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5th International Conference on

GIS and Remote Sensing

September 16-17, 2019
Rome, Italy



SCIENTIFIC PROGRAM

DAY 1
Monday, 16th September

08:30-09:00 **Registrations**

09:00-09:30 **Introduction**

09:30-09:50 COFFEE BREAK

09:50-11:50 Meeting Hall 01 **KEYNOTE LECTURES**

11:50-13:10

MEETING HALL 01	MEETING HALL 02
Talks On: Remote Sensing and GIS	**Talks On:** GIS Techniques and Technology
Geological remote sensing	Raster-to-vector translation
Satellite remote sensing	Projections coordinate systems, and registration
Global positioning system	Data representation
Remote sensing in atmospheric modeling	Data capture
	Resources assessment

13:10-13:15 GROUP PHOTO

13:15-14:00 LUNCH BREAK

14:00-16:00

MEETING HALL 01	MEETING HALL 02
Talks On: Remote Sensing in Urban Environment	**Talks On:** Web GIS and Web Mapping
Emerging imaging and sensing technology	Real-time and 3D with ArcGIS
Digital image processing	Mobile mapping
Remote sensing of clouds and atmosphere	Static web maps
Weather forecasting	Traffic congestion maps
High performance computing in geoscience	3D modeling from remotely sensed data

16:00-16:20 COFFEE BREAK

MEETING HALL 01 (16:20-17:00)	MEETING HALL 01 (17:00-18:00)
Young Researchers	Workshop

DAY 2
Tuesday, 17th September

09:00-10:30 Meeting Hall 01 — **KEYNOTE LECTURES**

10:30-10:50 COFFEE BREAK

10:50-12:50

MEETING HALL 01	MEETING HALL 02
Talks On: Global Navigation Satellite System	**Talks On: GIS & RS Applications in Forestry**
Global positioning system (GPS)	Land management
Global system for mobile communications (GSM)	Agriculture
Big data processing	Deforestation
Navigation and communication	Biodiversity conservation

12:50-13:35 LUNCH BREAK

13:35-15:55

MEETING HALL 01	MEETING HALL 02
Talks On: Cartographic Modeling	**Talks On: Implications of GIS in Society**
Decision support modeling	GIS social practice
Analysis of mapped data	GIS & RS in climate change

15:55-16:15 COFFEE BREAK

MEETING HALL 01 (16:15-17:00)	MEETING HALL 01 (17:00-18:00)
Poster Presentations	**Workshop**

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AGENDA

Abstract

Title: Enhancements of airborne bathymetric lidar: Mapping the submerged near-shore environment at 4 times the previous point density

Tim Webster

The nearshore zone between the land and deeper water is highly productive, energetic and is challenging to map using traditional land or marine based techniques. Topo-bathymetric lidar (TB-lidar) sensors are well suited to survey this land-sea boundary and provide seamless elevation and imagery across this boundary. The Leica Geosystems Chiroptera II TB-lidar sensor is equipped with NIR and green lasers and 60 MPIX RGB+NIR camera, the Leica Geosystems Chiroptera II, and has been flown for research and commercial missions since September 2014.

Title: Use of EOS geospatial data for earth science

Brandi Quam

Climate change models have recently projected increased heavy rainfall events in both wet and dry regions. It is well established that heavy rainfall events are associated with increased risks of waterborne diseases (WD). However, there is a paucity of epidemiological evidence for how wet and dry regions influence the risk of WD due to heavy rainfall. In New Zealand, the annual total rainfall can differ by up to 3500mm in different locations.

Title: Land use land cover impacts on coastal erosion in Krishna-Godavari Delta front coast, Andhra Pradesh, India-a remote sensing approach

P. Jagadeeswara Rao

The world is facing coastal erosion and inundation of lowlying coastal areas is a major concern in recent years. It is a slow process, but may emerge as a major disaster unless it is not properly mitigated. Besides the impact of global and regional environmental issues, the human induced land use is also contributing area specific coastal erosion.

SPEAKER SLOTS AVAILABLE

Title: Geospatial analysis of the spatio-temporal growth of Federal Capital City, Abuja, Nigeria

Benedine Akpu

The movement of the Capital of Nigeria to Abuja in 1991 triggered the rapid urbanization process in the area and presently, it is said to be one of the fastest growing cities in the world. This rapid growth has mounted pressure on the city, and the surrounding settlements thereby threatening the limited resources. This paper therefore applied Remote Sensing, Geographic information Techniques and Shannon's Entropy model to analyze the spatio-temporal growth of the Federal Capital City, Abuja, Nigeria.

