Regional African Centre of Space Sciences and Technologies

In French Language (CRASTE – LF)

Affiliated to the United Nations

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02-06 June 2009
52nd Session of COPUOS
Activities
of
African Regional Centre of Space Sciences and Technologies Education in French Language (CRASTE_LF)

Vienne, 03-12 June 2009
Space Sciences and Technologies

The Space Techniques Applications constitute a major development tool, in particular for the Earth Observation and Communications….

The use of the data of the Earth Observation Satellite knows a strong growth in fields of intervention increasingly wider.

Communication Systems by Satellite tools essential to the economic and social development
Solutions for the implementation of training schemes, to share of Training, Experiments and Competences

United Nation General Assembly Resolutions:


4 Centres in Activities affiliated to UN in differences regions of the World:

- India (Asia & Pacific),
- Morocco (Africa – French Language),
- Nigeria (Africa – English Language),
- Brazil – Mexico (Latino America & Caribbean)

02-06 June 2009 52nd Session of COPUOS
The CRASTE-LF has been established, on the initiative of the OOSA program on applied of the UN/G.A. Resolution, in Rabat on October 23, 1998.


Building of CRASTE-LF
The Objectives of the Centre

To increase knowledge in Space Sciences and Technologies by organizing courses, seminars, workshops, conferences at the Regional level,

To improve the technical competence of the experts, teachers, decision-makers and to hold them informed about technical progress.

To assist the countries of the region on the development of endogenous capacities in space tools.

To Strengthen the Local and Regional Capacities.

To promote Cooperation between the Developed Countries and States Members as well as among these States.

To develop expertise in Space Sciences and Technology.
The Main Courses Programs

- Remote Sensing And Geographic Information Systems,
- Satellite Communications,
- Satellite Meteorology and Global Climate,
- Space and Atmospheric Sciences

Target Public
Academics (Professors,...)
Researchers, Engineers,
Administrators and Managers

Recovering Sectors
Universities, Research Institutes, Professional and Private Institutes and Administrations

02-06 June 2009
52nd Session of COPUOS
Education Curriculum

Published by UN-OOSA to Regional Centre Of Space Education
Realized Training Courses

Six training courses in Remote Sensing and GIS, the First started in April, 2000, the Second in November, 2001, the third in November, 2003, the fourth in November 2005, fifth in November, 2006 and November 2008.

Two training courses in Satellite Meteorology and Global Climate in January, 2002 and November 2004

Three training courses in Satellite Communications, the First in December, 2000 and the Second in November, 2002
Postgraduate Courses In Remote Sensing and Geographic Information System

113 trainees from:
18 Countries member
and no member
24 different institutes.

From Countries: Morocco, Algeria, Tunisia, Mauritania, Senegal, Burkina Faso, Niger, Tchad, Cote d’Ivoir, Togo, Benin, Gabon, Cameroon, Cap Verde, R.D. Congo, Madagascar, Syrie, Central Africa

• Trainees Profile
  • Engineer in Geodesic Sciences
  • Diploma of Studies of Cartography
  • Engineer of Geographic Works,
  • Engineer Agro - Meteorologist
  • Engineer Cartographer
  • Maitrise in Applied mathematics
  • Master in Geography
  • Doctorate in Geography
  • Doctorate in Physics

02-06 June 2009
52nd Session of COPUOS
Postgraduate Courses In Remote Sensing and Geographic Information System

Lectures and Practical Exercises: 700 h
Conferences: 70 h
Supervising: 240 h
Scientific Visits: 36 h

Total: 1046 h

More than 32 Experts from various university and professional institutions or international Agency.

Teachers Staff

More than 32 Experts from various university and professional institutions or international Agency.
The research projects cover several topics in preparation of the Memoir of the Master in Space Sciences and Technologies, relate to the applications of Remote Sensing and Geographical Information Systems on: Cartography, Topography, Urban, Agriculture, Geology, Natural resources, Water, Ecology, forest, desert progress, coastal Managing, Migration of Population, etc…
International Workshop on Remote Sensing and GIS
« Space Information and Sustainable Development »

120 communications
More than 150 participants
from 30 countries

Partnership: CRASTE – LF, Mohamed V University, ISESCO, – UN-OOSA and ESA

Sponsored by
French Speaking Academic Agency (AUF)– Mohammadia Engineering School (EMI).

(Rabat, 14 – 16 November 2005)
International Workshop

Space Tools with the Service of the Disaster Management and the Emergencies in Africa. Technical, Organizational and Legal Aspects.

Rabat (Morocco) November 10, 11 & 12 2008

Organize jointly with: UN-OOSA, ISESCO, CRTS, EMI, BID

And With support: CNES, ESA, EUROPA OPA, INFOTERRA, EUMETSAT, 42 communications

More than 100 participants from 22 countries
37 trainees from:
9 countries
and
14 different institutes

From Countries: Morocco, Algeria, Tunisia, Mauritania, Senegal, Niger, Tchad, Cote d’Ivoir, Togo, Cameroon, Cap Verde, R.D. Congo, Central Africa

Trainees Profil

- Engineer on Communications,
- Engineer on Mechanical engineering,
- DEA. on Signal Processing,
- Engineer on Electromechanically,
- DEA on Electronics and
- DEA on Communications
- Bachelor on theoretical Physics
- Engineer Multimedia Designer
- Doctorate on Communications
- Doctorate on Physics (electro-optics)
Postgraduate Courses on Satellite Communications

Various Hours

Teachers: Up 27 Experts from various university and professional institutions or international Organizations.

