



The 5th International Conference on
Earth Observation for Global Changes (EOGC 2015)

&

The 7th International Conference on
Geo-information Technologies for Natural Disaster Management (GiT4NDM)

DECEMBER 8 – 10 2015, UAEU, Al Ain , UAE

◆ *Nature of the Earth and Spatial Sustainability Development* ◆

CONFERENCE PROGRAM

<http://conferences.uaeu.ac.ae/eogc-git4ndm/>



JOINTLY ORGANIZED BY

United Arab Emirate University
(UAEU)



Waterloo Institute for Disaster Management
(WIDM)



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Message from Prof. Saif Al-Qaydi, Dean of College of Humanities and Social Sciences



WELCOME to Al Ain, United Arab Emirates, and the 5th EOGC & the 7th GiT4NDM 2015

The 5th International Conference on Earth Observation for Global Changes (EOGC), and the 7th International Conference on Geo-information Technologies for Natural Disaster Management (GiT4NDM) will be held from 8 to 10 December 2015 in the United Arab Emirates University Campus. The UAEU was selected as a host of the conference due to its global reputation as a flagship University in academic scholarship and scientific research. International top-ranking scholars and high-caliber researchers from all over the world will participate in the conference. The significance of the conference is contingent upon the crucial topics it will explore including the global transformations in terms of environment and demography. The participating scientists will attempt to identify the nature of these global changes and capture their manifestations in order to reach solutions and construct future plans to confront them. Apparently, cutting-edge technological applications are able to fathom the depth of these global phenomena and predict their impact upon humanity in order mitigate their impact in a pre-emptive manner. Moreover the research papers that will be presented in the conference will enrich the academic knowledge of our students who will have an opportunity to meet with distinguished scholars in different fields of specializations. There is no doubt that the conference will provide a platform for both students and academicians to exchange views and experiences regarding the current global changes sweeping our planet and the effective ways to confront them

Dr. Saif Al-Qaydi

College of Humanities and Social Sciences, UAEU, Dean

Message from Dr. Khaula Alkaabi, Chair of the Conference



WELCOME to Al Ain, United Arab Emirates, and the 5th EOGC & the 7th GiT4NDM 2015

We are delighted to have you here to participate and share in the 5th EOGC & the 7th GiT4NDM 2015. Thank you for honoring us by accepting our invitation, and attending and participating in these vital activities. We know and appreciate that many of you has traveled long distances and this reminds us all just how important our work is.

Let me take the opportunity to thank his Excellency **Dr. Ali Rashid Al Noaimi**, the Vice Chancellor for patronizing the conference. Also, the full support and encouragement of the dean of the College of Humanity and Social Sciences, Dr. Saif Al-Qaydi, are highly appreciated. I am also very glad that we have been successful in attracting such distinguished experts, participating organizations and entities, if I may name but a few of them, UAE Space Agency, Mohamed Bin Rashid Space Centre, and Yahsat to whom I find no better words to say than thank you, for your dedicated efforts to make our planet a safer and more pleasant place to live in.

The aim of this conference is to present a forum that enables all distinguished partners and participants to promote a better understating for our earth system that furthers the scientific awareness about how to utilize the capacities that we have in order to find solutions for the problems that our world faces in the fields of earth observations and disaster management.

We are looking forward to be challenged, excited and inspired by your insights and positive contributions. On behalf of the university and the conference organizing committee, I welcome you at our university and wish you a pleasant and enjoyable stay in our beautiful city of Al Ain to the uttermost maximum.

Dr. Khaula Alkaabi
Chairwoman of the Conference
Geography & Urban Planning Department, Chair
College of Humanities and Social Sciences, UAEU

Message from Dr. Saied Pirasteh, WIDM Director and Co-chair of the conference
Waterloo Institute for Disaster Management (WIDM) www.widm.ca



May I take this opportunity, on behalf of Waterloo Institute for Disaster Management (WIDM) and the organizing committee, to extend a warm welcome to everyone to the 7th GiT4NDM and the 5th EOGC 2015 in this beautiful city of Al-Ain in the UAE, especially to our guests from abroad. The goal of the conference is to contribute the recent knowledge among the local and international participants in both geomatics community and disaster management community. We look forward to your active participation in the various activities which we have lined up during this conference from keynotes and technical presentations and discussions in the conference to workshop, meetings, and visits. I hope this conference can be a platform to benefiting everyone for the vast opportunity to network with other professionals from all over the world. The theme is “*Nature of the Earth and Spatial Sustainability Development*”. Science, Earth Observation Systems, Engineering & Technology, and Global Stability & Security was chosen with a backdrop of a world facing numerous crisis today, from ever-increasing natural and man-made disasters that is threatening communities all over the world to engineering and technology issues that affect our lives. It breaks our heart to witness the destruction of properties, loss of limbs and lives as well as the desecration of the environment when disasters strike. I therefore, hope that deliberations during the few days of this conference will contribute significantly towards building a strong foundation for future actions in enhancing our contribution to a better world. Nevertheless, nature is interrelated and dynamic. Environmental fragmentation whereby one’s economic life became fragmented from the surrounding environment and is resulted in environmental-ecological devastation. Thus, *I propose a Holistic Education of the nature and environment* in every step of teaching and learning process in order to reduce the social fragmentation because of development of big cities, high population, and crime rate.

In this light, I must record our gratitude to **H. E. Dr. Ali Rashid Al Noaimi**, the UAEU Vice Chancellor for the undivided support towards making the Conference and workshop a success. A special thank goes to **Prof. Saif Al-Qaydi**, the Dean of College of Humanities and Social Sciences for his support. My sincere thanks to **Dr. Mohamed Yagoub**, **Dr. Khaula Alkaabi**, **Dr. Khalid Hussein**, **Mr. Abdallah Al-Bizreh**, and all committee members from the United Arab Emirates University, UAE for the hard work and enthusiasm to make this event successful. I also thank the scientific committee members for providing a valuable comments to improve this event. And last but by no means least, I would like to extend my sincere appreciation to all our hard working organizing committee members and other individuals who have been working very hard to make this 7th GiT4NDM-5th EOGC 2015 a memorable gathering in this land of the peace and culture. Please feel free to visit www.widm.ca. Should you have any questions, please contact me at spirasteh@widm.ca

Saied Pirasteh



Message from Dr. M. M. Yagoub, Co-chair of the Conference



Welcome to UAE University and the 5th EOGC & the 7th GiT4NDM 2015

The organization of the 5th EOGC and 7th GiT4NDM at the United Arab Emirates University (UAEU) reflects the University's commitment to capacity building and to the advancement of knowledge and research in space and geospatial fields for peaceful purpose. This conference is yet another milestone in a steady and consistent track record by the university. In the 1980s, UAEU established a Remote Sensing Center that utilizes remote sensing data for research and development. This was followed by the introduction of GIS in its curriculum in 2000 and the development of the Master Degree program in Remote Sensing and GIS in 2005. These developments were well-coordinated with the country's involvement in space research, and were carefully designed to address market demands.

At the national level, UAE has witnessed noteworthy events that reflect the country's commitment to Space research and development. In the mid1970s, Shaikh Zayed, the founder of the country, met a delegation from NASA and appreciated NASA's work on the moon exploration mission. Ever since that date, many space activities and developments took place including;the launching of the First Thuraya satellite in 2000; the hosting of the UAE Unified Aerosol Experiment (UAE2) in 2004;the launching of DubaiSat 1 in 2009;Yahsat's Y1A in 2011, Yahsat's Y1B in 2012, DubaiSat 2 in 2013, and the establishmentof UAE Space Agency in 2014.

At UAEU we believe that the interaction andcollaboration betweenacademia and the industry in this conference will ignite innovative solutions that are needed by the market. In 2013, natural disasters displaced 22 million people around the world, which is an indication of the magnitude of the problem and the need to address it in all its manifestations, before, during and after disasters happens. Space and GIS play a great role in minimizing the impact of disasters. This can be obtained by utilizing satellite images that help in the development of proper zoning and land-use controls (determining flood zones and recommending laws and guidelines to restrict building in low areas; avoiding low coastal areas - sea level rise, and avoiding high areas - landslide). With around 3000 satellites orbiting the earth everyday gathering images, communicating conversations, positioning objects, and networking people there is a potential for streaming such Big Data for investigating global changes and disaster management.

We welcome you again and we look forward to a successful meeting of minds and to reaping the benefits of this conference in all areas of research here in the UAE and abroad.

