Space law teaching at Regional Centers for Space Science and Technology Education affiliated to the United Nations: the case of the RCSSTEAP

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19 November, 2014

Presentation Overview

- United Nations Programme on Space Application
- UN affiliated regional centres for space science and technology education
- Establishment of RCSSTEAP
- Establishment & Operation Programme
- Space law Teaching at Beihang University
- Master Program on Space Technology Application(Major in Space Law) of RCSSTEAP

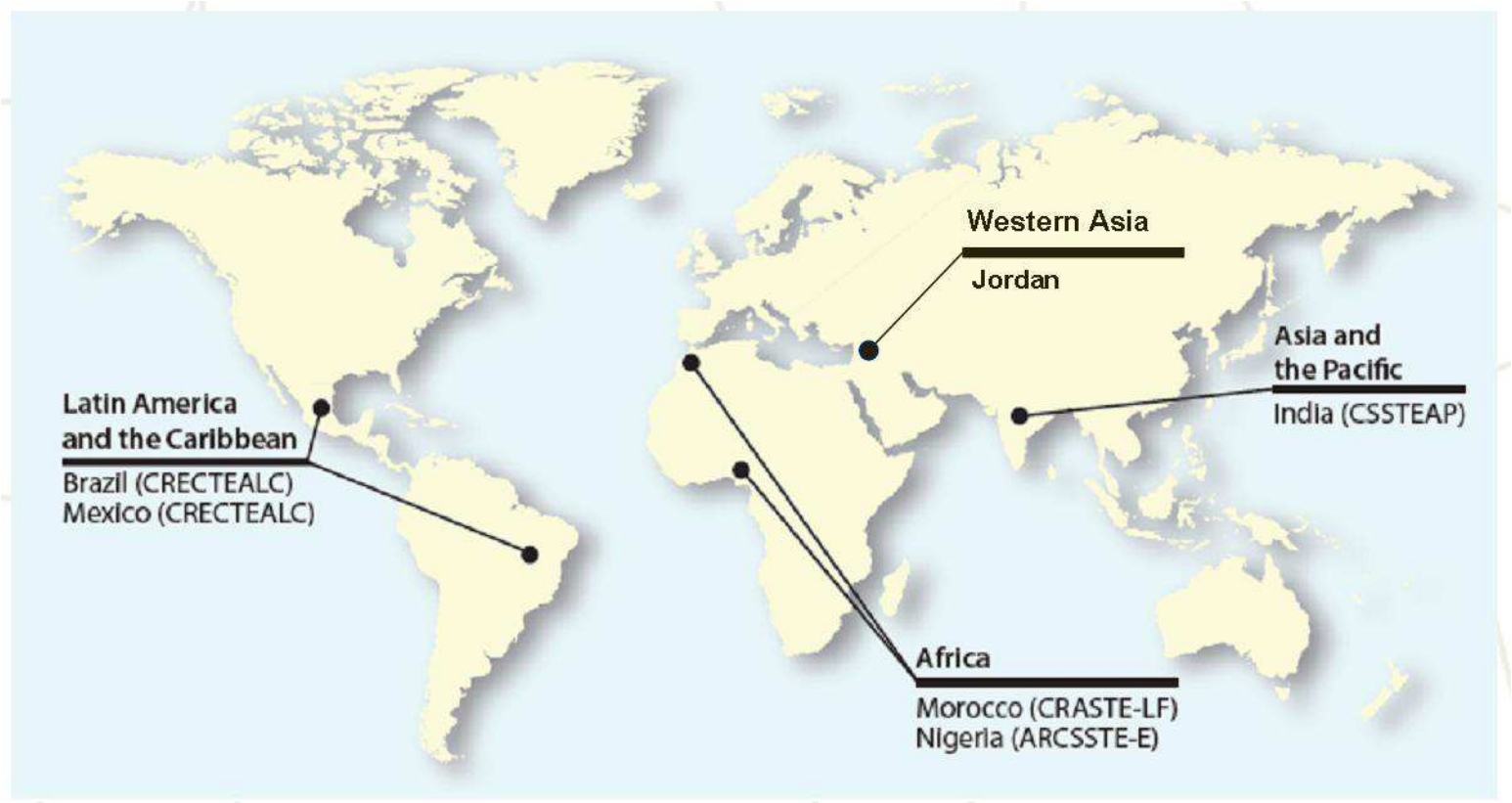
United Nations Programme on Space Application

