8th International Summer School on Applied Geoinformatics for Society and Environment

AGSE 2017
Crisis and Disaster Management

"Final Report"

Chairs:

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1- Introduction

The 8th International Summer School of on Applied Geoinformatics for Society and Environment (AGSE2017) organized by University of Tehran and Stuttgart University of Applied Sciences, and with support of the German Academic Exchange Service (DAAD), and International Society for Photogrammetry and Remote Sensing (ISPRS) took place at the Kish International Campus University of Tehran, Kish Island on April 29 - May 04, 2017. The goal of this conference was to take into account the current state-of-the-art topics in Geosciences related disciplines such as photogrammetry, remote sensing, and geo-information with significant focus on "Crisis and Disaster Management".

AGSE - Applied Geoinformatics for Society and Environment- was initiated in 2009 by Prof. Franz-Josef Behr. Taking place on a yearly basis, the schools are being hold in different places all over the world. The overall scope of these schools is to offer an interdisciplinary, international forum for sharing knowledge about the science and application of geoinformatics with focus on developing countries. Besides invited keynotes the conference organizes presentations to a variety of topics. Also, many professional trainings and workshops about current topics in the fields of Geoinformatics and Photogrammetry have been included in the program.

In the 8th Summer School of AGSE, different practical and educational workshops have been organized by teaching outstanding and internationally known researchers on different fields of geospatial data acquisition, analysis and application. Also, national and international experts as well as PhD students presented the latest science and technology developments as well as recent applications and research activities reporting, i.e., methods for crisis and disaster management, risk assessments, monitoring the changes such as natural/man-made disasters, based on earth observation or ground based techniques as well as the other contribution of Geoinformatics, Remote Sensing, and Planning in all phases of the disaster management cycle (preparation, response, recovery, and mitigation).

In Table 1, the detailed information of members of AGSE2017 organizing committee are shown.

Table 1: AGSE2017 organizing committee

Name	Role	Affiliation	Photo
Dr.-Ing. Hossein Arefi	Chair	School of Surveying and Geospatial Engineering, College of Engineering, University of Tehran	
Dr.-Ing. Franz-Josef Behr	Chair	Faculty of Geomatics, Computer Science and Mathematics, University of Applied Sciences Stuttgart	

Name	Role	Affiliation	Photo
Dr. Mohammad Reza Saeidabadi	Member of organizing committee	Kish International Campus University of Tehran	
Dr. Mohammad Ali Sharifi	Member of organizing committee	School of Surveying and Geospatial Engineering, College of Engineering, University of Tehran	
Dr.-Ing. Dietrich Schröder	Member of organizing committee	Faculty of Geomatics, Computer Science and Mathematics, University of Applied Sciences Stuttgart	
Dr.-Ing. Michael Hahn	Member of organizing committee	Faculty of Geomatics, Computer Science and Mathematics, University of Applied Sciences Stuttgart	
Dr. Anja Ernst	Member of organizing committee	Faculty of Geomatics, Computer Science and Mathematics, University of Applied Sciences Stuttgart	
Ms. Fatemeh Alidoost	Member of organizing committee	School of Surveying and Geospatial Engineering, College of Engineering, University of Tehran	

2- Topics

With the focus on "Crisis and Disaster Management" the summer school aimed at contributions of Geoinformatics, Remote Sensing, and Planning to preparation, response, recovery, and mitigation of disasters. The summer school program included the invited talks by international experts in combination with presentations by participants and workshops on various topics related to the applications of geomatics engineering in crisis and disaster management. Here an overview of the presented subjects:

- Collaborative Geographic Information Systems for Disaster Management
- Flood Risk Modeling and Mapping
- Building Resilience against Disasters
- Software-neutral best practices

- GIS for Disaster Management Research Agenda
- E-Learning to support Disaster Management
- Psycho-Social Implications of Disaster Management and Volunteering
- Contribution of Remote Sensing Approaches
- Contribution of Spatial Data Infrastructures
- Alerting people
- Disaster Management Approaches on regional and national levels
- Using UAVs for data collection
- Data sources and rapid web based data provision
- Crowed-based Data collection using OpenDataKit and KoboCollect
- Deep Learning for Emergency Response
- 3D Data for detailed Infrastructure information

3- Articles and Workshops

In the 8th Summer School of AGSE, about 20 papers were presented during 5 days. The scope of the presentations covered a broad range of topics from microwave remote sensing to medium and high resolution optical remote sensing as well as UAV-based mapping systems and all themes with lots of different geoinformatics applications in crisis and disaster monitoring and management. Moreover, about 11 workshops were presented by experts such as the UAV-based mapping workshop (in Harireh old city of Kish Island) (Figure 1) and the hydrography mapping workshop by the National Geographic Organization (NGO) (Figure 2). In Table 2, the list of workshops are presented.