Dr. M. M. Yagoub

College of Humanities and Social Sciences, UAEU

PROGRAM OVERVIEW

Day	Date	Time	Activity	Venue
Monday	December 7, 2015	08:30 AM – 01:00 PM	Registration	H1- Building
		09:00 AM – 01:00 PM	QGIS Pre-Conference Workshop	
Tuesday	December 8, 2015	08:30 AM – 02:00 PM	Registration, Opening Ceremony, Keynote Speeches	Crescent Building
		02:00 PM – 06:00 PM	Presentations	
		06:00 PM – 08:00 PM	Gala Dinner and Social Event	UAEU Park
Wednesday	December 9, 2015	08:30 AM – 01:20 PM	Registration, Keynote Speeches	Crescent Building
		01:20 PM – 05:20 PM	Presentations	
		05:20 PM – 06:30 PM	Open Discussion	
Tuesday – Wednesday	December 8–9, 2015	08:30 AM – 06:00 PM	Exhibition	B2053
Thursday	December 10, 2015	08:30 AM – 02:00 PM	Exhibition	B2053
		11:00 AM – 08:00 PM	Trip to Abu Dhabi	Gathering at Crescent Building

December 7, 2015 (Monday)
QGIS Pre-Conference Workshop
Venue: H1- Building, GIS Lab 0040, UAE University

Time	Topic
08:30 AM – 01:00 PM	Registration
09:00 AM – 10:30 AM	Open Source Hands-on GIS Workshop for Disaster Management Using QGIS and GRASS, Prof. Scott Madry From The University Of North Carolina, USA and Executive Director, The Global Space Institute and Dr. Saied Pirasteh, Waterloo Institute for Disaster Management, Canada
10:30 AM – 10:45 AM	Break 
10:45 AM – 1:00 PM	Workshop (Continue)

DAY 1


December 8, 2015 (Tuesday)
Venue: Crescent Building, Auditorium (B2001)
Exhibition Venue: (B2053)

Time	Topic	Speaker
08:30 AM – 02:00 PM	Registration	
09:30 AM – 09:40 AM	Opening Ceremony	
09:40 AM – 09:50 AM	Welcome and Officiating Speech	H. E. Dr. Ali Rashid Al Noaimi , Vice Chancellor of the UAE University
09:50 AM – 10:10 AM	The UAE Space Agency View on The Importance of Space Assets in Sustaining A Consolidated Modern Geo-Special Information Systems	H. E. Dr. (Eng.) Mohamed Nasser Al Ahabbi , Director General, UAE Space Agency
10:10 AM – 10:20 AM	Role of UAE Red Crescent in Disaster Response	H. E. Humaid Rashid AL Shamsi , Deputy Secretary General for International Aid, UAERC
10:20 AM – 10:40 AM	Honoring Sponsors, Keynote Speakers, and Organizers	H. E. Dr. Ali Rashid Al Noaimi , Vice Chancellor of the UAE University
10:40 AM – 11:00 AM	Exhibition Inauguration	
Keynote Session I		
11:00 AM – 11:30 AM	MBRSC Space Programme Activities	Eng. Adnan M. Al Rais , Project Manager of UAE Mars Mission, Mohammed Bin Rashid Space Centre (MBRSC)
11:30 AM – 12:00 PM	UN-SPIDER Bridging Generators of Data to End-Users of Disaster Management Information; One Step In The Implementation of The Sendai Framework for Disaster Risk Reduction 2015-2030	Luc St-Pierre , Coordinator of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN- SPIDER), Vienna International Centre, Austria
12:00 PM – 12:30 PM	Information & Communications Technology YahService	Ali Al Hashemi , General Manager of YahService
12:30 PM – 01:00 PM	Nepal Earthquake of 25th April 2015: Remote Sensing in Detection of Pre- Earthquake Anomalous Thermal Line and Co-Seismic Ground Deformations	Prof. Arun Kumar Saraf , Head of the Department of Earth Sciences, IIT Roorkee, India
01:00 PM – 02:00 PM	Lunch	 lunch break

DAY 1 (Continue)


December 8, 2015 (Tuesday)
Parallel Technical Session I- Water (Venue: Auditorium-B2001)
02:00 PM – 04:00 PM

Chairs: Dr. Abul Salam Abdul Mannan and Dr. Ali Aydda

Time	Topic	Presenter
02:00 PM – 02:20 PM	Application of Subsurface Dam in Order to Provide Drinking Water for Rural Development in Arid Region (A Case Study in Yazd-Iran)	Jalal Barkhordari
02:20 PM – 02:40 PM	Runoff Estimation Using NRCS-CN Method	Naseela EK, B.M Dodamani, Chaitra Chandran
02:40 PM – 03:00 PM	The use of GIS to Measure Change in the Ground Water Levels in Qatar Between 1980 & 2009	Yasir E. Mohieldeen, Anan Al Mari
03:00 PM – 03:20 PM	Spatial-Temporal Modeling the Impact of Land Cover Change on Storm Runoff In Kelantan Area, Malaysia	Shattri Mansor, Nor Aizam Adnancc, Siti Noradzah Adam
03:20 PM – 03:40 PM	Salinization of Groundwater in Maliha Area- Al Sharjah, the UAE, and their Impact on the Land Cover Change	Shahrazad Abu Ghazleh, Abdallah Al-Bizreh
03:40 PM – 04:00 PM	Break	

Parallel Technical Session I- Disaster and Risk (Venue: D3-Business Centre)
02:00 PM – 04:00 PM

Chairs: Dr. Alireza Farrokhnia and Dr. Marawan Al Mubarak

Time	Topic	Presenter
02:00 PM – 02:20 PM	Mapping and Communicating Disaster Risk Reduction Projects	Daryoush Kari, Ali Asgary
02:20 PM – 02:40 PM	Experimental Study of the Mechanics of Gypsum Seam Hazard For Abu Dhabi	Michael Opolot, Wei Li
02:40 PM – 03:00 PM	Disaster Prevention and Management of Poultry Production in the UAE	Moustafa A. Fadel, Ahmed Hussein,
03:00 PM – 03:20 PM	INACHUS: Integrated Wide Area Situation Awareness and Survivor Localization in Search and Rescue Operations	George Athanasiou, Angelos Amditis, Nicolas Riviere
03:20 PM – 03:40 PM	Big Data for Disaster Management at Public Institutions: Case of Educational Facilities	M. M. Yagoub
03:40 PM – 04:00 PM	Break	


DAY 1 (Continue)

December 8, 2015 (Tuesday)

Parallel Technical Session I- UAV-LiDAR-SAR and Image Analysis (Venue: B1001)

02:00 PM – 04:00 PM

Chairs: Dr. Jonathan Li and Dr. Cheng Wang

Time	Topic	Presenter
02:00 PM – 02:20 PM	Disaster Management through IRS 1A LISS II Images in conjunction with ERS- 1 C-band Satellites Remote Sensing Data for Natural Disastrous Zones in Semi-arid Environment	Rizvi S Mohammed A., Saied Pirasteh
02:20 PM – 02:40 PM	Building Geodatabase	Suhaib Suleiman
02:40 PM – 03:00 PM	Unmanned Smart Submarine for Sea Life Data Acquisition	Sara Mohammed Ahmed Alnaqbi, Ameera Mohamed, Maina Alkaabi, Hoda Ali, Khaula Alkaabi
03:00 PM – 03:20 PM	Unmanned Aerial Vehicles in Transportation Studies for Aerial Photos and Data Acquisition	Asma Al Mazrooei, Khaula Alkaabi, Abdelgadir Abuelgasim
03:20 PM – 03:40 PM	Spatio-temporal Analysis and Image Registration for Studying Growth Patterns of Transportation Infrastructure in Sharjah City, UAE	Rami Al-Ruzouq, Khaled Hamad and Abdallah Shanableh
03:40 PM – 04:00 PM	Break	

Parallel Technical Session II- Agriculture (Venue: Auditorium-B2001)

04:00 PM – 05:40 PM

Chairs: Dr. Eihab Fathelrahman and Dr. Weihong Cui

Time	Topic	Presenter
04:00 PM – 04:20 PM	Assessment of Agricultural Drought Vulnerable Areas In Coastal Tracts of Thiruvallur District, Tamil Nadu, India Using Remote Sensing and GIS Techniques	Punitha Periyasamy
04:20 PM – 04:40 PM	Farm Scale Object Oriented Classification of High Nature Value Farmland Using High Resolution Satellite Images	Shafique Matin, Teagasc, Johnstown Castle, Wexford
04:40 PM – 05:00 PM	Effects of Irrigation and Nitrogen Fertilization on Maize Growth, Grain Yield and Crop Production Modeling	Wang Xiukang, Xing Yingying
05:00 PM – 05:20 PM	Effects of Irrigation and Nitrogen on Maize Growth and Yield Components	Wang Xiukang, Xing Yingying
05:20 PM – 05:40 PM	An Integrated Remote Sensing and GIS Approach for Premonsoon and Postmonsoon Groundwater Quality Monitoring For Reclamation of Wasteland in Gomukhi Nadhi Sub-basin, South India	Punitha Periyasamy, Waleed Mohammed Qader, Sachikanta Nanda



DAY 1 (Continue)

December 8, 2015 (Tuesday)

Parallel Technical Session II- Climate Change (Venue: D3-Business Centre)