- Established in 1971 on the recommendation of UNISPACE
- World-wide activities(training courses, workshops, seminars, panels ,meetings, fellowship programmes)

United Nations Programme on Space Application

- **Accomplishment of UNPSA**
  - Establishment of Regional Centres for Space Science and Technology Education (Affiliated to the United Nations)
  - …(the following contents were omitted)

UN affiliated regional centres for space science and technology education



- Six regional Centres for Space Science and Technology Education, affiliated to the United Nations have been established in: India (1995); Morocco (1998) ;Nigeria (1998) ;Mexico and Brazil (2003) ;Jordan (2012); China(2014)

UN affiliated regional centres for space science and technology education

General Information about the Centres

ST/SPACE/41

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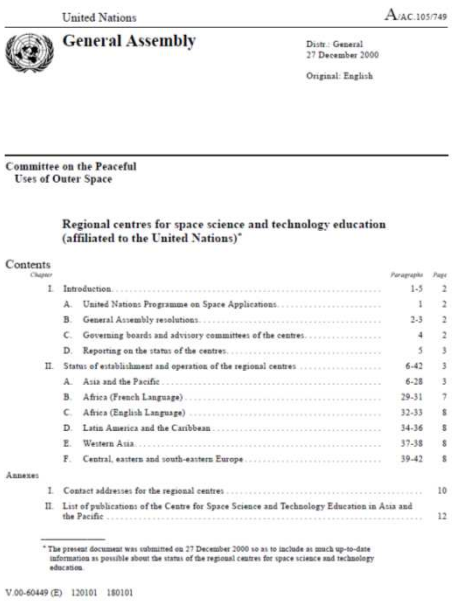
UN affiliated regional centres for space science and technology education

Status of the Centres



United Nations A/AC.105/749

General Assembly

Distr.: General
27 December 2000

Original: English

Committee on the Peaceful Uses of Outer Space

Regional centres for space science and technology education (affiliated to the United Nations)*

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* The present document was submitted on 27 December 2000 so as to include as much up-to-date information as possible about the status of the regional centres for space science and technology education.

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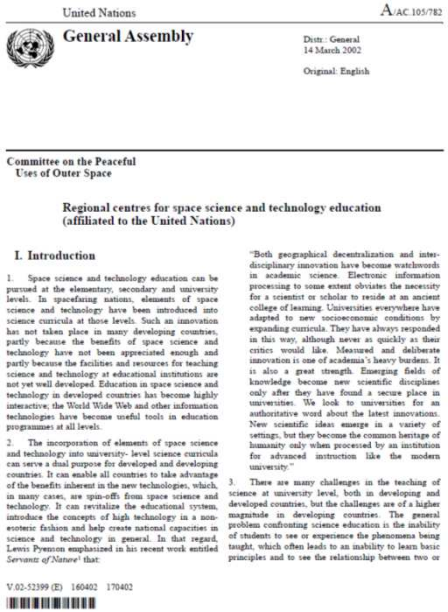

United Nations A/AC.105/782

General Assembly

Distr.: General
14 March 2002

Original: English

Committee on the Peaceful Uses of Outer Space

Regional centres for space science and technology education (affiliated to the United Nations)

I. Introduction

1. Space science and technology education can be pursued at the elementary, secondary and university levels. In spacefaring nations, elements of space science and technology have been introduced into science curricula at those levels. Such an innovation has not taken place in many developing countries, partly because the benefits of space science and technology have not been appreciated enough and partly because the facilities and resources for teaching science and technology at educational institutions are not yet well developed. Education in space science and technology in developed countries has become highly interactive; the World Wide Web and other information technologies have become useful tools in education programmes at all levels.

