design, Tsinghua University and got the doctor's degree in the year of 2007. The same year, he became a teacher of Beihang University.



Retrospective Exhibition on the Establishment of the UN Regional Centre in China



International Cultural Festival of Beihang University

The fourth International cultural festival of Beihang University was held in front of the Beihang Aerospace Museum on May 16th of 2015. It is a grand meeting that sponsored by the University and undertaken by both Chinese students and foreign students. It is also a chance for them to show their cultures.

The International cultural festival is divided into two parts, one is cultural demonstration and the other is programs given by students. Students from various countries showed their local conditions and customs, culture, diet and daily life through handcrafts, special flavor and national dress. Their dresses and smiles showed their love to their countries. At the place where they performed, students from different countries played national instruments and gave shows of special dance and songs, which had attracted many audiences.

The current International cultural festival has attracted students from 35 different countries, and the activities were sponsored by the AVIC International, the festival was also supported by the students' affairs division and the School League Committee, also embassies of those 35 countries provided aids. The festival not only brought us the exotic programs, but also promoted communication among people and provided chances for students to know cultures of various countries, meanwhile, it facilitated the intercommunication, understanding and blending among countries. The International cultural festival is regularly held every year.



RCSSTEAP

Education Training Programs

Professional visits and Academic Lectures

The Centre arranged the students of Master Program on Space Technology Applications (MASTA) who registered in 2014 to visit the International Centre on Space Technologies for Natural and Cultural Heritage under the Auspices of UNESCO (HIST), the Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (RADI), China Academy of Space Technology, the National Disaster Reduction Centre of China (NDRCC) and the National Time Service Centre, Chinese Academy of Sciences from January to April in 2015. The Centre also invited prominent experts in relevant fields to give academic lectures to the students, which were welcome and praised by students.



Thesis Proposal

The thesis proposal for the students who registered in 2014 of MASTA Program will be arranged between June 15 and 19, 2015 in the International School. 18 students majoring in RS&GIS, GNSS or Micro-satellite Technology will complete the thesis proposal. Under the guidance of supervisors, students selected their research topics closely related to the practical projects on space technology and its applications in their home countries.

Midterm Review

The students who registered in 2013 of MASTA Program completed the Interim review on March 5, 2015 in the International School. 20 students have reported the research progresses. Comments and suggestions were offered by their supervisors. Interim review is usually completed within three months before the students applying for thesis defense to examine and supervise the thesis research progresses of the students.



Thesis Defense

The thesis defense for the students of MASTA Program will be arranged on June 11, 2015 in the International School. 24 students majoring in RS&GIS or GNSS will complete their thesis defense for the Master's Degree.

Pilot Project

The students who registered in 2014 of MASTA Program have completed the Team Pilot Project (TP) from March 5 to June 5, 2015. TP is the characteristic practical course of MASTA, which is arranged at the end of the first semester and focuses on training the students to put the knowledge and skills into practice. The topics of TP are suggested by TP supervisors and students. This course is carried out in teams to provide the students a chance to complete a task with teammates for developing the teamwork spirits. The students are grouped by their research interests. There are usually 2-5 persons in one group to complete a project in 3 months.



Capacity Building

Applications of the LOGO

VI Brochure

The brand communication of the Centre consists of regarding LOGO of the Centre as a basis, combining the applications of the LOGO in various kinds of occasions and designing relevant standards. We accomplished the designing and manufacturing of Image Identification Handbook in early June.



VI design is visual identification center identification system, it spread in the center of the image in the specific and direct to the center to identify the basic spirit and difference fully expressed and quickly get social cognition on the establishment of centers for visibility and shaping the image center has positive effect.



Notebook

Envelope



Writing Paper & File Pocket



Wallpaper



Gift Box



Gift Bag

Students' Database Development

We have built entire process archives management since application to graduation for the students. Since the Program of Space Technology Applications started to recruit students in 2006, we have trained 126 students. In view of 42 new students in 2015, we have created a systematic students' database.

Experts' Database Development

Lecturers of the Program on Space Technology Applications, experts recommended by Member States and cooperative partners the staff of the Centre got to know through other channels, have become the first batch of experts in the Centre's experts database. At present, the number of experts has exceeded 60.

RCSSTEAP Website

Based on the LOGO and work progress of the Centre, the designing and building of the Centre's website have started. It is expected to be accomplished in early June. The current work progress and teaching resources will be uploaded.



CD Package



Pencil&Rubber



Progress of International Space Technology Applications

Editor's notes: we will report important activities and present work situation of UNCOPUOS, other regional centres and relevant international organizations. We hope it is informative and to further expand the coverage of our newsletter.

Report of the 52th STSC & the 54th LSC of UNCOPUOS

The Fifty-second session of STSC was held at Vienna in February 2015

The fifty-first session of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space was held from 2-13 February 2015 at the United Nations Office at Vienna, Vienna International Center, Vienna, Austria. The Subcommittee held 20 meetings. Representatives of the following 61 States members of the Committee attended the session.

In this Session, Statements were made by representatives of 33 member States including China during the general exchange of views. General statements were also made by the observers for APSCO, ESA, IAA, IAF, ISNET, SGAC and SWF.

The Subcommittee heard ten scientific and technical presentations, including "The new progress of the lunar project in China", introduced by the representative of China.

In accordance with General Assembly resolution 69/85, the Subcommittee considered agenda item 4, "United Nations Programme on Space Applications".. At the 826th meeting, the Expert on Space Applications made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications. The Subcommittee also heard six scientific and technical presentations, including "Report of the new RCSSTEAP (China)", introduced by the representative of China.

The Subcommittee noted that the Programme for 2014 had been carried out satisfactorily and commended the work accomplished by the Office under the Programme. The Subcommittee noted that the priority areas of the Programme were environmental monitoring, natural resource management, satellite communications for tele-education and telemedicine applications, disaster risk reduction, the use of global navigation satellite systems, the Basic Space Science Initiative, space law, climate change, the Basic Space Technology Initiative and the Human Space Technology Initiative.

The Subcommittee recommended the approval of the relevant programme of forums, meetings, symposiums and workshops for 2015(see para. 45 of A/AC.105/1088).

The Subcommittee noted the inauguration of the new regional centre for space science and technology education in Asia and the Pacific, located at Beihang University in Beijing. The Subcommittee also noted the commitment of the Government of China to supporting the work of the centre.