Title: An automatic georeferenced crop rows generator using aerial high-resolution images for precision agriculture in sugarcane crops

Fabio Andres Herrera

In this research, a crop rows generation in sugarcane crops will be addressed through image processing and computer vision techniques through a developed QGIS Plugin "Crop Rows Generator (CRG)". CRG involves computer vision techniques and a high-performance computing approach which are capable of process high-resolution large images obtained by a Drone and on these images detect, generate and mapping crop rows in sugarcane fields, with a few clicks.

Title: Proximity analysis between agricultural production and existing structures from planning perspective in the state of Iowa

Mohammad Rafayet Hossain

Massive use of fertilizer and pesticides has become a major concern in recent days all over the world. Use of chemicals in agricultural fields are increasing total rate of production, but its a major health concern. Clear separation distances between residential and agricultural land use are mandatory to preserve safe and sound environment.

SPEAKER SLOTS AVAILABLE

Title: Geospatial Assessment of Raphia Palm Wine production and consumption points in Owerri Senatorial district, Imo State, Nigeria

Abiodun Ayooluwa Areola

Raphia palm wine occupies a very important position in the traditional activities of Owerri senatorial district and the Igbo ethnic group in Nigeria generally. A lot of benefits have been derived from Raphia palm, which can be grouped under cultural, health, religious, culinary and economic benefits.

Title: Predictive modelling of Soil Erosion Rate using Adaptive Neuro-Fuzzy Inference System (ANFIS) coupled with Geographic Information System (GIS) of Wadi Sahel-Soummam Watershed (Algeria)

Messaoud Djeddou

There is a need to develop simple methods for predicting areas of extensive soil erosion using imprecise, but real world, input data at low cost with considerable accuracy. The objectives of this study is to develop fuzzy logic models that predict soil erosion in a relatively large watershed using a limited number of input variables, compare the predictions of soil erosion using ANFIS model with those of the Revised Universal Soil Loss Equation RUSLE.

Title: The application of semivariogram and ordinary kriging in determining the cohesion and clay percentage distribution in Hilly area of Sabah

Mohammad Radzif Taharin

Ordinary Kriging (OK), is one of the geostatistical methods, which were used in the variation types of mapping, which related to the soil. Compliment by semivariogram models, OK has become one of the most sought out method for the digital mapping, which applied Geographical Information System (GIS) as a main approach. In this method, four semivariogram models, which are spherical, exponential, circular and gaussian would be applied to determine the best model for the mapping purposes, with Root-Mean-Squared-Error (RMSE) as a performance indicator.

SPEAKER SLOTS AVAILABLE

Title: Drainage basin morphometric analysis of the zungeru/ nupeko segment of river kaduna catchment north cntral Nigeria

Umar Mohammed Umar

This study relied on the medium resolution Digital Elevation Model (SPOT DEM, 20 m resolution) of the Drainage Basin that was acquired from the Office of the Surveyor-General of the Federation in Abuja, Nigeria. Digital spatial data (such as sub-basin and river network maps) were extracted from other reliable sources and literatures. Analyses were undertaken in various stages to obtain parameters for drainage density, form factor, compactness coefficient, elongation ratio and circulatory ratio.

Title: Application of GIS in building construction

Henry Atta Bonsu

Geographic information systems (GISs) is a computer based tool and being used extensively to solve various engineering problems involving the use of spatial data. GIS technology provides capabilities to solve problems, involving creation and management of data, integration of information, visualization, E-commerce and cost estimation to which most of the architectural design and construction management software is lacking.

Title: Geographic Information System (GIS) modelling approach to determine the most efficient delivery routes for fresh product using real time data

Mohammad Abousaeidi

This study involves the adoption of the Geographic Information System (GIS) modelling approach to determine the quickest routes for fresh vegetable delivery. During transport, fresh vegetables mainly deteriorate on account of temperature and delivery time. Nonetheless, little attention has been directed to transportation issues in most areas within Kuala Lumpur.