2. The incorporation of elements of space science and technology into university- level science curricula can serve a dual purpose for developed and developing countries. It can enable all countries to take advantage of the benefits inherent in the new technologies, which, in many cases, are spin-offs from space science and technology. It can revitalize the educational system, introduce the concepts of high technology in a non-esoteric fashion and help create national capacities in science and technology in general. In that regard, Lewis Pyenson emphasized in his recent work entitled *Servants of Nature*[1] that:

"Both geographical decentralization and inter-disciplinary innovation have become watchwords in academic science. Electronic information processing to some extent obviates the necessity for a scientist or scholar to reside at an ancient college of learning. Universities everywhere have adapted to new socioeconomic conditions by expanding curricula. They have always responded in this way, although never as quickly as their critics would like. Measured and deliberate innovation is one of academia's heavy burdens. It is also a great strength. Emerging fields of knowledge become new scientific disciplines only after they have found a secure place in universities. We look to universities for an authoritative word about the latest innovations. New scientific ideas emerge in a variety of settings, but they become the common heritage of humanity only when processed by an institution for advanced instruction like the modern university."

3. There are many challenges in the teaching of science at university level, both in developing and developed countries, but the challenges are of a higher magnitude in developing countries. The general problem confronting science education is the inability of students to see or experience the phenomena being taught, which often leads to an inability to learn basic principles and to see the relationship between two or

V.02-52399 (E) 160402 170402

A/AC.105/2009/CRP.13

8 June 2009

English only

Committee on the Peaceful Uses of Outer Space
Fifty-second session
3 - 12 June 2009

Status report on the operation of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations

Note by the Secretariat

The General Assembly, in its resolution 63/90, agreed that the regional centres should continue to report to the Committee on their activities on an annual basis. The Annex to this note contains the presentations made by the directors of the regional centres at the fifty-second session of the Committee.

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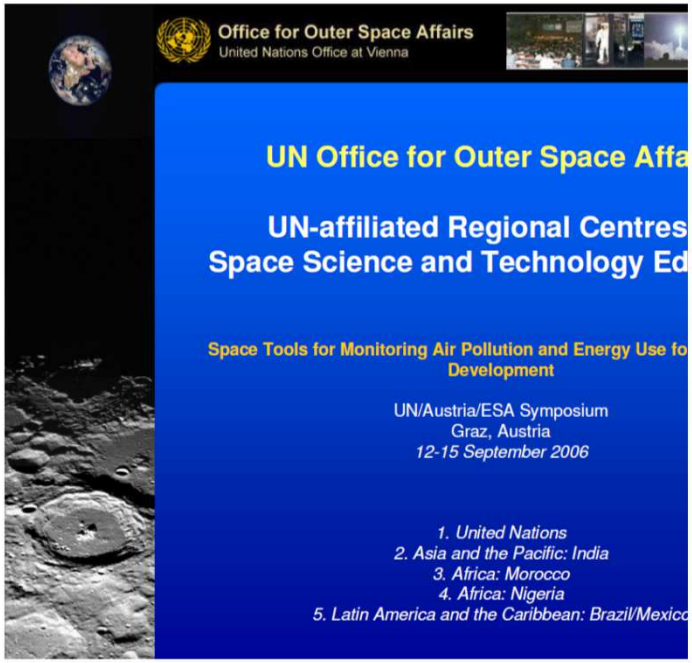
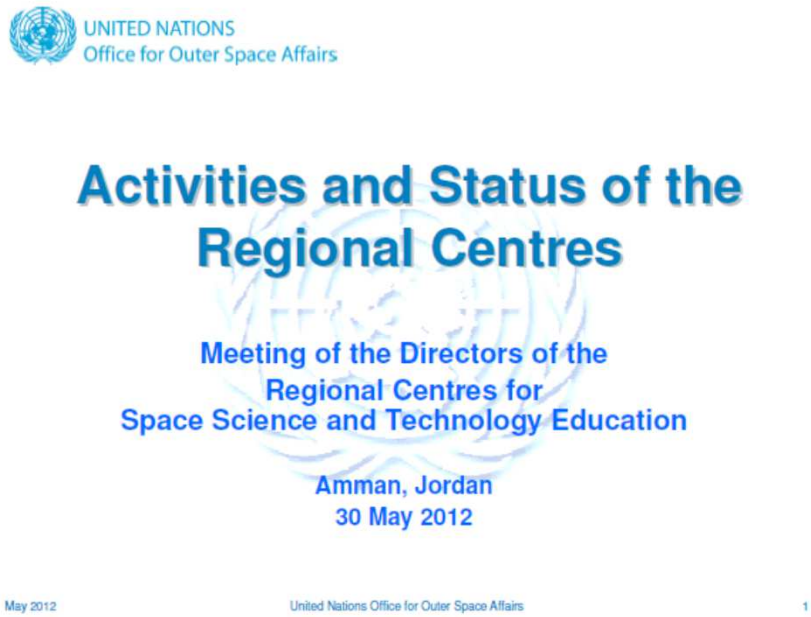
UN affiliated regional centres for space science and technology education