04:00 PM – 05:40 PM

Chairs: Dr. Salim Al-Hatrushi and Dr. Saied Pirasteh

Time	Topic	Presenter
04:00 PM – 04:20 PM	Future Climate Change Projection Using Statistical Downscaling of GCMs Output During 2011-2099: A Case Study Of Fars Province, Iran	Mahboubeh Kamalzadeh
04:20 PM – 04:40 PM	Climate Change Disaster Risk Reduction: A Developing Country Perspective	Mohammad Rahimi
04:40 PM – 05:00 PM	Climate Change and Insecurity: An Examination of Gombe State's Predicament in North Eastern Nigeria	Abubakar U. A., Ahmed A.
05:00 PM – 05:20 PM	Climate Change and Migration from Ngala And Kala-Balge Lgas, N.E. Borno State, Nigeria	Abbas, Adam M.
05:20 PM – 05:40 PM	Assessment of The Potential Impacts of Sea Level Rise On The Coastal Plain of Al Batinah, Sultanate of Oman	Salim Mubarak Al Hatrushi, Yousef Shawky Sherief

Parallel Technical Session II- Mapping and Change Detection (Venue: B1001)

04:00 PM – 05:40 PM

Chairs: Dr. Yusuf A. Aina and Dr. George Athanasiou

Time	Topic	Presenter
04:00 PM – 04:20 PM	Mapping Sand Dune Fields in Abu Dhabi Emirate Over The Period 1985-2013 Using Landsat Data	Nazmi Saleous, Salem Issa
04:20 PM – 04:40 PM	Geospatial Technology For Detecting Land Use/Land Cover Change of UAE East Coast	Nasir Al Hassan, Khalid Hussein, Khaula Alkaabi
04:40 PM – 05:00 PM	Multi-Temporal Change Detection Of Mangrove Forests Along Abu-Dhabi Coastal Area Using Remote Sensing And GIS	Nasir Al Hassan, Adnan Ahmad
05:00 PM – 05:20 PM	Changing Spatiotemporal Distribution of Evaporation over a Large Lake: Remote Sensing of Evaporation in the Northern Regions	Pakorn Petchprayoon, Peter Blanken, Khalid Hussein, Waleed Abdalati

DAY 1 (Continue)

December 8, 2015 (Tuesday)

POSTER SESSION (Venue: Great Hall-B2053)

04:00 PM – 06:00 PM



Chairs: Dr. Scott Madry and Dr. Saied Pirasteh

Time	Topic	Presenter
04:00 PM – 06:00 PM	التطور المكاني للمكبات غير القانونية بمدينة المعبيلة الجنوبية (2010 – 2015)	طالب الوهبي – قيس الشحري، د. طلال العوضي - د. علي البلوشي
04:00 PM – 06:00 PM	Identifying Regional Spatial Development Patterns	Jirong Gu, Liuguangyan Jiang
04:00 PM – 06:00 PM	Investigating Public Opinion Regard Developing Innovative Smart Mobile Clinic For Medical Services During Disaster Situation: UAE Case Study	Shaikha Awad Alshamsi, Maryam Saeed Mohammed, Khaula Alkaabi
04:00 PM – 06:00 PM	Developing an Innovative Geospatial Training Program for the 10th grade Geography Teachers to Support the ADEC Initiative toward More Innovative Geospatial Curriculum	Mariam Al Menhali, Anfal Al Yammahi, Khaula Alkaabi
04:00 PM – 06:00 PM	A Review of the Effects of Drought on the Grain Yield in the Vays, Mollasani and Salamat Regions of the Khuzestan Province	Peyman Mollaali
04:00 PM – 06:00 PM	Optimum Flying Altitude for Uavs in Transportation Studies	Asma Almazrooei, Khaula Alkaabi, Abdelgdir Abulgasim
04:00 PM – 06:00 PM	Developing A Virtual Advisor for UAEU Students	Nouf Masoud, Shamma Almansori, Khaula Alkaabi
04:00 PM – 06:00 PM	Rapid Visual Screening of available Masonry Building by Shakhes Sazan method– case study: Shoush City	Zarbaksh Habib A., Mansureh Azizi
04:00 PM – 06:00 PM	Developing Smart and Innovative UAEU Bus System: Proposing a GPS Tracking System and Interactive Screen for UAEU	Mouza Alkendi, Mouza Alshehhi, Hamda AlAlawi, Fatima Almarri, Amany Kamis
04:00 PM – 06:00 PM	Dubai Expo 2020: Proposed UAEU Contribution	Amna Almansoori, Amira Ahmed, Khaula Alkaabi
04:00 PM – 06:00 PM	Proposing Eco-Friendly and Innovative Smart Camping	Maitha A. Al-Tenaiji, Salma M. Saeed, Alia M. Al-Ahbabi, Bashayer Y. Shehhi
04:00 PM – 06:00 PM	Smart Water Rycicleing: Start from your Kitchen	Fatima Al Aryani, Latifa Al Mazrouei, Khaula Alkaabi
04:00 PM – 06:00 PM	Developing an Innovative Eco-friendly Parking Facility at UAEU Campus as a Part of UAEU Strategic Plan of 2017-2021	Amany Salem Alkinde, Amani Ali Albadi
04:00 PM – 06:00 PM	Unmanned Smart Boat	Esraa Abdulla Ahmed Al Ansari, Ahlam AlRaeesi, Khaula Ikaabi
04:00 PM – 06:00 PM	Innovative Smart Mobile Clinic	Shaikha Awad Alshamsi; Maryam Saeed Mohammed
04:00 PM – 06:00 PM	Urban Sprawl Growth and Transportation Network in Al Ain City	Amnah Mohamed Saleh Sulaiman Al Kaabi

Time	Topic	Presenter
04:00 PM – 06:00 PM	An Integrated Remote Sensing and GIS Approach for Pre-Monsoon and Post Monsoon Groundwater Quality Monitoring for Reclamation of Wasteland In Gomukhi Nadhi Sub Basin, South India	Punitha Periyasamy, Waleed Mohammed Qader, Sachikanta Nanda
06:00 PM – 08:00 PM	Gala Dinner / Networking / Free Talk/ Presentation/ Honoring Conference Committees and Exhibitors	All Participants (Venue: UAEU Park)


DAY 2

December 9, 2015 (Wednesday)
Venue: Auditorium-B2001, Crescent Building

Time	Topic	Speaker
08:30 AM – 02:00 PM	Registration	
Keynote Session II		
09:30 AM – 10:00 AM	Monitoring Ionospheric Electrons with GNSS for Very Short-term Earthquake Prediction	Prof. Kosuke Heki , Hokkaido University, Sapporo, Japan
10:00 AM -10:30 AM	Generation of Analysis of Essential Climate Variables from Satellite Data: the ESA Fire_CCI Project	Prof. Emilio Chuvieco , University of Alcalá
10:30 AM -11:00 AM	The Inasafe GIS Disaster Plug-in: An Innovative Approach to Disaster Response	Prof. Scott Madry , Executive Director, The Global Space Institute, Chapel Hill, NC, USA
11:00 AM - 11:30 AM	Break	
11:30 AM -12:00 PM	Mobile LiDAR for Disaster Preparedness and Emergence Response	Prof. Jonathan Li , University of Waterloo, Canada
12:00 PM – 1:20 PM	Lunch	

**Parallel Technical Session III- Flood/Landslide/Drought/Earthquake (Venue:
Auditorium-B2001)**
01:20 PM – 03:20 PM

Chairs: Dr. Hussein Harahsheh and Dr. Yasir E. Mohieldeen

Time	Topic	Presenter
01:20 PM – 01:40 PM	Assessment of Land Erosion and Degradation Caused by Runoff after a Flood-Storm using Remote Sensing, Topographic attributes and Hydrologic Indices	A. Bannari, M. Rouai,
01:40 PM – 02:00 PM	The Main Cause of Mass Movement in the Mountains of Alborz Range	Alireza Farrokhnia
02:00 PM – 02:20 PM	Collapse Assessment of Substandard Concrete Structures for Seismic Loss Estimation of the Building Inventory in the UAE	Aman Mwafy, Bashir Almorad
02:20 PM – 02:40 PM	Delineating Flood Vulnerability Zones In Rural Blocks of Thiruvallur District, South India Using Remote Sensing And Gis Technologies	Punitha Periyasamy
02:40 PM – 03:00 PM	Tsunami Evacuation: Using GIS to Integrate Behavioural Data with Transportation Modeling	Khameis Alabdouli
03:00 PM – 03:20 PM	Break	


DAY 2 (Continue)

December 9, 2015 (Wednesday)

Parallel Technical Session III- Urban (Venue: D3-Business Centre)

01:20 PM – 03: 20 PM


Chairs: Dr. Syed Mohammad A. Rizvi and Dr. Jonathan Li

Time	Topic	Presenter
01:20 PM – 01:40 PM	Spatio-Temporal Analysis of Urban Heat Island in An Industrial City Using Landsat Images: A Case Study of Yanbu Industrial City	Yusuf A. Aina, Abdul-lateef Balogun & Irshad M. Parvez
01:40 PM – 02:00 PM	Analysis of the Urban Climate Impact Using WRF-Chem and Microsys CFD Model For RCP 4.5 And 8.5 Scenarios: Madrid (Spain) and London (UK) Case Studies	R. San Jose, Juan L., Julia Pecci, Antonio Garzn, Marino Palacios and L. Prez
02:00 PM – 02:20 PM	Contribution Of EO And GIS To Identify The Impact Of Land Use/ Land Cover Changes in The Land Surface Temperature Raising: A Case Study Of Douala Metropolis, Cameroon	Salomon Cesar, Joachim Etouna, Mumbfu E. Mimba
02:20 PM – 02:40 PM	The Study of Multi-Temporal Analysis of Urban Development and Environmental Changes of the City of Abu Dhabi	Huda Hussein, Mousa I. Hussein
02:40 PM – 03:00 PM	Applying Remote Sensing and GIS on Monitoring and Measuring Urban Sprawl. A Case Study of Dubai	Nasir Al Hassan Adnan Ahmad
03:00 PM – 03:20 PM	Break	

Parallel Technical Session III- Spatial Modeling (Venue: B1001)

01:20 PM – 03:20 PM

Chairs: Dr. Abderrazak Bannariand and Dr. Abbas Adam M.