Staff

Lectures and Practically Exercises: **600 h**
Conferences: **210 h**
Supervising: **210 h**
Scientific visits: **40 h**

Total: **1060 h**
Space Technologies and Telemedicine

June 26 and 27, 2003

This Conference was organized in collaboration with Faculty of Medicine and Pharmacy of Mohamed V University of Rabat

With active support of:
UN/OOSA,
ESA
ASC – CSA (Canada),
CNES - MEDES (France),
OMS, ISESCO,
EUTELSAT, CNRST (Morocco).
Trainees from:
8 member Countries and 10 Differences Institutes

From Countries: Morocco, Algeria, Tunisia, Mauritania, Senegal, Niger, Cameroon, Cap Verde, R.D. Congo, Central Africa, Togo

Trainees Profiles

- Meteorological Engineer,
- Mechanical Engineer,
- Forest Engineer,
- DEA on Signal Processing
- Computers Engineer,
- D.E.A. on Environment,
- DEA en Communication
- Doctorate d'etat on Es Sciences Physiques
Postgraduate Courses on Satellite Meteorology and Global Climate

Teachers Staff

More than 26 Experts from various institutes (universities, professionals or internationals Organizations.

Various Hours

Lectures and Practically Exercises : 600h
Conferences : 50 h
Supervising : 300 h
Scientific Visits : 36 h

Total : 986 h

2-6 June 2009
52nd Session of COPUOS
This workshop was organized with the collaboration of the:

- National Meteorology of Morocco,
- National Oceanographic Atmosphere Administration
  (NOAA - USA)

This workshop gathered about 60 participants from 15 countries
Workshop International
Les Changements Climatiques et Adaptation en Afrique
- Le Rôle des Technologies Spatiales –
ALGER, les 22, 23 et 24 octobre 2006

organized and with the collaboration of the ASAL, CRASTE_LF, UNOOSA
Supporting by IDRCI_CRDI (Canada) ISESCO
From the Left to Right. : le CRASTE-LF Director, ASAL D.G., The Alger Minister of Communication, Information Technology and Poste and UNOOSA Representing
Introduction the Additional Courses

1) Capacity Building in Space Law

The Centre has including, in first one, one module on initiation in space Law (16 hours) for the all space education:

- Remote Sensing and GIS,
- Satellite Communication,
- Satellite Meteorology and Global Climate.

UNOOSA was organizing the experts meeting in December 2007, to develop the curricula education on Space Law.
Introduction the topics in Space Sciences and Technologies

2) Development the Courses in Disasters Management.

As part of outreach activities UN-Spider Program, The Centre proposed a Education Curriculum of the program course for Capacity Building to Reduce Disasters Management.

It is the subject of the Workshop which is organizing by UN-SPIDER team in parallel with 52nd meeting of COPUOS
3) International Training Courses in GNSS on Satellite Navigation and Location Based Services

The Centre will organize the GNSS courses for 4 weeks from September 28 to October 24, 2009, Supporting by UNOOSA, ICG and others National and International Institution.

**Duration**: 4 Weeks

**Location**: The Course will be conducted by CRASTE_LF

**Objective**: Capacity Building in GNSS Applications, and to make the participants aware of the potential of Satellite Navigation Technology and its applications.

**Target Public**: Trainees from Institutions work and use Space Tools from Africa Region and speaking in French, they have high level education.
International Training Courses in GNSS on Satellite Navigation and Location Based Services

PROGRAM

MODULE I
- Elements of Geodesy,
- Satellite Positioning,
- The Global Positioning System
- GNSS Receiver Architecture
- New GNSS Generation

MODULE II
- GNSS Augmentation System,
- GNSS Applications,
- GNSS Markets,
- GNSS Regulation

02-06 June 2009
52nd Session of COPUOS
Postgraduate Courses In R. S. and GIS, S. C. and S.M & G.C.

🌟 Until Now, Up **158 Trainees** followed Postgraduate courses in the **CRASTE-LF from 18 countries**

and, There are **42 Master Diploma** of Space Sciences and Technologies have been delivered by the Centre in various fields applications of Space Sciences & Technologies.
Until Now, There are up **850 experts** are attending different Conferences and Workshops organized by the Centre in each fields in Space Technologies from **48 countries** in Africa, Europe, Middle East and North America.
The ten years of the life of the Center enabled him to achieve significant objectives, like to:

- Contribute to capacity Building by training in space sciences and technologies,
- Constitute a data base of regional expertise in this field by an investigation near ex trainees or those which took part in a Workshop or Conference organized by the Center,
- Contribute to become aware of the utility of the space techniques for the development.
the difficulties which the Center has to carry out some objectives:
- it is in financial order, the Member States do not contribute regularly,
- the majority of the trainees who followed the first phase of training successfully, they did not carry out their research project, due: they are generally in activity in their institutions, not have enough time for research, they doesn’t find a adequate structure for research, lack of supervisor, there are not sufficient technical tools, even if they carry out their projects do not have financial means to move and defend their memoire in Centre.
Thank you for your attention

• Web Site: www.cрастelf.org.ma