- **Presentations made by UNOOSA on the Centres**





Establishment of RCSSTEAP

- The proposal of China to establish a New Regional Centre in Feb. 2013.
- The STSC welcomed the proposal in its report(A/AC.105/1038).
- Evaluation mission facilitated by the UNOOSA in Sept. 2013 .
- Evaluation Mark of all evaluation parameters: offered or satisfactory(os)

  Introduction Video of RCSSTEAP

Establishment of RCSSTEAP

- The first meeting of the Governing Board of RCSSTEAP was held at Beihang University on Nov. 17, 2014.
- Representatives from 8 Contracting Parties, i.e. Algeria, Bangladesh, Bolivia, Brazil, China, Indonesia, Pakistan, Peru present at the meeting.
- Director of UNOOSA, Simonetta Di Pippo, attended the meeting as the representative of observer.

The meeting of the Governing Board of RCSSTEAP

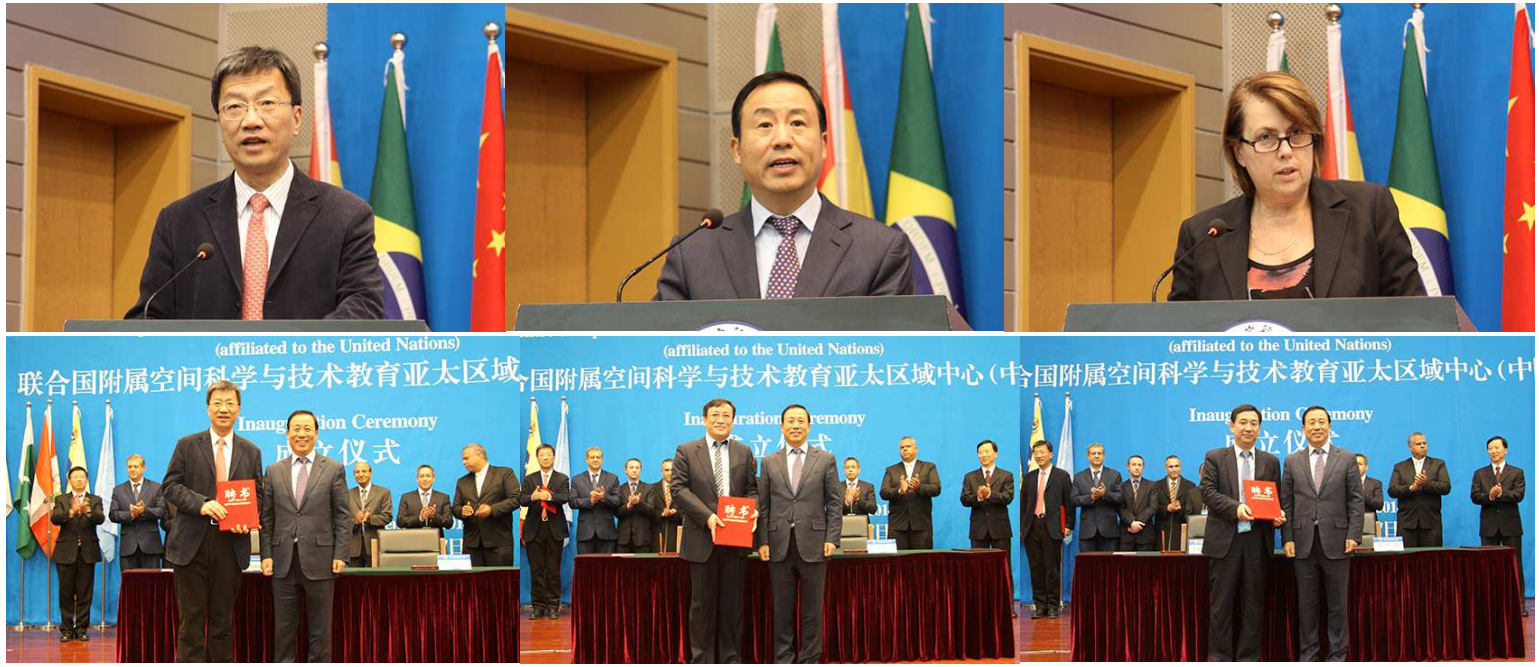
- The meeting of the Governing Board of RCSSTEAP

