

Symposium Keynote Speaker



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Spatial Environmental Monitoring Application on Big Data and Cloud Computing

Prof. Tien-Yin Chou had his doctorate degree from Department of Resources Development at Michigan State University in 1990. He has been the Director of Geographic Information Systems (GIS) Research Center at Feng Chia University (FCU) for 20 years, and honored as Distinguished Professor at Dept. of Urban Planning and Spatial Information and Dept. of Land Management. With his profession and enthusiasm, Prof. Chou has performed an outstanding achievement with his 170 full time staff members at GIS Research Center to bring the GIS.FCUC as one of the leading role in the GIS-related academic and industry fields domestically and globally. GIS.FCUC has implemented a wide range of researches and projects, from data infrastructure, security and monitoring, resources management, UAV, fleet management, big data, smart city, cloud computing to even mobile facilities application product. Prof. Chou also supervises graduate students and teaches courses pertaining to GIS science, land management, and resources management at FCU.

Abstract

Information and Communication Technology (ICT) plays an important role in many aspects at national and international levels. This presentation illustrates how integrating advances in geospatial information technologies, monitoring sensors and cloud computing techniques can be integrated effectively in the management and mitigation of natural disasters. With the advances in geospatial information technologies, monitoring sensors and cloud computing techniques have been widely used in almost every field globally. Most sensors for monitoring, such as rain gauges, surveillance cameras, or micro meteorology detectors, are carrying out a long period of observation, which results in a rapid accumulation of observation records in databases and enormous demand on computing resources. Meanwhile, the interoperability among monitoring information generated by different facilities remains a big issue when different disciplines desire to access those sensor resources for interdisciplinary applications especially of agricultural aspects. This presentation examines issues of massive data processing and interoperability by presenting the visualized monitoring systems output in Taiwan. It also intends to propose a solution to those issues by adopting Cloud Computing.