

CAS-TWAS Center of Excellence on Space Technology for Disaster Mitigation

CAS-TWAS Center of Excellence on Space Technology for Disaster Mitigation (CoE STDM) is formally established in 2013. The CoE STDM is jointly sponsored by the Chinese Academy of Sciences (CAS) and the Academy of Sciences for the Developing World (TWAS), and hosted at the Institute of Remote Sensing and Digital Earth (RADI), CAS. The goal of the Center is to conduct much-needed research on disaster mitigation through advanced space technologies, especially space-borne Earth observation technology and provide knowledge transfer in developing countries through joint research, education, training, workshop and advisory services. In addition, the close relationships and outreach with TWAS and its Regional Office will also effectively advance its mission.

VISION

To become a model scientific and training Center aiming to enhance scientific and research capacities for disaster mitigation in developing countries through the use of the most advanced space technologies.

MISSION STATEMENT

- To implement outstanding multi-disciplinary and collaborative scientific research activities focusing on natural disasters in relation with floods, droughts, earthquakes, tropical cyclones, storms, etc. with a main emphasis in developing countries.
- To offer associated education programs and customized training courses for students and scientists from developing countries.
- To convene a series of workshops and regional/international meetings bringing together scientific experts from developing countries with the aim to promote a scientific dialogue and a forum for the exchange of best practices.
- To provide technical and strategic advisory services to developing countries.
- To strengthen a full range of research dissemination services and technology transfer through TWAS and other international networks.

HIGHLIGHTS

Joint Research Program

In view of the increasing disasters in developing countries, there is a growing and urgent need to facilitate the use of advanced space technologies, especially space-borne Earth observation as applied to disaster mitigation. The CoE STDM aims to lead collaborative research in developing countries that seek to increase the knowledge and capacity to use Earth observation technology for disasters early warning, preparedness, management, mitigation, and recovery. The research outputs are to be disseminated and will assist to craft strategies designed to reduce vulnerability and enhance resilience. Technical handbooks, training documents, and strategic advisory reports will be available through the Center's website and online information sharing platform.

Education

The STDM Fellowship is conducted through the CAS-TWAS President's Fellowship Programme, and STDM Research Fellowship Programme, having the specific theme of space technologies for

disaster risk reduction. The STDM graduate student fellowship is designed for Ph.D. candidates from developing countries. Under the support of the CAS-TWAS President's Fellowship Programme, awardees will take one year study of courses at University of Chinese Academy of Sciences (UCAS) at the Beijing campus and they will complete dissertation degree at RADI. Funded by the STDM Research Fellowship Programme, the STDM visiting scholars and postdoctoral fellowships provide to the early/mid career scientists of developing countries short-term research opportunities at RADI. Main priority is given to collaborative research activities. A review panel for the STDM Fellowship shall be established. Such a panel will be responsible for the evaluation and selection of the awardees.

Training Workshop

The flagship training courses of STDM (called Lessons Without Borders Program) are offered aiming to address the needs of developing countries in disaster risk reduction. The program collects information on international best practices with applications to a variety of hazard events, especially for floods, droughts, earthquakes, tropical cyclones and storms. Each training course stretches over a 3-week period, covering both theoretical and practical aspects on the use of space technologies for disaster mitigation.

Conference and Seminar

The two-day conference series on Earth observation and disaster mitigation are organized every year. The conference facilitates the broad discussion of capacity development for disaster risk reduction, innovative Earth observation products and tools for disaster management and mitigation, and spatial technology and integrated disaster research. Participants to the conference include experts from the developing countries, UN agencies, intergovernmental organizations in the Earth observation field (e.g., GEO, CEOS), NGOs, and TWAS (TWAS Fellows are specially invited). After conference, sub-group face to face seminars and video teleconferences for specific disasters and regional issues are set up irregularly.