- Inauguration ceremony of RCSSTEAP was successfully held at Beihang University on Nov. 17, 2014.

- Cooperation Agreement between RCSSTEAP and UNOOSA was signed.

- Director of UNOOSA, Simonetta Di Pippo, together with XU Dazhe, the Administrator of CNSA, unveiled the Centre.

- Giving speeches and Issuing letters of appointment



Establishment & Operation Programme

- **Chinese Title:** 联合国附属空间科学与技术教育亚太区域中心（中国）
- **English Title: Regional Centre for Space Science & Technology Education in Asia and the Pacific（China）(affiliated to the United Nations)**
- **English Abbreviation: RCSSTEAP**

Establishment & Operation Programme

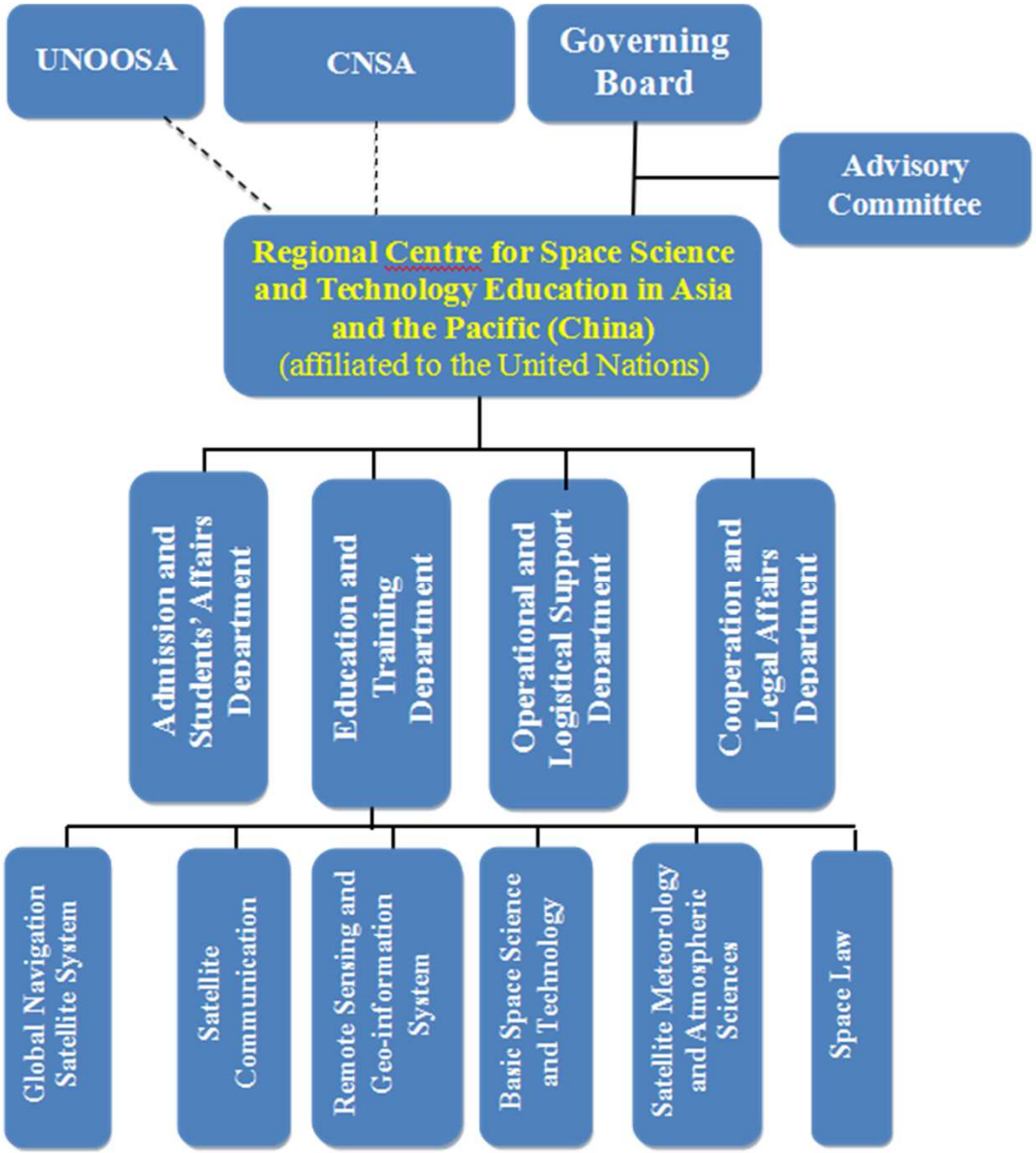
- **Organizational Structure and Functions**
- **Governing Board**

  Role: the principal policy-making organ of the Centre.

  Composition: one representative from each Contracting Party.
- **Advisory Committee**
- **Role: advisory organ of the Centre**

  Composition: experts from government organs, universities, research institutions and industrial communities in Member States.
- **Operational Body**
- **Role: administrative organ of the Centre**

  Composition: one Director + one Deputy Director + four departments


Global Navigation Satellite System
Satellite Communication
Remote Sensing and Geo-information System
Basic Space Science and Technology
Satellite Meteorology and Atmospheric Sciences
Space Law
Admission and Students' Affairs Department
Education and Training Department