The Fifty-fourth session of LSC was held in Vienna in April 2015

The fifty-fourth session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space will be held from 13 to 24 April 2015 at the United Nations Office at Vienna, Vienna International Center, Vienna, Austria. The Subcommittee held 20 meetings. Representatives of more than sixty States members of the Committee attended the session.

In this Session, Statements were made by representatives of 31 member States including China during the general exchange of views. The observers for ESA, ESPI, SGAC and SWF also made statements.

On 13 April, IISL and ECSL held a symposium on the theme "Space traffic management", co-chaired by Tanja Masson-Zwaan of IISL and Sergio Marchisio of ECSL. The Subcommittee heard seven related presentations, including the "Space traffic management and the governance of space activities", introduced by the representative of China.

The Subcommittee welcomed the information provided by the observer for APSCO on its activities relating to space law, including information on the United Nations/China/APSCO Workshop on Space Law, held in Beijing from 17 to 21 November 2014, and on the upcoming third APSCO Space Law and Policy Forum, to be held in Beijing in September 2015.

Pursuant to General Assembly resolution 69/85, the Subcommittee considered agenda item 8, entitled "Capacity-building in space law", as a single issue/item for discussion. The Subcommittee welcomed the establishment of the Regional Centre for Space Science and Technology Education, affiliated to the United Nations, at Beihang University in Beijing, as it would supplement space law teaching and training opportunities for countries in the Asia-Pacific region. The Subcommittee noted with appreciation the holding of the ninth United Nations workshop on space law, on the theme "The role of national space legislation in strengthening the rule of law". The workshop, held in Beijing from 17 to 21 November 2014, had been hosted by the Government of China and organized jointly by the Office for Outer Space Affairs, APSCO and the China National Space Administration (CNSA).

UN-SPIDER

Future Earth is a global research platform aiming to provide knowledge and supporting to accelerate our transformations to a sustainable world. Dynamic Planet, Global Development and Transformations towards Sustainability are its three research themes. These depend critically on the availability and utilization of reliable information at both local and global scale. This joint workshop by UN-SPIDER, the National Geomatics Center of China (NGCC), the Chinese National Committee for Future Earth (CNC-FE), the Chinese National Administration of Surveying, Mapping and Geoinformation (NASG), LIESMARS, and Wuhan University will present the latest development of global spatial data production and sharing, exchange successful application experiences of global geo-information, examine up-to-date user requirements and key gaps, and identify major challenges. It aims at promoting the multi-disciplinary collaboration towards providing reliable global geo-information to support Future Earth.

United Nations Programme on Space Application

Successful conclusion of the United Nations/Japan Workshop on Space Weather in March 2015

The United Nations/Japan Workshop on Space Weather "Science and Data Products from International Space Weather Initiative (ISWI) Instruments" was held in Fukuoka, Japan, from 2 to 6 March 2015 as part of the activities of the Basic Space Science Initiative (BSSI) under the United Nations Programme on Space Applications. The Workshop was hosted by the International Centre for Space Weather Science and Education (ICSWSE) at Kyushu University on behalf of the Government of Japan. The substantive discussions at the Workshop focused on the continuation of ISWI activities and on linking them to operational space weather monitoring and to the activities under the space weather agenda item in the Committee on the Peaceful Uses of Outer Space (COPUOS), including establishing linkages to the newly established Space Weather Expert Group.

United Nations/Italy Long-term Fellowship Programme on Global Navigation Satellite Systems (GNSS) and Related Applications is now accepting applications!

10 April 2015 - The Programme on Space Applications is now accepting applications for the one-year Master in Navigation and Related Applications (MNA) Programme, which is a long-term fellowship programme established by the United Nations Office for Outer Space Affairs and Italy, and offered by Politecnico di Torino (School of Information Technologies) and Istituto Superiore Mario Boella (ISMB), with the collaboration of Istituto Elettrotecnico Nazionale Galileo Ferraris (IEN), Turin, Italy, for candidates from developing countries and countries with economy in transition. The programme starts in October 2015 and will last for 12 months including a period ranging from 3 to 4 months for hands-on pilot project (internship).

United Nations/Russian Federation Workshop on the Applications of Global Navigation Satellite Systems was held in Krasnoyarsk in May 2015

The United Nations Office for Outer Space Affairs in cooperation with the Russian Federal Space Agency (Roscosmos) and the Reshetnev Information Satellite Systems Joint Stock Company as part of the activities of the United Nations Programme on Space Applications is organizing a five-day workshop on global navigation satellite systems (GNSS) and its

applications. The Workshop will take place in Krasnoyarsk, Russian Federation, from 18 to 22 May 2015. The Workshop is co-sponsored by the International Committee on Global Navigation Satellite Systems (ICG). The Workshop focused on the use of GNSS for various applications that can provide sustainable social and economic benefits, in particular for developing countries. Current and planned projects that use GNSS technology, including the GLObal NAVigation Satellite System (GLONASS) of the Russian Federation, for both practical applications and scientific explorations were presented. Cooperative efforts and international partnerships for capacity-building, training and research, including the activities of the GLONASS learning centre were also presented.

United Nations/South Africa Symposium on Basic Space Technology will be held in Cape Town in September 2015

In 2009, the United Nations Programme on Space Applications, implemented by the United Nations Office for Outer Space Affairs, launched the Basic Space Technology Initiative (BSTI). From 2009 to 2011 a series of three United Nations/Austria/European Space Agency Symposia on Small Satellite Programmes for Sustainable Development were held in Graz, Austria. Starting from 2012, BSTI organized three times international symposia on basic space technology. The present and fourth Symposium will be held as the United Nations/South Africa Symposium on Basic Space Technology "Small Satellite Missions for Scientific and Technological Advancement" in Cape Town and will focus on the African region. It is organized by the United Nations Office for Outer Space Affairs in cooperation with the Department of Science and Technology and the University of Cape Town through its Spacelab programme, on behalf of the Government of the Republic of South Africa.