Time	Topic	Presenter
01:20 PM – 01:40 PM	Using Geospatial Analysis to Evaluate Human Health Risk to Soil Contaminant Exposure at Superfund Sites in Niagara, United States	Sabrina Li
01:40 PM – 02:00 PM	MRF Based Simultaneous High Resolution Image Segmentation and Classification	Weihong Cui, Chenyi Feng, Yiwei Zheng
02:00 PM – 02:20 PM	Constrained Delaunay Triangulation for Grouping Functional Areas by land use	Jirong Gu, Liuguangyan Jiang
02:20 PM – 02:40 PM	Geography of Solidarity: Spatial and Temporal Patterns	Javier Borge-Holthoefer, Noora Al Emadi, Ji Lucas, Patrick Meier, Heather Leson
02:40 PM – 03:00 PM	Implementation of the Damage Index Approach to Rapid Evaluation Building Resistance for Earthquakes and Software Development	Saied Pirasteh, Iman Attarzadeh, Amir Mahmoodzadeh, Rizvi, S Mohammed A.
3:00 PM – 3:20 PM	Break	


DAY 2 (Continue)

December 9, 2015 (Wednesday)

Parallel Technical Session IV- Remote sensing and GIS (Venue: Auditorium-B2001)

03:20 PM – 05: 20 PM


Chairs: Dr. Mohamed Bualhamam and Dr. Nazmi Zeidan Saleous

Time	Topic	Presenter
03:20 PM – 3:40 PM	Sub-Pixel Level Classification Using Remote Sensing for Arecanut Crop	S. Athiralakshmi, B,E, Bhojaraja, ,U. Pruthviraj
03:40 PM – 04:00 PM	Remote Sensing Research at TÜBİTAK UZAY from 2012 to 2015	Ufuk Sakarya, Mustafa Teke, Can Demirkesen, Ramazan Küpçü
04:00 PM – 04:20 PM	Remote Sensing, Sedimentological and Mineralogical Evidences for Sand Source Confirmation in The Tarfaya Basin (SW Of Morocco)	Ali Aydda, Ayyad. Abdellah Algouti, Ayyad. Mohamed Essemani
04:20 PM – 04:40 PM	Mapping the Changes and Degradations of the Mangrove Forests Between 1990-2015 in The United Arab Emirates (UAE) Using Satellite Data	Mazoun Al Alawi, Amanu Al Kendi, Fatima Al Neyadi, Abdelgadir Abuelgasim
04:40 PM – 05:00 PM	Automatic Haze Detection and Removal for Multispectral High-Resolution Imagery	Ma Yong, Chen Fu, He Yang, Liu Zeshu
05:00 PM – 05:20 PM	Break	

Parallel Technical Session IV- Ocean and Marine (Venue: D3-Business Centre)

03:20 PM – 05:20 PM

Chairs: Dr. Fayez Elessawy and Dr. Kosuke Heki

Time	Topic	Presenter
03:20 PM – 03:40 PM	Developing Web App with ArcGIS	Ramla Shihab
03:40 PM – 04:00 PM	Oil Spill Detection and Monitoring of Abu Dhabi coastal and marine areas using KOMPSAT-5 SAR	Hussein Harahsheh
04:00 PM – 04:20 PM	Exploratory Impact Assessment of 2008-2009 Red-Tide Outbreak in United Arab Emirates	Eihab Fathelrahman, Hanaa Lateef, Ruba Al Fadil
04:20 PM – 04:40 PM	Coastline Extraction Method Based On Morphological Snakes	He Yang, Ma Yong
05:00 PM – 05:20 PM	Break	



DAY 2 (Continue)

December 9, 2015 (Wednesday)
Parallel Technical Session IV- Flood/Landslide/Drought/Earthquake
(Venue: B1001)
03:20 PM – 05:20 PM

Chairs: Dr. Scott Madry and Dr. Yasir E. Mohieldeen

Time	Topic	Presenter
03:20 PM – 03:40 PM	Spatial Mapping of Extreme Rainfall Event and Flood Inundation Zoning Using Remote Sensing and GIS - A Coastal District Of Tamilnadu	M.Krishnaveni, P.Thirumurugan
03:40 PM – 04:00 PM	Assessment Rangelands Drought Vulnerability in Arid, Using GIS Technique, A Case Study for Taft Township, Yazd Province, Iran	Mohammad Ekrami, Jalal Barkhordari
04:00 PM – 04:20 PM	Dempster-Shafer Theory in Landslide Hazard Zoning Using GIS	Seyedhossein Pourali, Aliakbar Matkan
04:20 PM – 04:40 PM	Slope Stability Risk Management in Open Pit Mines	Karam K.S., He M.C., Sousa L.R.
04:40 PM – 5:00 PM	Improved Landslide Investigations Approach Emphasizes on Stream Gradient Indices and a High-Resolution of DEM	Saied Pirasteh
05:00 PM – 05:20 PM	Break	

Brain Storming
Venue: Auditorium-B2001, Crescent Building

Time	Topic	Presenter
5:20 PM – 5:50 PM	Open Discussion / Comment/ Improvement/ Resolution/ Future Track/ Thinking out of the Box/Awards	All Participants
5:50 PM – 6:30 PM	Exploring International Journal of Geoinformatics Research and Developmentent Journal (IGRDJ) and Remote Sensing Enviornment Journal	Saied Pirasteh and Emilio Chuvieco


DAY 3

December 10, 2015 (Thursday)

**Special Session: Applications of Space-based Earth Observation and Remote Sensing
in Support of Crisis and Disaster First Responders**
(Venue: B2001; Exhibition Venue: Great Hall-B2053)

08:30 AM – 02:00 PM

Chairs: Dr. Khalid Hussein and Dr. Yasir E. Mohieldeen

Time	Topic	Presenter
08:30 AM – 02:00 PM	Exhibition	Exhibitors
08:30 AM – 10:00AM	Industrial View Space-based Earth Observation and Remote Sensing for Crisis and Disaster First Responders	Paul Gray, Major Mohammed Saleh Al Mansoori
10:00 AM – 10:10 AM	Break	
10:10 AM – 10:55 AM	First Responder Specialized Vehicles and Equipment Display	Major Mohammed Saleh Al Mansoori

Time	Tours
11:00 AM – 08:00 PM	Trip to Abu Dhabi

KEYNOTE SPEAKERS



H.E. Dr. (Eng.) Mohamed Nasser Al Ahabbi
Director General, UAE Space Agency

THE UAE SPACE AGENCY VIEW ON THE IMPORTANCE OF SPACE ASSETS IN SUSTAINING A CONSOLIDATED MODERN GEO-SPECIAL INFORMATION SYSTEMS

Abstract

In July 2014 UAE President His Highness Sheikh Khalifa bin Zayed Al Nahyan announced a decree to set up a UAE Space Agency (UAE SA) that will report directly to the Cabinet and enjoy financial and administrative independence. The UAE SA primary mandates are: to develop, organize, support, guide and coordinate the UAE's growing Space sector that contributes to a diversified UAE national economy and which supports sustainable development; the development and use of Space science and technology within the UAE and provide support and advice in these areas; to develop the necessary Space policy and regulation, and support their enforcement; enhancing the UAE's position as a global player in aerospace; to establish international partnerships in the Space sector, and help support knowledge transfer; and last but not least to raise awareness of the importance of the Space sector and the development of the qualified human resources in the Space field. The UAE SA will also be responsible for facilitating, supporting as well as supervising UAE national Space programs, such as the "Hope" probe UAE Mars Mission. The UAE investments in Space technologies already exceed US\$5 billion, including satellite data communications and television broadcast - YahSat, mobile satellite communication - Thuraya Satellites and Earth mapping and observation systems by Mohammed Bin Rashid Space Centre (MBRSC), Dubai-Sat series. It is therefore the responsibility of the UAE SA to facilitate what is necessary for these and future investment in the Space sector to playing their role in achieving its UAE national economic growth targets.