Operational and Logistical Support Department
Cooperation and Legal Affairs Department
Regional Centre for Space Science and Technology Education in Asia and the Pacific (China)
(affiliated to the United Nations)
UNOOSA
CNSA
Governing Board
Advisory Committee

Establishment & Operation Programme

- **Education and Training**
  - **Education and training resources**
  - **Distance education programs + online courses**
  - **Degree program(Master/Doctor) +Non-Degree Program**
  - **Educational and training direction: RS&GIS, SATCOM, GNSS, Space Law, BSST, SM&AS**
  - **Education and Training participants**
  - **Education and Training Scale: two or three majors per year; 30 candidates for Master's and Doctoral degree; 3 short-term trainings per year**

Establishment & Operation Programme

- Financial Contribution

The Chinese Government: provide initial & operational funds, the scholarship* and financial support

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Beihang University: provide the necessary working space, facilities and personnel.

Other sources of funding: voluntary funds by other Contracting Parties, donation and tuition fee.

*Note: The Ministry of Education of China (MOE) has been offering (established) the Chinese Government Scholarship for International Postgraduates Programme on Space Technology Applications (CSC-STA) since 2008. In order to facilitate the establishment of the New Centre, the MOE has increased the annual quota of the CSC-STA from 15 to 35 since 2013.