The UN/Austria Symposium on Integrated Space Technology Applications for Climate Change will be held in September 2015 in Graz

The UN/Austria Symposium on Integrated Space Technology Applications for Climate Change

will be held from 7 to 10 September 2015 at the Space Research Institute of the Austrian Academy of Sciences in Graz, Austria. The objectives of this Symposium are:

To discuss ways in which countries affected by climate change can make better use of

space applications to assess vulnerability to climate change;

To identify potential alternatives in the context of mitigation and adaption to climate change;

To improve synergies among space agencies and organizations targeting efforts on climate change;

To strengthen international and regional cooperation in this area;

To raise awareness on the recent advances in space-related technologies, services and information resources which can be use to assess the impacts of climate change and the effects of measures implemented to reduce such impacts.

UN/IRAN workshop on Space Technology Application for Dust Storm and Drought Monitoring will be held in Tehran in September 2015

Climate Change and its numerous consequences such as frequent drought conditions have also led to a steady increase in frequency and intensity of dust and sand storms in many parts of the World. The severity of such storms is anticipated to continue to increase over the coming years. In light of the above, and in response to an offer to host a dedicated workshop addressing these topics, the United Nations Office for Outer Space Affairs (OOSA) and the Government of Iran are jointly organizing the above-titled Workshop to raise awareness and promote the use of space technologies related to dust storm and drought monitoring for the benefits of the host country, for the Middle East region and in general for developing countries globally. The Workshop will be held in Tehran, Iran, from 26 to 30 September 2015, hosted by the Iranian Space Agency (ISA) on behalf of the Government of Iran and cosponsored by the Inter-Islamic Network on Space Science and Technology (ISNET). The Workshop will explore how current space technologies help to identify and monitor the effects of a changing climate - including the onset of drought and dust or sand storms in particular - on vulnerable regions on an international and regional scale.

RCSSTEAP

UN Regional Centre

African Regional Centre successfully organized the 2nd cycle training class on space weather

The 2nd cycle training class on space weather (ISWI-Maghreb 2015), organized by African Regional Centre for Space Science and Technology Education-in French Language(CRASTE-LF)and co-organized by ISESCO and l'EMI et l'Institut Scientifique, supported by 'International Space Weather Initiative' (ISWI) of United Nations, was held in Rabat, Morocco, from 16 to 21, February 2015. The participants from Maghreb countries and West African countries attended the class. In 2013, the Regional Centre has already hosted the 1st cycle training class in Algiers.



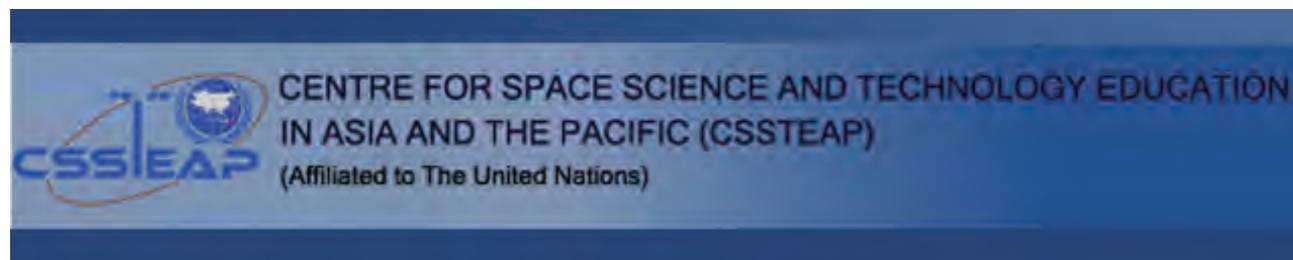
2015 ARCSSTEE PGD Programme Application. Apply Now!!!

Applicants should note that the PGD Programme runs from January to September each year and courses are conducted in modules. Eligible candidates must satisfy the minimum GCE 'O' Level, WASC, SSCE, NECO or NABTEB entry requirements of credit passes or its equivalent in 5 subjects, including English Language, Mathematics, Physics and Chemistry/ Geography (for Remote Sensing/ GIS and Satellite Meteorology option) if they would be considered for future programmes (Masters etc).



The CSSTEAP successfully hosted a Short Course in May 2015

The Short Course on Geospatial Technologies for Coastal and Marine Disaster Management and Climate Change in collaboration with UNESCAP was held at Indian Institute of Remote Sensing (IIRS) Dehradun and organized by Centre for Space Science and Technology Education in Asia and Pacific (CSSTEAP), IIRS campus, Dehradun, India from 4th- 31th May, 2015.



Related international Organizations

Guidance on Space Object Registration and Frequency Management for Small and Very Small Satellites Prepared by UNOOSA and ITU was issued

Small and very small satellites and their applications have made it possible for an increasing number of governmental and non-governmental organizations to participate in, and benefit from, space activities. Recognizing the requirements under international law for all entities launching and operating satellites, the United Nations Office of Outer Space Affairs and the International Telecommunication Union have collaborated to produce a guidance document to assist small satellite developers and operators with space object registration and frequency management. The handout also covers information on authorization and licensing of satellite missions and space debris mitigation measures.

The World Radiocommunication Conference 2015 (WRC-15) will be held in November 2015.

The World Radiocommunication Conference 2015 (WRC-15) will be held in Geneva from 2 to 27 November 2015. The World radiocommunication conferences (WRC) are held every three to four years. It is the job of WRC to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits.

Cooperative Partner

Editor's notes: The Centre is having close cooperative with the partners (relevant universities, research institutions and enterprises. In this Column, we will give series of introductions of our cooperative partners. The current issue gives an introduction of the CAST Shenzhou Institute and the the International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO.

CAST Shenzhou Institute

CAST Shenzhou Institute founded on December 28, 2005 is the unique education and training institution of China Academy of space technology (CAST). Its predecessor, CAST Education and Training Center, has already cultivated and trained thousands of space technology engineers and scholars for China and the world since 1960s. It provides master education and above, CAST staff's training as well as the training of China domestic and foreign clients. The institute is entitled Shenzhou which mainly comes from Shenzhou series manned spaceship.

Missions and Objectives

- ◆ To cultivate high-level professional space technology personnel adaptable to Chinese space technology development ;
- ◆ To promote and upgrade the professional level of spacecraft engineering ;
- ◆ To achieve the goal of systematizing spacecraft knowledge, multi-classifying education and training courses as well as serializing the teaching materials ;
- ◆ To be one of the international well-known astronomical science and engineering institute ;

Business Scope

Shenzhou Institute is mainly responsible for postgraduate education, spacecraft engineering certification training, and CAST clients' training. It mainly undertakes the educational work for more than 20 the postgraduate and those above master degree , whose major covers various disciplines, such as astronautics science and technology. In addition to that, it also carries out CAST professional training in different fields of spacecraft system engineering.