SPEAKER SLOTS AVAILABLE

Title: Public space as a key component in the geography of post-disaster recovery in Mexico City

Milton Montejano Castillo

At an international level, it has been increasingly recognized that public spaces are an invaluable resource in a post-disaster recovery phase. Among the most developed research topics are the role that public space plays after a disaster, the evaluation of spaces before disasters, accessibility aspects for emergency shelters and design guidelines to make spaces useful in crisis.

Title: GIS based identification for active tectonics: An example from Western India

Jayanta Kumar Jena

Tectonic landforms express a broad spectrum of topographic features that can be employed as indicators of the style, magnitude and rate of timing of tectonic movements. The tectonic activities may be episodic or may occur at very low rate for prolonged period. The selected area is sandwiched between Jahazpur Thrust (JT) and Great Boundary Fault (GBF) as its western and eastern boundary, respectively.

Title: Remote sensing and cloud GIS optimizes field work for data collection during flood events

Javier Gustavo Villegas

In the floodplains of the Yacuma River watershed, the events of extreme inundations are occurring with an increasing frequency. Yacuma River is a navegable water course that is part of the Amazon basin. In February 2014 a major flooding event in the Beni provinces, caused by unprecedented rains and river flow levels, devastated this beef cattle producing area. With less magnitude but also prejudicial for the farmers, floodings occurred in the following years.

SPEAKER SLOTS AVAILABLE

Title: The geographic information systems in the era of big data. The impact on society

Marco Antonio López Vega

In the age of mobile devices, applications based on global positioning systems, social networks and mass storage systems in the "cloud". Geographic Information Systems take a step forward in their evolution, by implementing new technologies and integrating all the sources of information provided by the Internet. With the objective of spatial data analysis.

Title: Development of an application for implementation of a spatial data warehouse in ArcGIS

Abdellah Mebrek

GIS offers advanced functions for acquisition, storage, analysis and map display; of a geographic information. However, their effectiveness for complex spatial analysis, is questionable because of their determinism and decision-making rigor. On the other hand, the OLAP technology that combine both bases multidimensional analysis and the concepts of the datamining, provides powerful tools allowing to highlighting inductions and informations not obvious by the conventional tools.

Title: Precision farming: A new approach to cocoa farm management in Malaysia

Tee Yei Kheng

Development of precision cocoa management is a game changer for cocoa industry in Malaysia by providing access to know about the conditions of crop, soil and factors contributing to the cocoa production using modern technology. Precision cocoa farm management might provide a blueprint to increase cocoa productivity and at the same time reduce agriculture input costs.

SPEAKER SLOTS AVAILABLE

Title: Applications of remote sensing for water resource management in hard rock terrain

Pallavi Chattopadhyay

Geographycal Information System (GIS) technology is well-established tool and is routinely used in applied hydrogeology. To demonstrate the capabilities of GIS technique for groundwater resources development in hard rock terrains, specifically for the demarcation of suitable sites for groundwater exploration and exploitation of aquifers, a study was carried out in Telangana State, India. Groundwater is an important source of water supply in such hardrock terrains. Occurrence of groundwater in hard rock terrains is restricted and subject to greater complexity.

Title: Using GIS as a decision support systems for the location of primary schools in Fagge Localgovernment area of Kano State, Nigeria

Oluwaseun Olubadewo-Joshua

This paper analyzed the spatial distribution of Primary schools in the area and the objectives are to make an inventory of the schools in the area, to create a geo-database of the schools in the area and to analyze the pattern of the schools in the area. There are over 2 million primary school children in Kano State, the teacher-pupil ratio is 1:42.

Title: Monitoring of agricultural drought using remote sensing

Saeed Shojaei

It is essential to have reliable indicators to effectively assess and monitor the drought. Field measurements have high accuracy for producing drought indices. On the other hand, the provision of these indicators in large areas is very costly. Space observations provide the ability to monitor droughts using remote sensing technology through the ability to receive high spatial and temporal resolution information on a wide range of terrain.

SPEAKER SLOTS AVAILABLE

Title: Urban forest cover changes using remote sensing in democratic People's Republic of Korea

Seongmin Shin

Since urban green spaces play an essential role in sustainable development and quality of life in cities, there have been numerous efforts to increase green spaces including parks and gardens. Democratic People's Republic of Korea (DPRK) has also tried to make cities green since the late 1990s in line with the change of forest policy from economic utilization of forest resources to forest protection.