Slide 21

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Space law Teaching at Beihang University

The educational and research activities with regard to the discipline of space law at Beihang University are mainly supported by School of Law and Institute of Space Law.

Space law Teaching at Beihang University

- **Introduction to Beihang University Law School**
  - **Established in 2002.**
  - **Award LLM degree in all legal fields(since 2005)**
  - **Award LLD degree in all legal fields(since 2011)**

Space law teaching at Beihang University

- **Beihang University Institute of Space Law**
  - **Founded in 2000, the first specialized research agency of space Law in China.**
  - **Co-Directors: Associate prof. LI Bin & Associate Prof. GAO Guozhu**
  - **Faculty Members: 12 regular faculty members**
  - **Courses: offered space law for undergraduates(Compulsory) and monographic study on space law for Master Degree Candidates majored in international law (Compulsory).**

Space law Teaching at Beihang University

- **Research: published more than 50 articles in Chinese or English**
- **Projects: ISL has undertook more than 20 national/ provincial and ministerial level research projects funded by CONSTIND/MOE/SASTIND/MIIT/CISL etc.**
- **Publications: more than 10 publications**

Space law Teaching at Beihang University

- **International exchange**

Sino-Russia Forum on space law(2004)

Symposium on Space Law and politics among Nations(2008)

Seminar on Technology and Legal Issues arising from US-Russian Satellite collision（2009）

Seminar on Legal Issues regarding International Space Station(2010)

Policy and Legal Issues relating to China's space Activities(2011)

First Space Law and Policy Forum of APSCO(2012)

La privatisation et la commercialisation des activités spatiales(2014)

Seminar on Legal Issues regarding ISS(2010)

Tanja Masson-Zwaan, Chairman of IISL,visited Beihang University in 2011

Prof. P.S. Dempsey was giving a lecture at Beihang University in 2012

First Space Law and Policy Forum of APSCO

Prof. Dr. Doo Hwan Kim gave a lecture to the undergraduates in 2013

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

- **MASTA program of APSCO**
  - **Purpose**
  - **Initialization stage 2006-2008**
  - **Implementation：since 2009**
  - **Co-organized by the APSCO Secretariat and Beihang University**
  - **Executive body: Beihang International Space Education Center (BUAA-ISEC)**

Master Program on Space Technology Application
(Major in Space Law) of RCSSTEAP
Status of MASTA of APSCO

Year	Directions	Participants	Country
2006	RS and GIS	14	Bangladesh, Indonesia, Iran, Mongolia, Pakistan, Peru, Thailand
2008	RS and GIS	11	Indonesia, Mongolia, Pakistan, Thailand
2009	RS and GIS	11	Indonesia, Iran, Mongolia, Peru, Pakistan, Thailand
2010	SATCOM	14	Bangladesh, Indonesia, Iran, Mongolia, Laos, Pakistan, Peru, Thailand,
2011	GNSS	20	Indonesia, Iran, Mongolia, Pakistan, Peru, Spain, Thailand
2012	RS and GIS	11	Bangladesh, Indonesia, Iran, Mongolia, Sli Lanka, Pakistan, Peru, Thailand
2013	RS and GIS	13	Bangladesh, Indonesia, Iran, Mongolia, Pakistan, Peru, Thailand

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

Space law course in MASTA Program of APSCO at BUAA

- **The ISL offered a platform course, i.e, *Introduction to Space Law*, for the international students in Space Technology Application （MASTA）since 2009.**

- **After the establishment of RCSSTEAP, *Introduction to Space Law* will also serve as the common platform course for all the students in all major directions.**

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

- **The Centre will consider to initiate Master program on Space Application（space law） as early as Sept. 2015.**
- **Language of instruction ： English**
- **Mode of study： Face-to-face (Full-time)**
- **Degree-granting Institution：Beihang University**
- **Type of Degree: Degree of engineering (Space Technology Application)**