In the process of these efforts, scientific course system for spacecraft engineers has gradually taken into shape. In possession of many excellent teachers with rich theory knowledge of space system and abundant experience in project practice, it also boasts its experienced administrative body for education and training.

Varieties	Postgraduate	Staff	Client
Quantities	400 students/year	64,000 hours/year	Asia, Africa, South America, Europe



Academic Graduation

CAST Staff Training

Foreign Customer's Training

Foreign Students' Operation Training

Disciplines

With the past 40 years exploring, a series of CAST-characteristic academic subjects has come into being, almost covering all the subjects of space technology. The detailed information is as follows:

Spacecraft system design , Optical engineering , Spacecraft manufacturing technology , Information and communications engineering , Communications and information system , Computer science and technology , Control theory and control engineering , Physical electronics , Electromagnetic field and microwave technology , Detection and automated assembly , Refrigeration and cryogenic engineering , Navigation, guidance and control , Information and signal system, etc.

Faculty

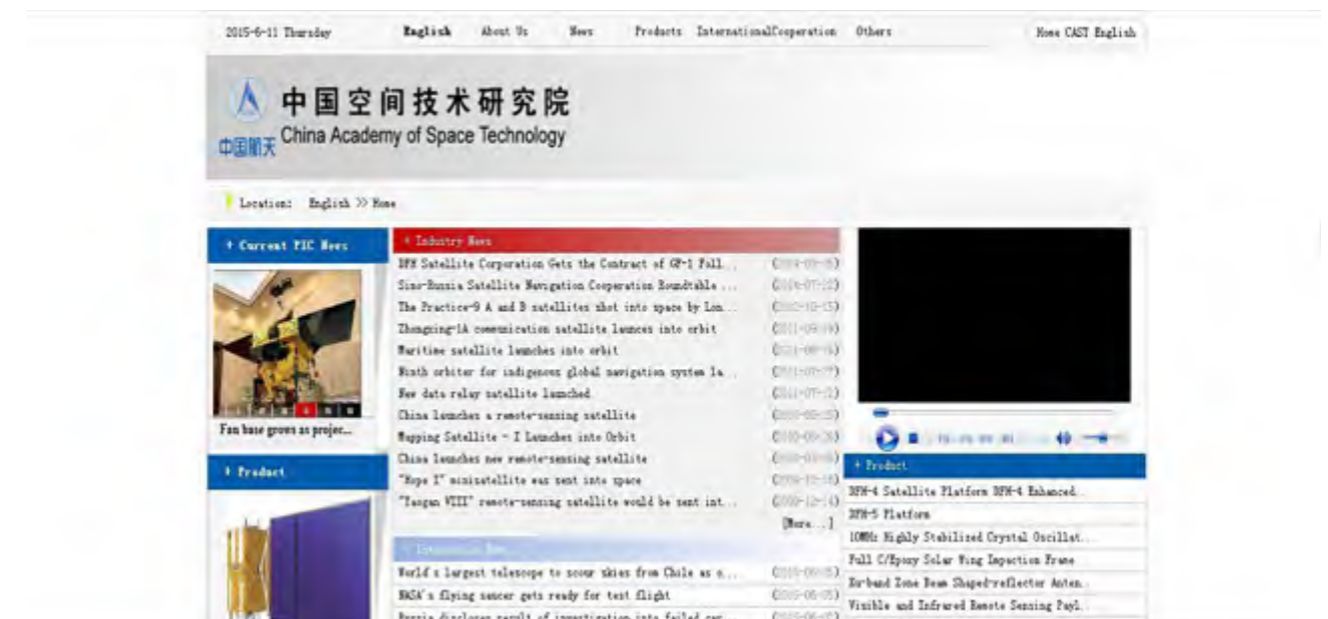
- There are over 400 full-time or part-time teachers working in Shenzhou Institute, they all have solid theoretical knowledge and rich spacecraft engineering work experience, all of them are outstanding experts in the field of space technology.
 - 11 members of International Astronautical Federation ;
 - 4 members of China Academy of Sciences ;
 - 4 members of China Academy of Engineering ;
 - 131 PhD supervisors ;
 - >400 master supervisors ;

Facilities and Equipment

Shenzhou Institute has high-level facilities and labs, which is altogether covering 5000 square meters area solely used for teaching and training of all types both for domestic and international students.

Prospect

- ◆ With the view of enlarging the cooperation with international astronautical universities and colleges, efforts will be made to expand the business scope and establish a long-time relationship ;
- ◆ To bring the education of postgraduate degree into the international arena, the institute will make full use of the national Postdoctor workstation, authorized doctoral office and authorized postgraduate office to attract more oversea students, who will receive the academic degree authorized by Chinese government ;
- ◆ To expand the business scope , ranging from spacecraft design, manufacture and test technology to satellite application, satellite ground station technology, TT&C, and many other fields related to satellite. As the result, a scientific system of space technology with characteristic specialty will be developed into being ;
- ◆ Relying on the CAST solid basis of scientific research and technology, tremendous efforts will be dedicated to developing the Institute into a first-class authoritative institute for space education and training in the world.



International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO

The International Centre on Space Technologies for Natural and Cultural Heritage under the auspices of UNESCO (hereafter abbreviated as HIST) is the first UNESCO Category 2 Centre dedicated to promoting, testing and demonstrating the applications of space technologies for the conservation, management and sustainable development of globally significant natural and cultural heritage, biosphere reserves and geoparks (hereinafter called "UNESCO-designated places"). Its establishment was approved by the 35th session of the UNESCO General Conference in 2009. An agreement for the establishment of HIST was signed in June 2011 and its formal operations began in July 2011 following the finalization of all internal administrative steps in China.



The 179th UNESCO Executive Board Meeting



Opening Ceremony of HIST (24th July 2011)

Vision

HIST's vision is to make full use of space technologies for better identification, conservation, management and sustainable development of natural and cultural heritage of humankind.