Profile: Dr. (Eng.) Mohamed Nasser Al Ahabbi has been appointed Director General of the UAE Space Agency after having the responsibility of designing and creating the agency. He obtained his first Degree in the USA, then his MSc and PhD in the United Kingdom on Information and Communication Technologies domain where he has published more than 20 scientific papers. Dr Ahabbi has contributed and led numerous strategic projects in the ICT domain for the benefit of the UAE government. He has also led a UAE Armed Forces Think Tank Project within the Centre of Excellence. His role embedded advising Military and Government at Strategic level on emerging concepts and technologies in the area of Smart Defense, Cyber Warfare and Space developments. He was the head of YAHSAT MilSatCom and other Space Projects. He has an active role in ITU-R, UN Space working groups and ICT professional associations. Dr Ahabbi is also a key speaker in a number of international conferences in the area of smart defense, mil- Space, cyber security, and smart governments. He is a board member of YahSat Company and of the UAE ICT fund. Director General, UAE Space Agency: The Director General leads a team of 50 who manage the UAE's space sector. He is responsible for realizing the agency's goals of growing this Sector. He recommends the National Space Strategy, and related laws, policies, and regulations to the government. He promotes and supports Industrial and R&D space projects. He establishes and maintains international relationships and partnerships, coordinates with national concerned authorities and provides guidance to non-government space sector organizations.



H. E. Humaid Rashid AL Shamsi

Deputy Secretary General for International Aid, United Arab Emirates Red Crescent (UAERC)

ROLE OF UAE RED CRESCENT IN DISASTER RESPONSES

Abstract

UAERC is a member of IFRC. It composes National Societies support the public authorities in their own countries as independent auxiliaries to the government in the humanitarian field. Their local knowledge and expertise, access to communities, and infrastructure enable the Movement to get the right kind of help where it's needed, fast. In disaster response we are involved in searching and rescue operations, evacuating the injured or people endangered by the disaster, managing shelters, restoring family links, running ambulance services or retrieving and evacuating dead bodies. Our volunteers are trained in first aid, so that they can bring life-saving assistance to people injured in a disaster. We are also trained to assess damage and the emergency needs of the population, to identify those in need of assistance and to organize relief distributions. We also provide health care and psychological support.

Profile: Humaid Rashed Al Shamsi, Deputy Secretary-General for International Aid Affairs, ERC, an international Certified Trainer for the Sphere Project (Humanitarian Charter and Minimum Standards in Humanitarian Response), and an international expert in the management of the camps. He participated in many international conferences representing the ERC in more than 40 countries around the world to provide relief and assistance to the needy and destitute and in the emergency response to disasters and crises. He holds certificate in project management, certificate in strategy, and certificate in humanitarian diplomacy.



Eng. Adnan M. Al Rais
Manager, Business Development and External Relations
Deputy Project Manager of UAE Mars Mission
Mohammed Bin Rashid Space Centre (MBRSC)

MBRSC SPACE PROGRAMME ACTIVITIES

Abstract

Having successfully launched both DubaiSat-1 and DubaiSat-2 in 2009 and 2013 respectively, MBRSC has embarked upon the next phase of its journey. We are now also working on KhalifaSat, scheduled for launch in 2018, when it will become the most advanced satellite the UAE has launched thus far. The Emirates Mars Mission is also underway, and will see the launch of the historic Hope Probe in 2020, on the 50th anniversary of the union of the emirates. The probe will carry the hopes and dreams of the Arab world as it travels to Red Planet on a voyage of discovery. Through this project, the UAE will provide an enormous amount of scientific information and data, and will share this with research centres and universities from around the world, thus contributing to the support of scientific knowledge worldwide. In my presentation, I will go through our current space programme activities and introduce our ambitious plans for the future.

Profile: Adnan and his team are responsible for the development, design and implementation of the ground segment of the Emirates Mars Mission and also other future deep space missions undertaken by Mohammed bin Rashid Space Centre. In addition, Adnan is responsible for the commercialization of MBRSC projects, specifically on the commercialization of DubaiSat-1 and DubaiSat-2 imaging products and services. Adnan was part of the team that built the UAEs first ground station at the Emirates Institution for Advanced Science & Technology (EIAST) in 2007 and also worked with the team building the ground segment of the DubaiSat satellite series, introducing commercial ground support services and antenna hosting services at EIAST's Ground Station in Dubai. Adnan has published and presented a number of papers in the areas of remote sensing and satellite image applications. He holds a Bachelor's in Computer Engineering from Khalifa University, Sharjah.



Ali Al Hashemi
General Manager of YahService, UAE

INFORMATION & COMMUNICATIONS TECHNOLOGY YAHSERVICE

Profile: Ali Al Hashemi, the General Manager of *YahService*, provides services that include advising, building and operating satellite and ground infrastructures and specialized military satellite applications to the armed forces, government organizations and commercial entities. Ali has extensive experience in the ICT (Information & Communications Technology) industry, mainly in IT, Telecom, and Satellite communication and services. During his professional years in MDC and GASCO, he acquired wealth of experience and knowledge in supply & chain management, development of business strategy, private equity evaluation, investment, asset management, operation & maintenance and satellite services (developing and providing end-to-end solutions). Ali has a MBA from London Business School and has a bachelor's degree in mechanical engineering from the Higher Colleges of Technology, Abu Dhabi.



Mr. Luc St-Pierre

Senior Programme Officer, United Nations Office for Outer Space Affairs (UNOOSA)
Coordinator of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), Vienna International Centre, Austria

UN-SPIDER BRIDGING GENERATORS OF DATA TO END-USERS OF DISASTER MANAGEMENT INFORMATION; ONE STEP IN THE IMPLEMENTATION OF THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030

Abstract

One of the components of the 2013 Agenda for Sustainable Development is the reduction of the vulnerability of populations and infrastructures to natural hazards. The Sendai Framework for Disaster Risk Reduction adopted in Sendai, Japan, in March 2015 will be serving as a policy framework at the global, regional and national levels, and will define how regional and international organizations should work together to support the efforts of nations. Earth observation supports informed decision-making and is helping us find ways to reduce disaster risks, identify different alternatives to plan our adaptation to climate change, prepare better to manage those unavoidable losses and damages triggered by disasters, and contribute to monitor how efforts are leading to sustainable development. Such cooperation should lead to improved technical support, capacity-building and technology transfer. UNOOSA and its UN-SPIDER Programme create platforms facilitating dialogue between governments and the United Nations system to review challenges and opportunities in mainstreaming space technology in key areas under the post-2015 development framework, and to look into common perspectives for increasing the use of Earth observations for the attainment of global development goals. The approach of UN-SPIDER to precisely assess the national capabilities in discovering, accessing and using Earth observation applications and data for disaster risk reduction, emergency response and sustainable development before accompanying authorities in implementing their national plans in those areas has brought some clear success that provide models for replication. Working first with national authorities responsible for disaster management, a regional action is later possible where neighbouring countries can develop coordination plans for trans-boundary causes or effects. This paper will argue that this approach can facilitate the implementation of the Sendai Framework.

Profile: Luc St-Pierre (M.Sc. Geography, University of Sherbrooke, Canada and M.Sc. Environmental Economics, Wye Imperial College, University of London) is a Geographer born in Québec, Canada. He worked at developing geographic information systems for the management of the environment and natural resources in Africa, Asia and Latin America in the 1990's before joining the United Nations in 2000. He first helped developed datasets and GISs for the UN Environment Programme (UNEP) in its work to protect marine biodiversity in the Caribbean Sea and control marine pollution. Between 2005 and 2012 he strengthened the mapping, remote sensing and GIS capabilities of the UN High Commissioner for Refugees (UNHCR) to improve the support and assistance during humanitarian crisis. He then became a strong promoter of open source data and software as key elements to inter-agency coordination. He joined the UN Office for Outer Space Affairs (UNOOSA) to supervise the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). UN-SPIDER provides technical advisory support to Member States to assess and consolidate their capabilities in disaster risk management and emergency response, through improved knowledge management and an inclusive approach, bridging all communities and actors. Mr. St-Pierre lives in Vienna, UNOOSA HQ, with his family; he works in English, French and Spanish.



Prof. Scott Madry
Research Associate Professor of Archaeology
The University of North Carolina at Chapel Hill, USA

THE INASAFE GIS DISASTER PLUG-IN: AN INNOVATIVE APPROACH TO DISASTER RESPONSE

Abstract

InaSAFE is Open Source software that allows improved planning, preparedness and disaster response (<http://www.inasafe.org>). It was first defined by the Indonesian National Disaster Management Agency and the Australian government, and was initiated through the Australia-Indonesia Facility for Disaster Reduction and the World Bank Global Facility for Disaster Reduction and Recovery. InaSAFE operates as a plug-in for the Open Source QGIS, which is a free Geographic Information System that runs on Windows, Mac, Linux and Android tablets and which has been translated into over 30 languages (<http://www.qgis.org>). This paper will present the InaSAFE project and software, and will include a live demonstration of the tools for several disaster scenarios. The benefits of the Open Source approach will be presented, along with the current status and future directions of the program.