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

- **The Training plan and curriculum design of MASTA program at Beihang University meets the requirements of U.N.**
- **According to the U.N. documents, the whole study period for master program shall include two stages:**

  -the first stage: course study 9 months;

  -the second stage: practical project research 6- to 12- months (either in China or in students' home country)

Master Program on Space Technology Application (Major in Space Law) of RCSSTEAP

Procedures and Minimum Requirements

- Phase one : formulation of training plan
- Phase two: Course Study credits ≥ 27

  Module 1：Platform Courses, seven weeks in total. credits ≥ 9

  Module 2：Major Basic courses, Basic Courses and Major elective Courses, thirteen weeks in total. credits ≥ 10

  Module 3：practice courses, fifteen weeks in total. credits ≥ 8
- Phase three: Project Thesis Period

  LSTP(1 credit) +Interim Inspection (1 credit) +Academic Activities(1 Credit)
- Phase four: Thesis Defense

Table 1. Schematic overview of the space law curriculum

	Module 1 Basic concepts of international law and space law	Module 2 Remote sensing/GIS, satellite meteorology and global climate + international law	Module 3 Satellite communications + international law	Module 4 Global navigation satellite systems (GNSS) + international law
Class 1	Introduction to international law	International law relating to remote sensing	Overview of international law on satellite communications	International institutional context for GNSS operations
Class 2	The Outer Space Treaty and the fundamental principles of space law	National legislation for remote sensing	Overview of international law on satellite communications	GNSS providers and GNSS augmentation
Class 3	Other space treaties and General Assembly resolutions	Regional and global agreements on remote sensing	Technical standards and national licensing	GNSS users
Class 4	National regulations, commercialization and privatization	Bilateral and multilateral agreements on remote sensing	International trade in satellite communication services and global mobile personal communication services	Legal framework for GNSS services
Class 5	Multilateral and bilateral agreements and intergovernmental organizations	Sources of remote sensing data	Satellite broadcasting	GNSS services, uses and current problems
Duration	2 weeks/12 hours	2 weeks/10 hours	2 weeks/11 hours	2 weeks/10 hours

Education Curriculum on Space Law ST/SPACE/064E

Education Curricula of Master Program on Space Technology Application(Major in Space Law) of RCSSTEAP

No.	Item	ClassHrs	Credits	Lecturer	Remark
Module Ⅰ Platform Courses					
PC1-1	Probability and Statistics A	48	3	ZHENG Zheng XUHuaping	Compulsory
PC3-1	Space Environment, Orbit and Spacecraft Systems	48	3	HE Linshu	Compulsory
PC3-2	Introduction to Space Law	18	1	LI Bin	Compulsory
PC3-3	Space Technology and Space Economy	18	1	HE Weiliang	Elective
PC4-1	Introduction to China and Chinese Language	54	3	SUN Yan	Compulsory

Curricula of Master Program on Space Technology Application(Major in Space Law) of RCSSTEAP

Module Ⅱ Major Basic Courses & Major Courses					
MC2-1	Public International Law	48	3		Compulsory
MC2-2	International Space Law	48	3		Compulsory
MC2-3	National Space Policy	32	2		Compulsory
MC2-4	Law of Space Applications (RS/GIS/SATCOM/GNSS/SATMET/GC)	32	2		Compulsory
MC2-5	National Space Law	32	2		Compulsory
MC2-6	International Telecommunication Law	18	1		Compulsory
Module Ⅲ Practice Courses					
PC	Practice Courses	15 Weeks			

- # Teachers wanted

The Centre may engage lecturers and supervisors all over the world.

Criteria: 1. Recommendation from respectable institutions

2. Efficient communication in English

3. Teaching experience in the same or relevant subjects with good evaluation.

4. Ph.D holder.

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Fax: 86-10-82315981

- The centre is a open platform for carrying out the activities related to space science and technology education. I, on behalf of the Centre, Welcome you to participate in and support our work.

- Thanks for your attention!