Mission

HIST's mission is to assist UNESCO's programme and Member States, that desire to receive such assistance, on the use of applied space technologies for UNESCO's activities with respect to natural and cultural heritage, biosphere reserves and geoparks.

Overall Objective

To strengthen the capacity of UNESCO member states to manage the sustainable development of their natural and cultural heritage, biosphere reserves and geoparks accommodating the impacts of climate change and natural disasters, through the use of earth observation technologies and through education.

Organizational Structure

Under the instructions of UNESCO and CAS, with the Governing Board as its decision-making body and the Scientific Committee as its advisory body, HIST is composed of a Secretariat and three Centers of Research, Technology and Training. The Research Center consists of four Departments: Dept. One, Dept. Two, Dept. Three and Dept. Four; the Technology Center also consists of four Departments: Space-borne Remote Sensing, Air-borne Remote Sensing, Data Processing and Virtual Technology. Under the Training Center is Dept. of International Training.

Host Institution

RADI is a comprehensive research institute directly under the Chinese Academy of Sciences. At present, RADI has about 700 staff, with 4 academicians of Chinese Academy of Sciences, 96 are research professors, 230 are associate professor researches, with 500 postgraduate students. It has three stations at Miyun, Kashi, and Sanya, which can receive data simultaneously from satellites covering 70% of Asian territory. RADI with two remote sensing airplanes can load aviation cameras, scanners and imaging spectrometers to imaging radar. These provide a firm base for natural and cultural heritage studies using space technology.

Website

<http://www.unesco-hist.org/en-us/>



Participants' Contribution

Editor's notes: Two papers were selected from our participants in the current issue, one comes from Indonesia and the other is from Nigeria. Their articles would help us to better understand the status and demands of space technology and applications in our member states and partner countries. Meanwhile, such information would also prompt the construction and development of the Centre.

Indonesia Tsunami Early Warning System (InaTEWS)

Panji Rachman Ramadhan, Arief Hidayat and Agus Suprijanto

Introduction

The tectonics of Indonesia are very complex, as it is a meeting point of several tectonic plates. Indonesia is located between two continental plates: the Eurasian Plate (Sunda Plate) and Australian Plate (Sahul Shelf); and between two oceanic plates: the Philippine Sea Plate and Pacific Plate.

Based on the tectonics condition of Indonesia, Indonesia was one of the potential areas of earthquakes and tsunamis in the world that could be occur anytime. One of them is earthquake and tsunami which occurred in Aceh and North Sumatra (Nias) in 2004 has been giving a lot of learning for the people of Indonesia and the world that the impact caused as many fatalities and property damage in these disaster due to a lack of knowledge and the unpreparedness of society and the Government in anticipation of the coming disaster.

To anticipation of the coming disaster in the future, Indonesian government established cooperation with the Germany government to develop the German-Indonesian Tsunami Early Warning System (GITEWS), Indonesia also established the cooperation with several other countries among others are United State, China, Japan, Malaysia and France, in developing and upgrading the existing system that has correlation with tsunami early warning system in Indonesia. After finish the cooperation all of the developed system then integrated, the system is known as Indonesia Tsunami Early Warning System (InaTEWS). All of this cooperation started in 2005 with the construction of network infrastructure Buoy-OBU and Tide Gauge systems which spread throughout Indonesia and also main monitoring stations located in Jakarta. The picture below is distribution of Buoys-OBU and Tide Gauge system in Indonesia:



Figure 1. Distribution of Buoys-OBU System



Figure 2. Distribution of Tide Gauge System

After The German-Indonesian Tsunami Early Warning System for the Indian Ocean (GITEWS) was fully handed over to Indonesia on 29 March 2011. Since then, the responsible system operator responsible has been the Meteorological, Climatological and Geophysical Services (BMKG) in Jakarta. Since going into operation, the warning system has successfully registered thousands of earthquakes and more than ten tsunamis in Indonesia. Earthquake news and tsunami warnings are issued less than five minutes after a quake, followed by updates or an all-clear.

Concept and System of InaTEWS

New scientific processes and innovative technologies distinguish this system from the previous tsunami warning systems. Due to the specific geological situation in Indonesia, the previously used, established tsunami warning systems are not optimal for Indonesia. The earthquakes in the Indian Ocean at Indonesia originate along the Eurasian Plate, a subduction zone which extends in an arch from the northwest tip of Sumatra to Flores in eastern Indonesia. If a tsunami originates here, in an extreme case, the waves reach the coast within 20 minutes, so that only very little time remains for an early warning. Therefore, the concept of the entire system was based on this prevailing condition. The picture bellow is shown about the concept of InaTEWS.

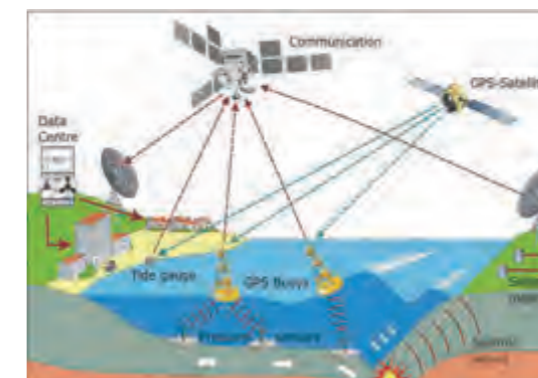


Figure 3. Technical Concept of InaTEWS

When the earthquake is occurred and then OBU (Ocean Bottom Unit) will send information about the strength of the earthquake to Buoy equipped with a GPS receiver (Global Positioning System) to provide the data on the position of latitude, longitude and altitude of the Buoy. Also Buoy can measure whether changes height level of sea surface in the middle of the sea can cause the tsunami. And then Buoy in real-time via satellite communication send the information to the master station on the mainland.

The other observation data is from Tide Gauge, about the changes of sea level are mechanically and automatically in coastline. So with Tide Gauge the water level in coastline can be known and also can give the prediction of information about the time, when tsunami will arrive in the mainland and when the tsunami is over. Not only give information about the time, Tide Gauge also can give the location where is changes of sea level is occur in mainland, because in Tide Gauge also equipped with a GPS receiver. And like Buoy and OBU, Tide Gauge also in real-time via satellite communication send the information to the master station on the mainland.

