Capacity Building and Education Cooperation Under the Framework of ICG Information Centre

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1 ICG information Centre
2 About the Regional Centres
3 Proposals
In 2008 of the Third Meeting of ICG 3, The ICG plenary agreed that the UN-affiliated Regional Centres for Space Science and Technology Education would be act as Information Centres for ICG.

Concept for

[Regional Centres for Space Science and Technology Education]
to become Information Centres for the International Committee on Global Navigation Satellite Systems
Actions of ICG information Centre

Action C1: Establish the ICG information portal drawing on contributions from Members, Associate Members and Observers of the Committee. This will include a calendar of GNSS-related events.

Action C2: Identify undergraduate and graduate courses on GNSS to be included on the ICG information portal.

Action C3: Consider the possibility of disseminating a list of relevant textbooks on GNSS in English and other languages through the ICG information portal. Consideration will also be given to developing a glossary of terms and definitions.

Action C4: Consider the use of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations, to promote GNSS use and applications.

Action C5: Identify international conferences where Members, Associate Members and Observers will make presentations on the existence and work of the ICG. A list of such events will be maintained on the ICG information portal.

Action C6: Develop a proposal for further mechanisms to promote the applications of GNSS."
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Actions of ICG Information Centre
BeiDou International Exchange and Training Center was established on August 24, 2012.
# Degree Programme

## Master Programme

### Phase I

**Course Study in China: 9 months (at Beihang University)**  
*(Leading to Course completion Certificate of Beihang University)*

<table>
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<tr>
<th>Module I</th>
<th>Module II</th>
<th>Module III</th>
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| Common Platform Courses  
(all Directions) | • Major courses  
• Academic Lectures  
• Professional visits | • Pilot Project |

### Phase II

**Thesis Research: 12 month (in China or home country)**  
*(Leading to Master’s Degree in Engineering)*
## Degree Programme

<table>
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<tr>
<th>Core Course</th>
<th>Class Hrs</th>
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<tbody>
<tr>
<td>GNSS Reference System</td>
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<tr>
<td>Principle of Global Navigation Satellite Systems</td>
<td>32</td>
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<td>GNSS Navigation Signal</td>
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<td>GNSS Receiver Principles and Design</td>
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<td>GNSS/INS Integration Navigation</td>
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<td>GNSS New Technologies</td>
<td>18</td>
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Reference the Curriculum recommended by the United Nations
Awarding Master's Degree in Engineering and Doctoral Degree in Engineering by Beihang University
Facilities

BeiDou Navigation Satellite System
Exhibition Hall (located at Beihang Aerospace Museum)

GNSS Smart Classroom

Experiment equipment
60 international postgraduate students in GNSS have been cultivated from 2012 to 2016, 40 of whom have already got master's degrees.
International Training Programmes

Indonesia  Singapore  Egypt  Mongolia
Nigeria  Australia  Morocco
Teaching /Training Materials

Textbooks for GNSS Degree Programme (in English)

Textbooks for GNSS Short Training Programmes (in English)
Invited Experts /Professors

Sergio Camacho
Former Director of UNOOSA

Mazlan Otgman
Former Director of UNOOSA

Simonetta Di Pippo
Director of UNOOSA

Niklas Hedeman
Doctor UNOOSA

Andrew Dempster
Professor Australia

Macabiau Christophe
Doctor France

Laurent Azoulai
Doctor France

Olivier Julien Doctor
France

Maarten Uijt de Haag
Professor U.S.A

Michael Braasch
Professor U.S.A
UN Regional Centre for Space Science Technology Education in Asia-Pacific established in Nov, 2014 at Beihang
As one of the UN Regional Centres, we have received the following books:

Special thanks to the ICG sectartiat, Ms. Shafa
ICG information centre is an important platform for GNSS information dissemination and capacity building.

With the development of GNSS Technology and Applications, how to facilitate further development of the ICG information centre?
1 Introduction

2 About the Regional Centres

3 Proposals
Objectives of the Centres (Re: A/AC.105/749 & A/AC.105/782)

In order to translate the recommendations of the Committee and the General Assembly into an operational programme, the Programme on Space Applications initiated a project aimed at the establishment of regional centres for space science and technology education at existing research and higher education institutions in each region covered by the United Nations Economic Commissions: Africa, Asia and the Pacific, Europe, Latin America and the Caribbean, and Western Asia.
The principal goal of each centre is the development of the skills and knowledge of university educators and research and applications scientists, through rigorous theory, research, applications, field exercises, and pilot projects in those aspects of space science and technology that can contribute to sustainable development in each country.
With the rapid development of space technology applications, the world has changed greatly. **Global Navigation Satellite Systems** is one of the most important and active field in space technology applications and now used all most everywhere and can be benefit everyone.
Co-Organized with UNOOSA the Meeting of the Directors of the UN Regional Centres held on 13-14 June, 2017, Room C0431, Vienna International Centre. **ARC- Alliance of Regional Centres** was proposed by Beihang Centre.
66 countries among the 6 regional centres
Objective of the Alliance

The objective is to promote the development of space technology applications by enhancing exchanges and further maximizing advantages of the UN Regional Centres/ICG Information Centre.

It is suggested to establish the Alliance, which will be a sustainable resource sharing platform and further improve overall capability of all the UN Regional Centres/ICG Information Centre.
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The Future of Global Space Cooperation:
It is suggested the proposed Alliance of Regional Centre would be regarded as ICG Information Centre Alliance.

It would be benefit to prompt cooperation in:

- information dissemination
- resources sharing
- faculty and student exchange
- application demonstration
- joint action, seeking support, raise funding and etc.
**Proposed Cooperation**

- Publishing a series of textbooks on GNSS
- Establish Joint GNSS Teaching and Research Lab
- Prromo Information Dessemenation and Sharing
- Students/Faculty Exchange
- Organize short training programs for developing and emerging countries
- ......
**Recommendation**

Core \[\rightarrow\] Talent

*Talents are the key preparation for everything.*

To prompt university cooperation and resource sharing among ICG members to facilitate the development of space technology applications in developing countries.
Down to the Earth while Aiming High
WeChat: UN_Centre  
Website: http://www.rcssteap.org
Thank you for your attention