Profile: Scott Madry is a research associate professor of archaeology at the University of North Carolina at Chapel Hill and is on the faculty of the International Space University in Strasbourg, France. He has been involved in the application of advanced space technologies (satellite remote sensing, GIS and GPS) for disaster management for over 15 years, and lectures on the topic widely. He has participated in numerous disaster responses as a volunteer with the American Red Cross and is active in the GISCorps and has participated in remote disaster support operations in Myanmar, Australia and the USA. In 2012 he was awarded, along with the other GISCorps volunteers, the President's Volunteer Service Award by President Barak Obama. His book "entitled Space Systems for Disaster Warning, Response and Recovery" will be published by Springer press in 2013.



Prof. Arun Kumar Saraf
Head of the Department of Earth Sciences
Indian Institute of Technology, Roorkee, Uttarakhand, India

NEPAL EARTHQUAKE OF 25TH APRIL 2015: REMOTE SENSING IN DETECTION OF PRE-EARTHQUAKE ANOMALOUS THERMAL LINE AND CO-SEISMIC GROUND DEFORMATIONS

Abstract

On 25th April, 2015 at 11:41:26 (local time) a major and shallow earthquake (28.147°N, 84.708°E) of Mw 7.8 (focal depth ≈ 15km) struck Nepal (at 34km ESE of Lamjung and approximately 80 km northwest of Kathmandu). So far more than 156 aftershocks (75 above magnitude 4.5) have already occurred and the biggest aftershock was of Mw 7.3 (occurred again at 15km depth and 18km SSE of Kodari, Nepal) on 12th May 2015 at 12:35:19 (local time). The rupture started at the epicenter and then propagated eastward for about 150 km, rupturing the area directly located under the capital city Kathmandu of Nepal. The aftershocks are distributed in an area about 150 km long and 50 km wide, with the majority of the aftershocks located in the eastern part of the epicentre of the main shock. As per Ministry of Home Affairs, Govt. of Nepal, this earthquake has already caused 8631 loss of human lives, 16808 people got injured and thousands of people have become homeless due to complete / partial damage of 766109 houses / buildings. There are more than 90 deaths in India too, mainly in Bihar. This earthquake has also caused massive damage to houses, roads, bridges, government buildings, schools, hospitals, wide-spread landslides and probable liquefaction at places. Time series analysis of NOAA-AVHRR thermal infrared night-time datasets has revealed appearance of a thermally enhanced linear band / 'thermal line'. Earlier while studying 29 March 1999, 6.4 Mw Chamoli Earthquake, India, similar anomalous thermal line was also observed and we termed as 'Himalayan Thermal Line' (HTL), in the zone of the Himalayan foothills (SW of epicentre). This anomalous distinct line appeared about 3 days before the 25th April 2015 Nepal earthquake. This presentation discusses on the warmed up soil zone and how it plays a role in enhancing thermal infrared emission that appear as a linear belt on the series of satellite thermal images.

Profile: Dr. Arun K. Saraf is Ph. D. (Remote Sensing) from University of Dundee, United Kingdom. Presently he is working as Professor and Head in the Department of Earth Sciences, Indian Institute of Technology, Roorkee, India and teaches courses on GIS, Remote Sensing, Geomorphology etc. to under- and post-graduate students of Applied Geology and Geological Technology. He was first in the country to introduce GIS course to post-graduate students in the year 1990. In 1986, he was awarded "National Fellowship to Study Abroad" by Govt. of India for his doctoral degree. Further, in 1994 he was awarded "Indo-US S&T Fellowship" and worked in Goddard Space Flight Centre, NASA, USA for Post-Doctoral Research. He has been also awarded "National Remote Sensing Award-2001" by Indian Society of Remote Sensing and "GIS Professional of the Year Award-2001" by Map India 2002 for his outstanding research contributions in the fields of Remote Sensing and GIS. Earlier, he has also been given several Khosla Research Awards and Prizes by then University of Roorkee. So far Prof. Saraf has published more than 80 research papers in journals of repute (ISI) and supervised 10 Ph.Ds. Presently, he is also Associate Editor of International Journal of Remote Sensing. Through funding from DST and Min. of Earth Sciences, Govt. of India, Prof. Saraf has been able to establish NOAA-HRPT Satellite Earth Station at IITR, first in any educational institute in the country.



Prof. Kosuke Heki

Professor, Department of Natural History Sciences
Hokkaido University, Sapporo, Japan

MONITORING IONOSPHERIC ELECTRONS WITH GNSS FOR VERY SHORT-TERM EARTHQUAKE PREDICTION

Abstract

Since the national tragedy by the 2011 Tohoku-oki (off the Pacific coast of the Tohoku District) earthquake (Mw9.0) and tsunami, geodesists and seismologists in Japan have been exploring effective means of disaster mitigation by utilizing geophysical sensors deployed nationwide. Here I focus on the dense network of continuous Global Navigation Satellite System (GNSS) stations, and review how it can help us predict impending large earthquakes immediately before them. GNSS is originally designed for precise positioning. In addition to American GPS and Russian GNSS, new GNSSs, such as European Galileo and Chinese Beidou, are being launched. They transmit microwave carriers in two different frequencies, and ionospheric Total Electron Content (TEC) information can be easily extracted by comparing the difference of arrival times of the two carriers. Dense networks of continuous GNSS stations are often deployed in countries of high tectonic and seismic activities, including Japan. Large earthquakes disturb ionospheric F region ~10 minutes after their occurrences by acoustic waves propagating upward from the focal region [Cahyadi and Heki, 2015]. In addition to such "coseismic" changes, Heki [2011] reported possible "preseismic" enhancement of ionospheric TEC starting ~40 minutes before the 2011 Tohoku-oki earthquake (Mw9.0). He also found similar TEC increases before all earthquakes with moment magnitudes (Mw) exceeding 8.5. Later, Kamogawa and Kakinami [2013] criticized it and attributed the enhancement to an artifact falsely detected by the combined effect of the highly variable TEC under active geomagnetic condition and the occurrence of a tsunamigenic ionospheric hole. Shortly after that, Heki and Enomoto [2013] showed that preseismic TEC increase did occur by converting slant TEC to vertical TEC (this is useful to isolate real TEC variations by suppressing apparent variations due to satellite elevation changes) before and after the 2011 Tohoku-oki earthquake, and by comparing them with other geophysical data including the electron density profile from radio occultation, critical frequency from an ionosonde, and geomagnetic declination changes. One year later, Utada and Shimizu [2014] published a comment suggesting that the observed anomaly may represent a magnetic storm, and Heki and Enomoto [2014] immediately published a reply. The lecture also covers the current status of remaining problems in using preseismic TEC enhancement for operational short-term earthquake prediction, e.g. (1) efficient and objective algorithm to detect the start of TEC increase, (2) discrimination of preseismic TEC anomalies from space-weather origin TEC changes such as those by the large-scale traveling ionospheric disturbances (LSTID).

Profile: Kosuke Heki holds Doctoral of Science from University of Tokyo in 1984. He completed his B.Sc. (1979), M.Sc. (1981), D.Sc. (1984) from Geophysical Institute, Graduate School of Science, University of Tokyo (Tokyo, Japan). His specialization is geodesy and geophysics. He is a Professor at the Department of Natural History Sci., Hokkaido University. Dr. Heki was a senior Res. Assist., Univ. of Durham, Durham, England from 1990-1992. He has published several peer reviewed papers in journals. Visit <http://www.ep.sci.hokudai.ac.jp/~heki> for more information.



Prof. Dr. Jonathan Li
University of Waterloo, Canada; and Xiamen University, China

MOBILE LIDAR FOR DISASTER PREPAREDNESS AND EMERGENCE RESPONSE

Abstract

The evolution of mobile laser scanning or LiDAR systems and the development of automated 3D point cloud processing tools have produced a breakthrough in the field of rapid acquisition of the geometric and semantic information of complex urban objects for supporting disaster preparedness and emergence response in complex urban areas. Unfortunately, direct extraction of such information from highly dense, unorganized, large volume of 3D coloured point cloud data poses both scientific and engineering challenges. Those well-developed image-based information extraction techniques are very difficult to be directly applied to 3D point cloud data. Some promising ideas and solutions are still in their early laboratory stage and further investigations are required towards real world applications. This talk will focus on the developments of automated methods for both road and off-road object detection and extraction. Examples and experiences obtained with commercial mobile LiDAR systems and the R&D activities carried out by a joint research group comprising researchers from both the University of Waterloo (Canada) and Xiamen University (China) will be presented. Case studies in use of a van-borne mobile LiDAR system in the outdoor environment and a backpack mobile LiDAR system in the indoor environment will be demonstrated. Challenges in use of existing mobile LiDAR technology for disaster preparedness and emergence response in complex urban areas and potentials in the use of new generation of full-waveform multispectral mobile LiDAR and UAV-borne LiDAR will be addressed at the end of the talk.