And the next step is all observation data in the master station will be send to the data centre, and in data center the data will be process in DecisionSupport System (DSS).The role of DSS in InaTEWS can be illustrated in the following schemes:

And the next step is all observation data in the master station will be send to the data centre, and in data center the data will be process in DecisionSupport System (DSS).The role of DSS in InaTEWS can be illustrated in the following schemes:



Figure 4.DecissionSupport Systemin InaTEWS

Component of InaTEWS

The running system on InaTEWS can be classified into four sections based on its function, they are Observation, Integration, Dissemination and Community.

Observation on this system is observation on the two kinds of data, they are earthquake and sea level. Integration on this system is the processing together the both of data in DSS. Dissemination on this system is publication information using several media like SMS, email, fax, website and siren.

In one unified of warning system, a system that is available is not only until the delivery of information, but the process must be until how the information can be used to minimize the disaster. Therefore required a unified group that can be provide the guidance how to use the information, this unit is called the community. The following is the picture of classification scheme of component on the system InaTEWS:



Figure 6.The Classification of Component in InaTEWS

Operational and Maintenance

As we know after Indonesia fully handed the responsible to operate and maintenance the system has been the Meteorological, Climatological and Geophysical Services (BMKG). But not only BMKG has the responsible to maintenance the system, State Ministry for Research and Technology has also has responsible to maintenance the system. One of the activities of BPPT in InaTEWS is operate a research vessel Baruna Jaya for the purposes of installation, maintenance, and relocation of buoy.

Performance of InaTEWS

Local tsunami arrival are very short times, between 10-60 minutes, making tsunami early warning information dissemination becomes difficult. This will have a direct impact on evacuation procedures and evacuation time is very short.

The picture bellow is shown the time span or stages through start from the time of the earthquake, information processing earthquake and tsunami early warning, tsunami warning dissemination, and in the process of local government. Tsunami early warning system in Indonesia is more than just technology, because is also requires the involvement of communities in disaster risk areas and the authorities in charge at all levels in developing their ability to anticipate the disaster.

Since the warning system was success installed until now the system has successfully detected thousands of earthquakes and more than ten tsunamis in Indonesia.

The one of InaTEWS purposes is minimize the victim of disaster; this purpose also can be benefit of the system. This benefit proved on October 25, 2010 when the other earthquake and tsunami occur in Mentawai Islands, West Sumatera at time 14:42:20 GMT. That earthquake were occur in Indian Ocean with a magnitude 7.2 Mw in location:4.67S and 101.30 E, at a depth of 10 km under the sea. In less than 5 minutes InaTEWS successfully distribute earthquake information is accompanied by the potential for a tsunami warning to an intermediary institution (institution interface), people and the community, so it can immediately be followed up. Even though on earthquake and tsunami in Mentawai Islands was killed at least 450 people, the number of casualties can be minimalized.

(Due to limited space, this paper is abridged)



Panji Rachman Ramadhan, Born in May, 1985, Engineer of Remote Sensing Ground Station, Indonesian National Institute of Aeronautics and Space. Currently, he is a postgraduate of MASTA program on GNSS, Beihang University.

Introduction to Space Applications in Nigeria

ECHODA NGBEDE JOSHUA ADA

Nigeria's introduction into space technology can be viewed to have started in 1960 shortly after her independence; where a bilateral agreement was signed between the United States of America (USA) and Nigeria, the agreement was to site one of the tracking stations for Explorer 1 (the first satellite launched by the USA launched on January 31, 1958) in Nigeria. One of the consequences of this event was the first satellite communication via satellite made between the then Prime Minister of Nigeria, Alh. Abubakar Tafawa Balewa and the then USA President, J.F.Kennedy. Nigeria's very strategic and unique geographical location (Nigeria lies within the equator and has a coastal border with the Atlantic Ocean) has necessitated the siting of this tracking station within its borders.

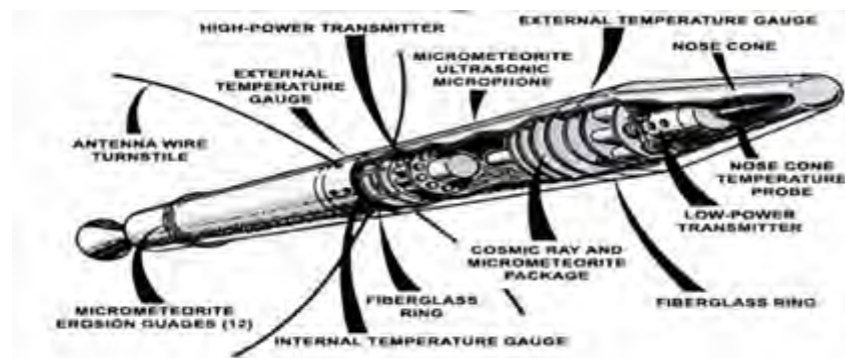


Figure 1: Explorer 1.

The geographical location of Nigeria is as follows; Nigeria is a West African nation and lies between latitudes 4° and 14° N and longitudes 2° and 15° E. With a total area of about 923,768km² this makes it the 32nd largest country in the world. There are four countries bordering Nigeria viz; Benin Republic to the west, Niger Republic to the north, Chad to the north-east and Cameroon to the east- see Figure 2. The cumulative perimeter of the borders is about 4,047km in length. It has a coastline of at least 853 km that stretches along the Atlantic Ocean in the southern border.



Figure 2: Map of Nigeria showing latitude longitude, bordering countries and its southern border to the Atlantic Ocean.

Nigeria has a varied landscape; to the southwest of the Niger is a rugged highland and to the southeast of the Benue is the Mambilla Plateau, which forms the highest Plateau in the country. The highest elevation point in Nigeria (2,419metres above sea level) is located at Chappal Waddi in the northern state of Taraba. The country has two major rivers, namely; the River Niger and River Benue which converges in a "Y" shaped valley in Lokoja, and emptied its waters into the Atlantic Ocean in the Niger Delta area of the southern part of the country.