Title: Thermographic imaging of water bodies to identify pollution

Stepan Marval

Contribution in the form of a poster presentation focuses on the lessons learned from the application of the principle of thermal imaging in the field of water management. The main area of interest is the identification of potential sources of pollution entering watercourses or reservoirs. Identification is based on temperature differences between the main stream and the discharge object.

Title: Monitoring responses of vegetation phenology and productivity to extreme climate conditions using remote sensing across different sub-regions of China

Tehseen Javed

In this paper, we investigate the impact of extreme climatic variation on vegetation phenology and productivity over the sub-regions of China. Daily rain gauge datasets were used to predict the air temperature and precipitation trend and compute the Standardized Precipitation Evapotranspiration Index (SPEI). Remote sensing data Moderate Resolution Imaging Spectroradiometer (MODIS) Enhanced Vegetation Index (EVI) data was used to predict the vegetation penology.

SPEAKER SLOTS AVAILABLE

Title: Pollution evaluation of Ghanat Kosar District in Tehran

Milad Davoudkhani

GIS has different applications in various fields and one of its important applications is in the environment and mapping of noise pollution. Noise pollution is one type of the environmental pollution which threatens the life of living creatures. The extent of physical and mental damage of this type of pollution is so much that technical and international standards have been defined for it.

Title: Assessment of climate change adaptation strategies used by cassava-based farmers in Southern Nigeria

Oussama Yazidi

In recent years, urban areas have dramatically increased. Hence, there is a significant interest for improving efficiency of urban planning in most developed countries. The wide world is experiencing a rapid urbanization rate. Which urban growth contributes many advantages in term of economics; if is uncontrolled, it would produce negative consequences to the physical, social and natural environment.

Title: Preliminary study on remote sensing the relationship between the brightness temperature pulses observed with a ground-based microwave radiometer and the lightning action integral

Wang Zhenhui

The integral of lightning current squared over time, named as the “lightning action integral”, is an indicator of Joule heat generated by lightning discharge. The temperature of air molecules is thus increased, which can be observed by a ground-based microwave radiometer for atmospheric temperature remote sensing.

SPEAKER SLOTS AVAILABLE

Abstract

Title: Land use/land cover change mapping and impact of geo-environment in Bangui city using remote sensing and GIS techniques

Mamadou Traore

The security instability in the Central African Republic (CAR) forces the civilian population to flee the provinces to seek refuge in Bangui city, or in other countries. Human activity, which is very beneficial in the context of urbanization, is the main driver of change in the city of Bangui, but also has a negative effect on the geo-environmental.

Title: Evaluation of the urban landscape structures and dynamics of Hawassa City, using satellite images and spatial metrics approaches, Ethiopia

Berhanu Terfa

The study deals with the analysis of urban expansion and land transformation of Hawass City using remote sensing data and landscape metrics during the last three decades (1987–2017). Remote sensing data from Various multi-temporal satellite images viz.,

Title: Why geographic information systems in crime mapping and spatial-temporal analysis?

Gachie Baraka

Security management is becoming complex in today's society due to increased transnational crimes which are enhanced by technological advancements. To address this challenge, police agencies need to continuously adopt and effectively apply more innovative decision support tools in law enforcement. Kenyan police officers are however still using paper-maps and push-pins (manual crime mapping tools) to analyse crime.

SPEAKER SLOTS AVAILABLE

PAST AFFILIATES

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Victor Puchkov Nikolaevich,
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Rome Attractions



Glimpses of GIS Congress Conferences

















Scientific Program



4th International Conference on

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September27-28, 2018 | Berlin, Germany

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DAY-1

September 27, 2018

Meeting Hall: Bismarck

Registrations

Opening Ceremony

KEYNOTE FORUM

Introduction

Title: Applications of GIS and remote sensing in lansdlide hazard assessment

Wendy Zhou, Colorado School of Mines, USA

Networking & Refreshments

Sessions: GIS and Remote Sensing | Geodynamics | Spatial Analysis With GIS | Global Navigation Satellite System (GNSS) | GIS & RS in Climate Change | Remote Sensing in Urban Environment