Profile: Jonathan Li received his Ph.D. degree in geomatics engineering from the University of Cape Town, South Africa, in 2000. He is currently a Professor of Geomatics and Director of the GeoSTARS Lab at the Faculty of Environment, University of Waterloo, Canada. He has been heading a Centre of Excellence in Remote Sensing and Spatial Informatics at the School of Information Science and Engineering, Xiamen University, China, since 2012 while taking a leave from the University of Waterloo. He has been involved in various remote sensing projects supported by the Natural Sciences and Engineering Research Council of Canada (NSERC), Canada Foundation of Innovation (CFI), National Natural Science Foundation of China (NSFC), Environment Canada, Agriculture and Agri-Food Canada (AAFC), Ontario Ministry of Transportation (MTO), Canadian Space Agency (CSA) and geomatics industry in Canada. His research activities include information extraction from LiDAR point clouds and from earth observation images with special emphasis on machine learning, monitoring of urban environments using multi-sensor satellite images, and urban infrastructure inventory using mobile LiDAR. He has co-authored more than 300 scientific publications, over 100 of which were published in refereed journals including RSE, ISPRS-JPRS, IEEE-TGRS, IEEE-TITS, IEEE-GRSL, JAG, PE&RS, IJRS and RSL. He has been the Guest Editor of special issues of the IEEE-JSTARS, JAG, and PE&RS. He has been serving as Chair of the ISPRS Working Group I/Va on Mobile Scanning and Imaging Systems (2012-2016). Since 2012, Dr. Li has been leading a joint research group comprising researchers and graduate students from both the University of Waterloo and Xiamen University to develop novel algorithms and software tools for automated extraction of geometric and semantic information from 3D point clouds acquired by two RIEGL VMX-450 mobile LiDAR systems, one in Canada and the other in China.



Prof. Emilio Chuvieco
Environmental Remote Sensing Research Group
University of Alcalá, Spain

GENERATION OF ANALYSIS OF ESSENTIAL CLIMATE VARIABLES FROM SATELLITE DATA: THE ESA FIRE_CCI PROJECT

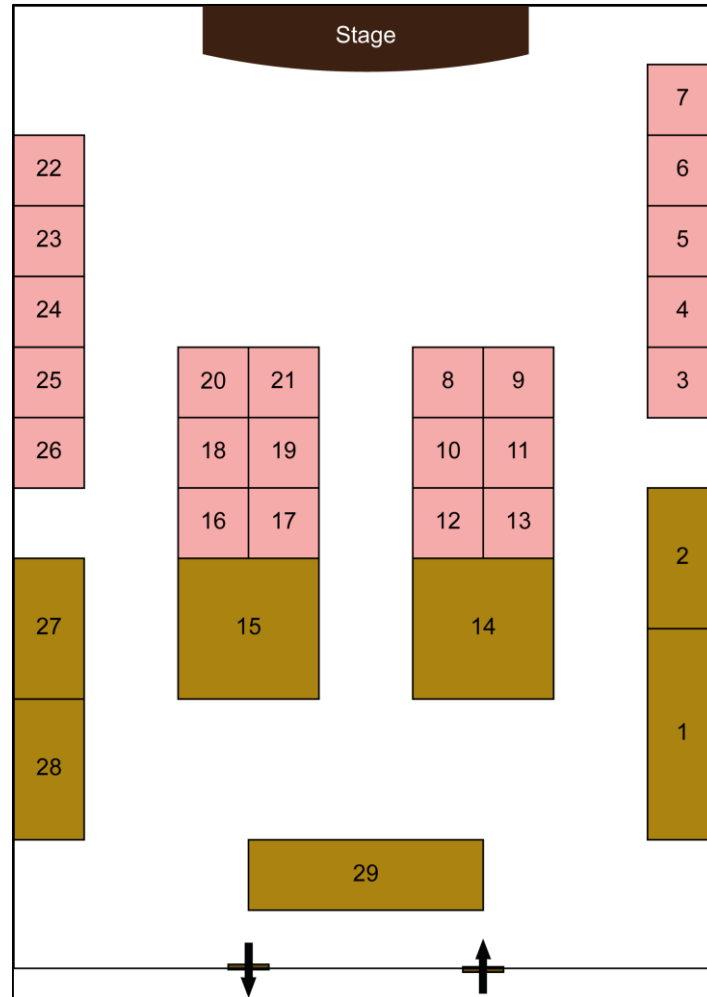
Abstract

The European Space Agency (ESA) Climate Change Initiative (CCI) is part of the European contribution to the Global Climate Observing System (GCOS) program. This program aims to generate long-term series of Essential Climate Variables (ECV), as defined by GCOS, to have a relevant role in the global Earth and climate system. This lecture will briefly review the framework of the ESA CCI program and the summary of the main outputs of phase-1 (2010-2014), to focus later on how the Fire disturbance variable was generated, validated and analysed by end-users (atmospheric and vegetation modelling communities).

Profile: Emilio Chuvieco is Professor of Geography and director of the Environmental Ethics chair at the University of Alcalá, Spain, where he coordinates the Master and Ph.D. program in Geographic Information Technologies, and leads the "Environmental Remote Sensing Research Group". Visiting professor at the U.C. Berkeley and Santa Barbara, the Canadian Remote Sensing Centre and the University of Maryland. Advisor of 33 Ph.D. dissertations. Principal investigator of 27 research projects. Author of 26 books and 326 scientific papers and book chapters. 113 of those papers are indexed in Scopus, accounting for 2934 citations, with an h-index of 33. Including Spanish publications, the h-index is 47 from 7899 citations (from Google Scholar). All data refer to January, 1st, 2015. Former president of the Spanish Remote Sensing Society and the Geographic Information Technologies group of the Association of Spanish Geographers. Corresponding member of the Spanish Academy of Sciences since 2004. He is the science leader of the Fire Disturbance ECV within the European Space Agency's Climate Change Initiative Program. After January, 1st, he is Co-Editor in Chief of Remote Sensing of Environment.



EXHIBITION LAYOUT



Booth	Exhibitor	Booth	Exhibitor
1	Yahsat	16	UAEU College of Engineering
2	Airbus	17	UAEU Geography Club
3	National Center of Meteorology & Seismology (NCMS)	18	UAEU Space Center
4	Global Scan Technologies	19	GCC Geographic Society
5	ESRI Muscat	20	
6	UAEU	21	UAE Red Crescent Authority
7	GISTEC	22	Al Ain Municipality
8	Aeromap	23	Dubai Municipality
9	Aeromap	24	Al Jumairah Studio & Stores
10	Abu Dhabi Sewerage Services Company	25	
11	Global Technologies	26	International Publishing Services
12	Abu Dhabi Urban Planning Council (UPC)	27	All Prints
13	UAEU Libraries Deanship	28	Bayanat
14	UAE Space Agency	29	National Geographic Abu Dhabi
15	Mohammed Bin Rashid Space Centre (MBRSC)		




EXHIBITORS

 اليه سات smart satellite solutions		 المركز الوطني للأرصاد الجوية والزلازل National Center of Meteorology & Seismology	
			
 شركة أبوظبي لخدمات الصرف الصحي Abu Dhabi Sewerage Services Company		 مجلس أبوظبي للتخطيط العمراني ABU DHABI URBAN PLANNING COUNCIL	
			
			
			

	وكالة الإمارات للفضاء UAE SPACE AGENCY	<i>UAE Space Agency</i>
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The UAE Space Agency is a federal agency. The primary objectives of the agency are: 1) the creation of a legal and regulatory framework for the space sector, 2) the development and guidance of the space sector in the UAE, 2) to promote and support the efforts of scientific research and innovation, 3) to attract and prepare national cadres to become pioneers in the field of space science, 4) ensuring that all the Agency's services are in accordance with worldwide quality, efficiency and transparency standards.

Website: www.space.gov.ae

 مركز محمد بن راشد للفضاء MOHAMMED BIN RASHID SPACE CENTRE	<i>Mohammed Bin Rashid Space Centre</i>
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Mohammed bin Rashid Space Centre was created and established by the Dubai Government in 2015. The Centre is integral to the strategic initiative put in place by the government to inspire scientific innovation, technological advancement, and to advance sustainable development in Dubai and the wider UAE. The Centre is comprised of a team of leading UAE engineers, analysts and experts all working towards positioning the UAE as an internationally renowned leader within the field of science and technology. By developing new technology, expertise, and intellectual property, it is hoped that the UAE can emerge as a global front runner within the industry.

Website: <http://mbrsc.ae>

 بيانات bayanat A Mubadala Company	<i>Bayanat For Mapping & Surveying LLC</i>
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Bayanat is a national leader in the provision of value added-mapping, geospatial services and GIS solution. It aspires to further enrich its leadership position by enabling public and private organizations to stream line their operation and enhance their decision-making process through leveraging its fully integrated geospatial solutions and seamless spatial data.

Bayanat provides end-to-end geospatial services for a range of businesses across diverse sectors including defense, municipality, oil and gas, transportation and utilities. Bayanat's value offering include surveying (aerial, hydrographic, field and geodesy), spatial data management, cartography and visualization (2D & 3D) and relevant advisory services.

Website: www.bayanat.co.ae



<p>المركز الوطني للأرصاد الجوية والزلازل National Center of Meteorology & Seismology</p>	<p><i>National Center of Meteorology & Seismology</i></p>
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The National Center of Meteorology & Seismology (NCMS) in the UAE is engaged in the study of a broad range of atmospheric phenomena and processes, using methods ranging from mathematical analysis to field experimentation.