HISTORY OF SPACE TECHNOLOGY IN NIGERIA

Despite being chosen as tracking centre for the Explorer 1 mission in 1957 – 1958, during the space race era (1957 -1975) Nigeria as a nation was struggling for stability through years of military rule. However in the year 1999 the country decided to consolidate the different space-related activities of institutions in Nigeria by establishing a parastatal called the National Space Research and Development Agency (NASRDA) under the Federal Ministry of Science and Technology. This followed up with the drafting of the National Space Policy and Programs which was implemented in May, 2001. Based on the rationale that *'there is no nation that can call itself developed in the 21st century that does not have indigenous critical mass of trained space scientist and engineers who contribute actively to the solution of the nation's problems.'* The space policy was hinged on 3 key pillars namely:

- ◆ Building capacity and capability in space technology development and management
- ◆ The use of space for socio-economic development
- ◆ The use of space to engender bilateral and international relations

The Nigerian Space Programme Implementation Strategy was constituted which has a 'National Space Council' chaired by Mr. President, alongside its Technical Advisory Committee and in collaboration with International Cooperation Committee. It is important to note that a multi-institutional approach was adopted within the framework of the policy implementation of NASRDA this resulted into the creation of six activity centres namely:

- ◆ National Centre for Remote Sensing (NCRS), Jos
- ◆ Centre for Space Science and Technology Education (CSSTE)*, Ile-Ife
- ◆ Centre for Basic Space Science (CBSS) Nsukka
- ◆ Centre for Space Transport and Propulsion (CSTP), Epe
- ◆ Centre for Geodesy and Geodynamics (CGG), Toro
- ◆ Centre for Satellite Technology Development (CSTD), Abuja

From the names of the listed centres reveals the field of research in general, the focus pivots on :

Striving for the development and application of space science and technology for socio-economic development

Integrating the programmes of the Agency into the overall national strategies for sustainable development

To promote Nigeria's participation in the global industry.

REGISTERING NIGERIA NAME IN SPACE – LUANCHING OF SATELLITES

In the year 2003, Nigeria heralded the implementation of its space policy and programmes with the launch of its first Earth observation (EO) micro satellite into low Earth orbit. Currently, Nigeria has launched 5 satellites into space, each of these satellites have specific purpose/missions to perform while contributing to the application of space technology for socio-economic development in Nigerian and for humanity at large. Nigeria satellites launched are; NigeriaSat-1, NigeriaSat-2, Nigeria Sat-X, NigComSat-1, NigComSat-1R, NigeriaSat-1 the spacecraft was equipped with high-resolution optical and infrared cameras. These cameras are employed to provide high resolution images in areas such as agriculture production and improving food security. The satellite's other design purpose was also for environmental monitoring, such as tracking desertification and even locust swarms.

The NigeriaSats are also part of the international Disaster Monitoring Constellation (DMC) which is a novel international co-operation in space coordinated by Surrey Space Technology Limited (SSTL) based in the United Kingdom and involves organizations from seven countries: Algeria, China, Nigeria, Thailand, Turkey, the United Kingdom and Vietnam. This network of satellites spacecraft can provide rapid images from space when environmental disasters strike. Therefore the DMC Consortium was the first-ever microsatellite constellation bringing remarkable Earth observation capabilities both nationally to the individual satellite owners, and internationally to benefit world-wide humanitarian aid efforts.



Figure 3: NigeriaSat-1 showing the effects of Hurricane Katrina; Picture of New Orleans

In the 2005 event of Hurricane Katrina, NigeriaSat-1 was the first satellite to send back pictures from the east coast of the US, see figure 3. Similarly, theorbiter contributed images to aid workers in the aftermath of the 2004 Indian Ocean tsunami. Nigeria provides disaster-related imagery for free, but the country generates income from the satellites by selling other image data. TsunamiDisasterandNigeriaSat-1ContributionAcquiredover20imageseachof300kmX150kmof the Asian Tsunami disaster–delivered to RESPOND.(You need to define what RESPOND means)

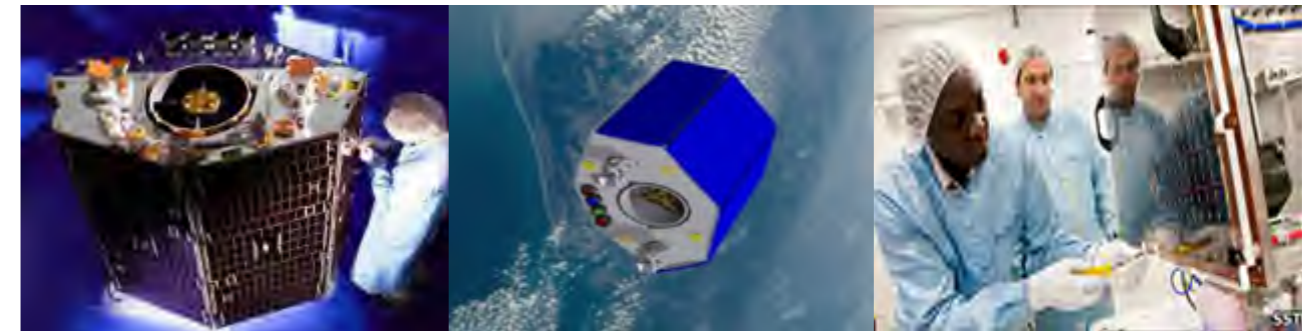


Figure 4: NigeriaSat-2, which launched in 2011 (Image: SSTL)Nigerian engineers built NigeriaSat-X with the help of their British counterparts

NASRDA also commissioned a Chinese-built communications satellite, NigComSat-1, that launched from China in 2007. The satellite lost power a year later and was replaced in 2011 by NigComSat-1R, which is currently providing broadcast and internet services in Nigeria.

NIGERIA'S PROGRESS IN GNSS

It is a modern practise now that countries are adopting continuous observation and measurements using a network of Global Navigation Satellite Systems (GNSS) receivers called Continuously Operating Reference Stations (CORS) as the standard. For example, Nigeria has established 11 permanent GNSS Network (NIGNET) or CORS since 2008, which has provided the incentive for the adoption of the geocentric datum in all its geodetic activities. Unfortunately, the spatial coverage of the Nigerian CORS stations on a distance of more than 300km (between the stations) which seems inadequate based on the global station densification standard of the International Terrestrial Reference Frame (ITRF).

This was clearly insufficient to support the AFREF project, which requires baselines shorter than 100Km between the stations of the network. Since the areas which have common errors would have changed greatly after 100km.