Table 2: Workshops

Presenter	Workshop Title	Affiliation
Dr. Sajid Pareeth	Processing time series of satellite data using GRASS GIS and Orfeo Toolbox to develop land cover maps using Machine learning algorithms	UNESCO-IHE, Rotterdam, The Netherlands
Mr. Farjam Jamshidi, Mr. Heydar Khojasteh	Hydrographic Mapping	National Geographic Organization (NGO), Iran
Mr. Milad Mirzaei, Mr. Sina Nobakht	UAV Flight Practice	Dana Drone, Iran
Mr. Md Zahid Hasan Siddiquee	Preparing GIS database for Disaster Response and Recovery using Smartphones	Institute of Water Modelling (IWM), Bangladesh
Dr. Dietrich Schröder	Your experiences and expectations studying abroad and after coming back	Stuttgart University of Applied Sciences, Germany
Mr. Rafael Ricardo Bastidas Mendez	A small API by using NodeJS, PostgresSQL-MongoDB and LeafletJS mapping library	Alexander von Humboldt Biological Resources Institute, Colombia
Dr. Behnam Alizadeh	Ruby console of SketchUp Trimble in 3 hours	Tabriz Islamic Art

Presenter	Workshop Title	Affiliation
Ashrafi		University, Iran
Mr. Shams Uddin Al Azad	Big Data Analysis in MongoDB	Stuttgart University of Applied Sciences, Germany
Dr. Michael Hahn, Dr. Hossein Arefi	UAV Photogrammetry and UAV Data Processing	Stuttgart University of Applied Sciences, and University of Tehran
Mr. Vahid Khosravi	Investigating the toxic element contents of soils in mining areas by means of field and imaging spectroscopy	University of Tehran, Iran
Dr. Sylvie de Laborderie	Mobile Data Collection using KoboCollect	CartONG, Chambéry, France

Figure 1: UAV-based mapping workshop in Harireh old city of kish island

Figure 2: Hydrography mapping workshop by the NGO ship

4- Participants of AGSE2017

As shown in Table 3, the overall success of AGSE2017 summer school was demonstrated by the impressive attendance, with more than 50 participants from universities and research organizations, but also from application oriented institutions, primarily from Iran but also from 12 other countries such as Germany, France, The Netherlands, Colombia, Kenya, Bangladesh, Ethiopia, Seri Lanka, India, Nigeria, Nepal, and Tanzania (Figure 3).
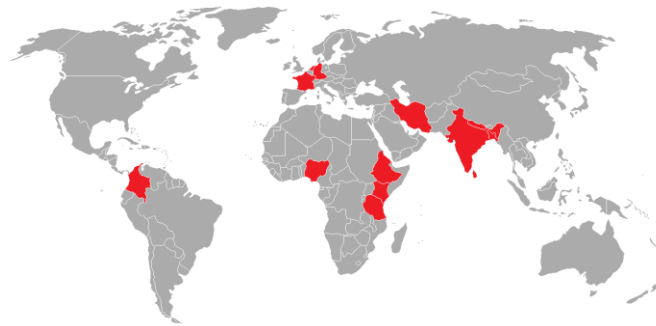

Figure 3: International participants of AGSE2017

Table 3: Participants status of AGSE2017

Total numbers of participants	50	National participants	30	Keynote speakers	2
				Presenter	4
				Others	24
		International participants	20	Keynote speakers	2
				Presenter	16
				Others	2

In Table 4, the list of international and national keynotes are presented.

Table 4: Keynotes

Name	Presentation Title	Affiliation	Photo
Dr. Mohammad Ali Sharifi	Application of Pixel mapping to support better management of agricultural production systems	Geo-Information Science and Earth Observation (ITC) of the University of Twente, The Netherlands	
Sylvie de Laborderie	CartONG and MSF: GIS deployments for outbreak or disasters	CartONG, Chambéry, France	
Dr. Yasser Maghsoudi Mehrani	Radar remote sensing: Basics, applications and its potential in land deformation monitoring	Khajeh Nasir Toosi University of Technology, Iran	

Name	Presentation Title	Affiliation	Photo
Dr. Mahmoud Delavar	Smart Spatial Data Fusion Methods for Production of Tehran Physical Seismic Vulnerability Maps	Chair ISPRS Working Group WG IV/3, Iran	

5- Excursions

In order to familiarize with the history and culture of Iran, especially of Kish Island, a visit to the ancient towns of Harireh and Kariz, Greek Ship, and Museum of Anthropology Native Kish were provided for participants of AGSE2017.

6- Conclusion

In AGSE2017 summer school, the current state-of-the-art in Geoscience related disciplines in order to crisis and disaster management and monitoring were presented as oral presentations and workshops with the aim of the international cooperation between different universities and organizations worldwide. This international cooperation could be extended as the joint courses, students and experts exchange programs, as well as joint workshops in the geoinformatics fields. Based on a final evaluation of the participants (Figure 4) it can be stated that AGSE2017 summer school has been a very interesting and vivid conference with a broad range of high level presentations and workshops of very good scientific quality providing a professionally rewarding and personally memorable experience for all of its participants. It would have deserved even more attention from participants all over the world and the organizers hope to raise a higher rate of participants from more countries in the next AGSE summer school envisaged for 2018.

Evaluation sheet participents

DAAD Deutscher Akademischer Austauschdienst German Academic Exchange Service

Anlage 5 zum Merkblatt im Alumni-Programm zur Betreuung und Bindung ausländischer Alumni (gültig ab 1.1.2017)

2. How do you rate the quality of the event as a whole?				
very high (7)	High (6)	neither nor	low	very low
☐	☐	☐	☐	☐

Figure 4: DAAD evaluation of AGSE2017

7- Gallery