EMASC14 — 1st International Workshop on Emerging Multimedia Applications and Services for Smart Cities

M. Anwar Hossain
King Saud University
Riyadh, KSA
mahossain@ksu.edu.sa

Abdulmotaleb El Saddik
University of Ottawa
Ontario, Canada
elsaddik@uottawa.ca

ABSTRACT
Smart city is the vision of future city - with increasingly instrumented, inter-connected and intelligent urban systems - to improve the quality of life in many aspects including public safety, healthcare, transportation, or energy. With the ever-increasing presence of multimodal sensors in the smart city infrastructure, multimedia plays an indispensable role. The proliferation of multimedia, sensors, pervasive devices, and infrastructures for realizing smart city has brought many challenges that are the core focus of EMASC workshop.

Categories and Subject Descriptors
A. General Literature; H.3.4 [Systems and Software]: Distributed systems; H.4.0 [General]; H.5.1 [Multimedia Information Systems]: Audio input/output, Video

General Terms
Design, Experimentation, Human Factors, Theory.

Keywords
Smart cities; multimedia; multimedia systems of systems; multimedia applications and services

1. INTRODUCTION
Smart cities embed sensor-rich, instrumented and interconnected infrastructure where new breeds of multimedia applications and services are emerging to fulfill the requirements of the residents. In such an interconnected environment, continuous steams of multimedia data are generated based on the multimodal sensors and socially connected people. These data streams are processed and analyzed to identify the needs of the residents, and to offer them required services to enhance their quality of life.

The opportunities and benefits of multimedia smart cities come with huge challenges. Dominant challenges include collaborative sensing and processing of multimedia data, multimedia service management, situation awareness and optimal decision making, integration of multimedia systems of systems, etc. The creation of effective and efficient multimedia services and applications will

face these challenges. Thus, coordinated multi-disciplinary research is needed to address these challenges and reap the benefits of smart cities.

The EMASC 2014 workshop invited authors to submit papers covering the various research challenges. It received good responses from the authors as a first workshop and accordingly an interactive program was made possible to organize.

2. OBJECTIVES
This EMASC workshop brings together researchers and practitioners in multimedia, smart environment, multimodal sensing, service management, etc. to discuss about the challenges in creating multimedia services and applications for smart cities.

This workshop aimed to provide a forum of multi-disciplinary researchers and highlight the top research progress in the integration of multimedia for smart city applications and services.

3. TOPICS OF INTEREST
The EMASC 2014 workshop aims to report on the state-of-the-art techniques, methodologies, and emerging multimedia applications and services that help to realize smart cities.

Particular topics of interest include, but not limited to:

- Collaborative sensing, processing and aggregation of multimodal data
- Multimedia-driven situation awareness and decision support systems for smart city
- Mobile, anytime, anywhere sharing of multimedia data in smart city
- Smart multimedia 'systems of systems' in smart city
- Multimedia-enabled emergency response and event handling in smart city
- M2M sharing of multimedia data in smart city
- Multimedia IoT for smart city
- Multimedia service discovery, management and scheduling in smart city
- Crowd-sourcing in smart cities
- Cloud-based systems for smart cities
- Multimedia security and privacy for smart city applications

- Multimedia applications and services (education, health, transport etc.) in smart cities

4. EMASC PROGRAM

EMASC is a half-day fully-engaged workshop, held in Orlando, Florida, USA on November 7, 2014 in conjunction with 22nd ACM International Conference on Multimedia (ACM MM 2014).

There are total 8 presentations including two keynote speeches. The two keynote speakers are:

- Prof. Charles Hughes, Computer Science, University of Central Florida.

- Dr. Ben Amaba, Worldwide Executive, Dynamic Leadership and Innovation.

Besides, the authors of each accepted papers will have 20 min. to present their work and an extra 5 min. for question/answer.

5. ORGANIZERS

M. Anwar Hossain (General Co-chairs) is an Associate Professor in Software Engineering Department, CCIS, King Saud University, Riyadh, KSA. He received the B.Sc. Eng. degree in Computer Science and Engineering from Khulna University, Bangladesh. He obtained his master and Ph.D. degree from the University of Ottawa, Canada in 2005 and 2010, respectively. Dr. Hossain received IBM faculty award in 2011. His research interests include ambient intelligence, multimedia surveillance, sensor-cloud, smart cities, and cloud computing. He has authored and co-authored more than 60 publications including refereed journals, conference papers, and book chapters.

Abdulmotaleb El Saddik (General Co-chairs) is a Distinguished University Professor and University Research Chair in the School of Electrical Engineering and Computer Science at the University of Ottawa. He held regular and visiting positions in Canada, Spain, Saudi Arabia, UAE, Germany and China. He is an internationally-recognized scholar who has made strong contributions to the knowledge and understanding of multimedia computing, communications and applications. Prof. El Saddik is a Fellow of the IEEE (2009), for his contributions to interactive haptic audio visual systems. He was also elected Fellow of the Canadian Academy of Engineering (2010) and Fellow of the Engineering Institute of Canada (2010). He is the first Canadian in Computer Science & Engineering to receive the very prestigious Friedrich Wilhelm Bessel Award from the German Humboldt Foundation in 2007. He is the recipient of the Ontario Premier's Research Excellence Award (PREA), in 2004 and the National Capital Institute of Telecommunications (NCIT) New Professorship Incentive Award (2004). In 2008 he was appointed an IEEE Distinguished Lecturer, he also received the Professional of the Year Award, from the Canadian Lebanese Chamber of Commerce and Industry for Achievement in the Development of Canada. He has also received five Outstanding/Best Paper Awards. Most recently Dr. El Saddik has been the recipient of the 2010 Association of Computing Machinery (ACM) Distinguished Scientist Award, the 2011 Cátedra de Excelencia from Universidad Carlos III de Madrid, Spain and the 2010 IEEE Instrumentation and Measurement Society Technical Award, which is the highest award of IEEE Instrumentation and Measurement society, for his outstanding contributions to multimedia computing. He received the Faculty of Engineering's George S. Glinski Award for Excellence in Research for 2012. He also received the 2012 IEEE Ottawa Educator Award and the 2013 IEEE Canada Achievement Award: C.C. Gotlieb (Computer) Medal for important contributions to the field of computer engineering and science.

6. ACKNOWLEDGEMENTS