The African Geodetic Reference Frame (AFREF) is a project designed to unify the very many geodetic reference frames of Africa using data from a network of permanent GNSS stations as the primary data source for the realization of such a uniform reference frame. Numerous National Mapping Agencies and Universities in Africa, International agencies and organisations have installed suitable geodetic grade GNSS receivers at many locations throughout Africa.



Figure 5: AFREF is conceived as unifying the national reference frames of Africa into a common reference frame for the continent.

INTERNATIONAL COOPERATIONS

Nigeria has a number of international cooperation in the area of space technology in the past years; of notable mention is the relationship with SSTL in the UK which facilitated the building of NigeriaSat-X satellites by Nigerian engineers under the supervision of SSTL engineers in the UK.

It is also quite notable to state that China has led in its cooperation with Nigeria in the area of GNSS; the first of this being with the African Regional Centre for Space Science and Technology Education - English (ARCSSTEE). This has been achieved through an initiative with Beihang University, which is now the Regional Centre for Space Science & Technology Education in East Asia and the Pacific (RCSSTEAP) under the UN Programme on Space Applications, offering to train two engineers from Nigeria, the first of its kind since the history of such cooperation between the two regional centres from China and Nigeria.

(Due to limited space, this paper is abridged)



Echoda Ngbede Joshua Ada, an Engineer of the African Regional Centre for Space Science and Technology Education-English (ARCSSTEE). Currently, he is a postgraduate of MASTA program on GNSS, Beihang University.

Additional Words

We have obtained numerous recognition and pertinent suggestions and comments since the first issue of newsletter has been published, which have brought us great encouragement and delight. Hereby we would like to express our sincere appreciation to all the supports. We always regard exchange, promotion and development as our mission. Therefore your concerns and supports will surely encourage us to get improvement.

The main work from February to May, 2015, including educational training activities, capacity building, participation of International Conferences, exhibition of space technology application and international cultural festival have been recorded in this second issue. Apart from that, we added three new columns: relevant reports on international space technology applications, introduction of our cooperative partners and articles from participants. We hope it is informative and to further the coverage, facilitate the communication and cooperation and prompt our education and training through the new columns. Two papers were selected from our participants in the current issue, one comes from Indonesia and the other is from Nigeria. Their articles would help us to better understand the status and demands of space technology and applications in our Member States. Meanwhile, such information would also promote the construction and development of the Centre.

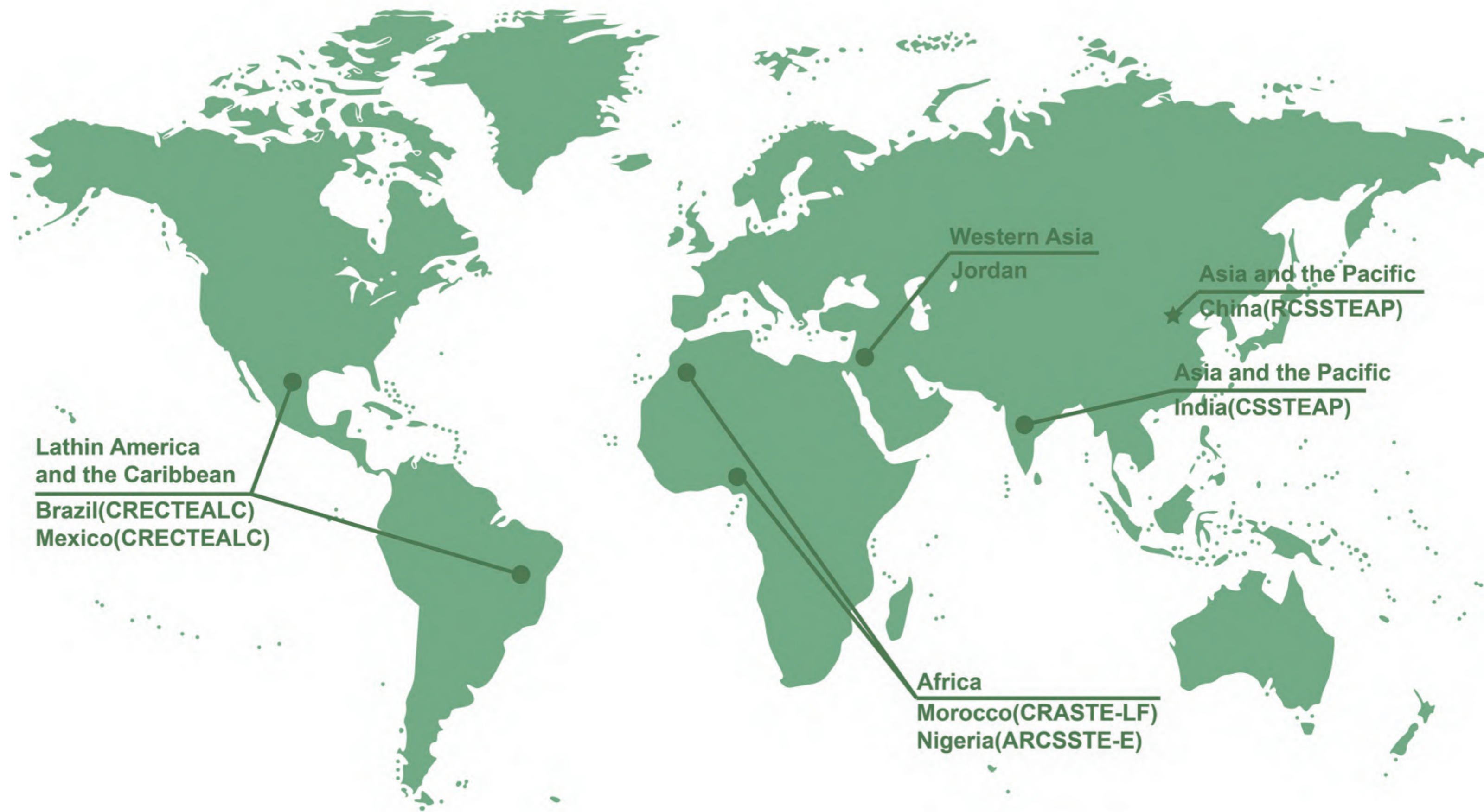
We are always looking forward to your criticism and suggestions, and expecting that our Newsletter could be increasingly received.

editor



联合国附属空间科学与技术教育亚太区域中心 (中国)

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



Map of UN Regional Centres