Research projects range in size from basic studies involving individual scientists to national and international programs involving teams of scientists.

The center is concerned with:

Synoptic Meteorology, which is the analysis and prediction of weather systems, such as cyclones and their associated fronts and jet streams. Mesoscale Metrology, which accounts for the majority of weather phenomena directly impacting human activity. Examples of mesoscale phenomena include thunderstorms, gap winds, down slope windstorms, land-sea breezes, and squall lines.

Atmospheric Dynamics, which involves the observational and theoretical analysis of all motion systems of meteorological significance, including diverse phenomena as thunderstorms, tropical storms, jet streams, and global-scale circulations. Atmospheric Chemistry, which examines the complexity and evolution of the atmosphere due to natural events, biological and anthropogenic activities.

Website: www.ncms.ae

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Website: www.allprints.ae

	<p><i>Aeromap Technology Systems</i></p>
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Aeromap Technology Systems was established in 2004 under the vision of creating an umbrella of cooperation by making partnership with international companies known to the field of mapping and its related fields. The company aims to be the total professional provider of its unique requirements in Aerial Photography, Photogrammetry, Construction, City/Land Planning, Engineering Surveys, and GIS Implementation, with each affiliated maintenance, training, management, and manpower provision as well as technology transfer. It is the first company of its kind where various specialized provider were collectively united and pooled to work under one contact point

Website: www.aeromapss.com



Airbus Defence and Space

Through its Geo-Intelligence Portfolio, Airbus Defence and Space is recognized as a World leader in geo-information, pooling an unmatched access to Earth observation satellite imagery with unique expertise and decades of experience in one organisation.

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Airbus Defence and Space provides decision-makers with sustainable solutions to increase security, optimize mission planning and operations, boost performance, improve management of natural resources and, last but not least, protect our environment.

Smarter decision-making through premium satellite imagery, products and services.

Website: www.geo-airbusds.com



College of Engineering

Department of Civil & Environmental Engineering

The requested space for the CEE Department will be used to present information related to the installation and operation of an advanced seismic simulator at the UAEU laboratories for measuring the impacts of earthquake on structures. The seismic simulator consists of a large steel platform that can move freely using powerful hydraulic pumps to represent the ground shaking during earthquakes. The UAEU new earthquake simulator supports the research activities in the field of earthquake risk management and training of students and researchers, which will have positive impacts on mitigating earthquake risk and improving public safety in the UAE.

Department of Electrical Engineering

The requested space for Electrical Engineering Department will be used to present a project on the use of unmanned aerial vehicles (UAV) in agriculture. The project is twofold: Collecting data wirelessly from sensors installed in the field. Data are stored in a memory and the UAV will be in charge of collecting the data on a daily basis. The analysis of the data will allow improving the irrigation system and saving water. The other part of the project consists of monitoring a field using a specific camera installed on board.

Website: www.eng.uaeu.ac.ae



Esri Muscat Co. LLC

Esri Muscat has for years been helping businesses implement successful GIS solutions. Through this effort, Esri Muscat has built a significant and in-depth skill-base across a wide range of industries within the public and private sectors. As a solution provider, we are able to deliver solutions that integrate spatial information.

Website: www.esrimuscat.com



	<p><i>Global Scan Technologies LLC</i></p>
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Global Scan Technologies, founded in 2002 in Dubai owned by Belhasa International (an UAE family group of companies).

GST's approach utilizes the latest complete geospatial technologies available to provide and develop efficient, customized and innovative solutions. This gives our clients the benefit of a single point of contact for turnkey geospatial projects. Our service is a unique blend of experience and cost effectiveness. GST is the proud owner and operator of a Ground Receiving Station for medium resolution Satellite Imagery.

Our geospatial solutions cater to a broad spectrum of users in public, private, government, non-government and academic sectors. GST's activities are carried out worldwide onshore and offshore with a focus on Middle East and Africa. Our market covers a large number of industrial sectors including Agriculture, Food, Water, Environment, Defense, Security, Energy Utilities, Infrastructure, and Urban Planning.

We serve our clients in the region by utilizing the latest technologies in Airborne Hyperspectral Remote Sensing and Thermal Imaging, Aerial Photography, Satellite Imagery, LiDAR Surveying, Ground Based Collection Systems and Geographic Information System.

Website: www.gstdubai.com

 <p>Global Technologies</p> 	<p><i>Global Technologies</i></p>
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Global Technologies has over a decade experience in Sales and Support of TRIMBLE products within UAE and Oman markets; we fully understand each customer's requirement to comprehensively attend to every detail as required. Our immense strength in imparting Technical Expertise and Application Knowledge to fully utilize all functions and capabilities of TRIMBLE products and software surely benefit our customers to increase productivity. We are equipped with a centralized state of art TRIMBLE Certified Service Centre which ensures quick return of instruments after service and repairs Extended Warranty for TRIMBLE products are offered to our customers for complete peace of mind. Our Support and Service Engineers undergo continuous training from TRIMBLE to be updated with all new improvements to keep our customers more than satisfied at any given time, we hold stock of all units and spares for quick delivery to projects and sites based on purchase order issuance.

Website: www.gtech-bmg.com



GISTEC is a professional services company specialized in the development of intelligent and enterprise wide geo-spatial data solutions for clients in a variety of disciplines and industries.

Our services include GIS consulting, database services, geographic imaging, applications & production/solution development, server, web and mobile GIS, training, and time and material professional services program.

GISTEC leverages GIS information within dynamic business processes. We can spatially enable your existing or planned business applications such as ERP, CRM, Asset and Maintenance Management, and HR.

GISTEC is an esri distributor, the leading GIS in the world.

Website: www.gistec.com



The Abu Dhabi Urban Planning Council (UPC) is the strategic planning agency for the Emirate of Abu Dhabi, which supports the realisation of Abu Dhabi Vision 2030 through the creation and continuing evolution of an Emirate-wide strategic framework plan.

It is responsible for defining the shape of the Emirate, along with the associated land uses, to ensure the development of professionally designed, sustainable and well-managed urban environments, which incorporate world-class transport and infrastructure systems and support the implementation of Economic Vision 2030 and Environment Vision 2030.

Website: www.upc.gov.ae



Abu Dhabi Sewerage Services Company (ADSSC) was established on 21st June 2005 under Resolution No. 17 of 2005 issued by H.H. Sheikh Khalifa bin Zayed Al Nahyan, President of the United Arab Emirates.

Our mandate is to collect and treat wastewater coming from residential, commercial and industrial premises in the Emirate of Abu Dhabi and safely dispose of both the solid and liquid residuals produced.

ADSSC is a government-owned Company reporting directly to the Abu Dhabi Executive Council. ADSSC wastewater treatment plants are strategically located in Abu Dhabi, Al Ain and the Western Region. Some existing sewerage infrastructure is now severely overloaded in many areas because it was not designed to cope with the rapid development seen in recent years. Asset expansion. Rehabilitation, refurbishment and renewal are well underway, in order to meet current and future requirements.

Website: www.adssc.ae



**Waterloo Institute for Disaster Management
(WIDM Inc)**

WIDM Inc is a bridge for organizations, industries, universities, practitioners, and academicians to work together jointly with a flexible program for development and sustainability. WIDM works in smart geospatial solution services in research, education and industry needs. Our vision is to be one of the outstanding Institutes of the world with informed solutions to save the earth and to create a sustainable development for the environment.



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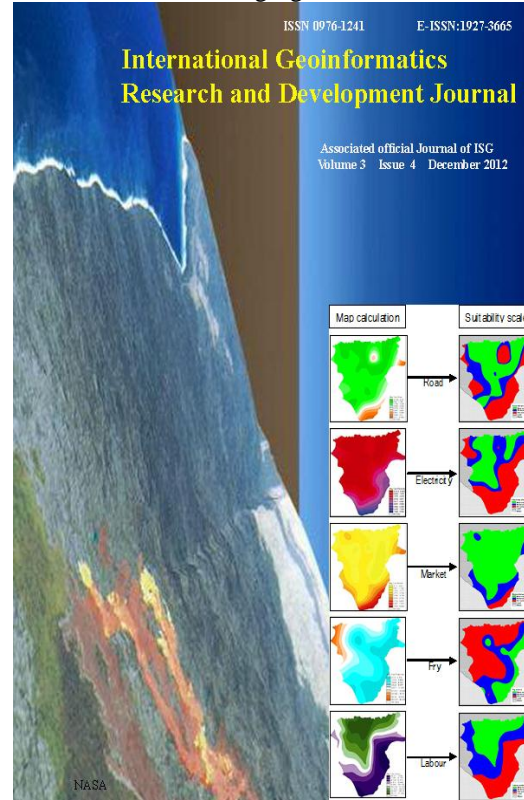
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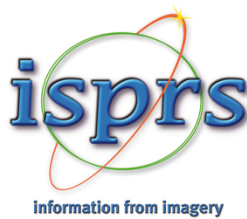
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