CAPACITY-BUILDING ACTIVITIES IN OIC REGION THROUGH ISNET FORA

Inter-Islamic Network on Space Sciences & Technology
Réseau Inter-Islamique Des Sciences Spatiales Et De La Technologie

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ISNET’s Brief
ISNET’s Establishment

- To accelerate pace of development of S & T in OIC member States, COMSTECH formed Inter-Islamic Networks in 1987.
- Each network was joined by interested OIC member States and was headed by an OIC member State that was having relatively more expertise in that particular field of science and technology.
- Inter-Islamic Network on Space Sciences and Technology (ISNET) is one of the networks, with its Headquarters located in Pakistan (SUPARCO).
Mission

“Promote Space Sciences, Space Technology and their Applications for peaceful purposes in OIC member countries”
Objectives

- To **collaborate and cooperate** with OIC member States in the peaceful uses of outer space
- To **exchange information**, share experiences and maintain dialogue on the developments in space science, space technology and their applications among OIC member States
- To **initiate joint projects** of space sciences, space technology and their applications among OIC member States
- To **coordinate consultancy and advisory services** among member States
- To help and assist in training to **develop the quality manpower** of OIC countries (organisation of periodic short- and long-term training courses, training workshops/on the job trainings)
ISNET’s Capacity Building Initiatives
ISNET’s Capacity Building Activities

• OIC is the second largest inter-governmental organisation after the UN

• Space programs in the OIC region are dominated by few relatively established spacefaring nations and several emerging players

• ISNET was formed with the aim to congregate efforts of space science and technology and its applications in OIC region

• Therefore, to accomplish ISNET’s objectives and assist in human resource development, since its inception ISNET organizes and sponsors participants from member countries to attend its extensive capacity building activities
ISNET's capacity building activities are executed by conducting; hands-on trg, distance trg, conference, seminars, workshops and activities under UN Prog on Space Applications

**
ISNET’s activities were not disturbed even during COVID, as ISNET adjusted its approach and switched to distance learning programs.

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The activities are organized/ conducted in collaboration with its member states. Furthermore, APSCO, UN and GEO activities are also shared with ISNET member states for possible participation.
ISNET’s Activities at a Glance

- **86** Annual seminars/workshops/meetings/trainings/conferences
- **48** Distance learning activities
- **6** Co-sponsored conferences/workshops under UN Prog on Space Applications
ISNET’s Activities at a Glance

450
Research Papers Presented

750
Scientists and researchers benefitted through financial sponsorship

4000
Professionals and students attended the seminars and workshops
ACTIVITIES DURING COVID-19 SCENARIO

Distance Training Course 2020 for APSCO Members States

"Introduction to Satellite Power Systems"

Persian Air Force Capt. Eng. Juan José Jucla Yaya

Assignment:
Designing a communication constellation for APSCO Member States

Determine the number of satellites in each plane:
- 5 satellites in one orbit plane
- 7 satellites in one orbit plane
- 10 satellites in one orbit plane

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Scope

Space Sciences

• Astronomy & Astrophysics
• Space Weather
• Geomagnetism

Space Applications

• RS & GIS Applications
• Water resource management
• Food security
• Environment & climate change
• Disaster management & mitigation
• Natural resource management
• Use & exploitation of satellite-based Optical, SAR and GIS applications for sustainable development
Projects on Space Applications

1. **Satellite Remote Sensing Based Water Resource Mapping**
2. **UAV based Digital Farming for Enhanced Productivity & Food Security**
3. **Geo-Spatial Crops Monitoring for Decision Support to Regional Food Security**
4. **Satellite Remote Sensing based Land Degradation Mapping/ Land Use Land Cover Mapping**
5. **Land Change Modeling based on Satellite Remote Sensing**
6. **Establishment of Total Electron Content (TEC) & Ionospheric Scintillation Monitoring Network under the framework of ISNET**

- Training on geomagnetic and ionospheric data acquisition, processing and analysis techniques
Capacity Building Initiatives

- Sustainable Development Goals
- Women in Space
- World Space Week (WSW)
- Space Law & Policy
Tools/methods Applied
Tools/methods Applied

- Lectures
- On-site/Online
- ATAR++
- Hands-on
- Need Based Analysis
- Incentives for trainer and trainees
- Knowledge Repository
- Wide Publicity
- Joint Activities
Challenges
Challenges

- Inadequate funds
- Dual participation of OIC states in space initiatives
- Duplication of efforts
Lessons Learned
Lessons Learned

• All initiatives to work together and find common interests and foster cooperation therein

• For ownership of participating member states, focus should be on cooperation rather than competition

• Commitment of member states is essential

• Critical to ensure follow-up after the conduct of the activity

• Activities should eventually be aimed to achieve a bigger goal i.e. research based project/studies