Chair: **Agustin Fernandez Eguiarte,** Universidad Nacional Autonoma de Mexico, Mexico

Co-Chair: **Waqas Wajid,** Hochschule Anhalt, Bernburg (Saale), Germany

INTRODUCTION

Title: Selection of an appropriate height system for geomatics

Petr Vanicek, University of New Brunswick, Canada

Title: A service–enabled visualization for conveying spatial information by summarizing temporal point data

Leanne Sulewski, United States Department of Defense, USA

Title: Deep learning based on U-Net architectures for lithological classification using multi-sensor data

Yuanze Chen, Technical University of Munich, Germnay

GROUP PHOTO

Lunch Break

Title: Synthesising information in remote sensing images based on an adaptive accumulation of evidence

Gloria Bordogna, CNR IREA, Milano, Italy

Title: Coupling deep learning and GIS for forest damage assessment based on high-resolution remote sensing data

Zayd Mahmoud Hamdi, Technical University of Munich, Germany

Title: Using Sentinel 2A images to analyze temporal variation of estimated chlorophyll content in olive groves and its relationship to phenological stages

Judit Rubio Delgado, University of Extremadura, Spain

Title: Sentinel-1 SAR data for agricultural applications

Dietrich Heintz, Cropix, Thalwil, Switzerland

Networking & Refreshments

Title: Spatio-temporal analysis of landuse change using Landstat 5 TM and stochastic gradient boosting in peri-urban areas of Yogyakarta, Indonesia
Sintha Prima Widowati Gunawan, Osaka University, Japan
Title: Spatial analysis of tourism places in post-Soviet contexts: Tourist destinations of Baltic states
Andris Klepers, Vidzeme University of Applied Sciences, Latvia
Title: Use of geo-spatial techniques to estimate the efficiency of public transport service in an urban area
Salman Zubair, University of Karachi, Pakistan

Panel Discussion

DAY-2

September 28, 2018
Meeting Hall: **Bismarck**

KEYNOTE FORUM

Title: International Terrestrial Reference Frame (ITRF) and global geodynamics
Victor Puchkov Nikolaevich, Russian Academy of Sciences, Russia

Networking & Refreshments

Sessions: GIS Techniques and Technologies | Geostatistics | Disaster assessment and management | GIS in renewable energy sources | GIS in Mapping | Seismology and Geodesy

Chair: Leanne Sulewski, United States Department of Defense, USA
Co-Chair: Andris Klepers, Vidzeme University of Applied Sciences, Latvia
Co-Chair: Katerina Mekhlis, NeoCityLab, Netherlands

INTRODUCTION

Title: Quantification of the impacts of tropical cyclones on the coasts of the Gulf of Mexico, the Western Caribbean Sea and on the urban, semi-urban and rural localities of Mexico
Agustin Fernandez Eguiarte, Universidad Nacional Autonoma de Mexico, Mexico
Title: Adopting the linked data approach for spatio-temporal analysis: Opportunities and challenges
Valentina Janev, University of Belgrade, Serbia

Title: Spatial and sensible planning of chaotic metropolitan city through GIS and remote sensing
Waqas Wajid, Hochschule Anhalt, Bernburg (Saale), Germany

GROUP PHOTO

Lunch Break

Title: A geospatial study on coastal erosion in Krishna-Godavari delta region, Andhra Pradesh, India
Peddada Jagadeeswara Rao, Andhra University, India
Title: Using GIS to develop vulnerability index map for Bassetlaw District Council
Andrews Kwasi Afforo Odoom, Losamills Consult Limited, Ghana
Title: New approache to data visualisation, automated object recognition and urban management based on laser scanning and photo panoramas
Katerina Mekhlis, NeoCityLab, Netherlands
Title: Developing a prototype of geo-spatial system for the implementation of One District, One Factory policy in support of regional economic development and poverty alleviation programmes in Ghana
Napoleon Kurantin, Ghana Institute of Management and Public Administration, Ghana

Networking & Refreshments

Title: Object-based forest cover change mapping using remote sensing in Nuristan province, Afghanistan
Shogufa Popal, Kabul University, Afghanistan
Title: Earthquake risk assessment of Blida (Algeria) using GIS
Khalida Tadjer, University of Blida, Algeria

POSTER PRESENTATIONS

PANEL DISCUSSION

Awards & Closing Ceremony