

ISM Workshops 2014

Message from the Workshop Chairs

Welcome to the proceedings containing the papers from four Workshops selected for presentation at the 2014 IEEE International Symposium on Multimedia (ISM2014) in Taichung, Taiwan, December 10-12, 2014. All these papers focus on some specific topics of the main symposium.

- **The 1st IEEE International Workshop on Multimedia and Sensory Environment Services (MUSES2014):** With the advancement of multimedia, sensor technology, and wireless communication, we witness a renewed interest in realizing Multimedia and Sensory Environment, such as Smart Cities, Smart Home, Ambient Assisted Living (AAL), Intelligent Environment (IE) and the like. The goal of this movement is to promote a paradigm where our environments are technologically augmented with a myriad of sensors and heterogeneous devices that are sensitive to the presence of people and responsive to serve their needs. The cornerstone of such environments is the availability of vast amounts of multimedia data that are generated based on the multimodal sensors and processed to identify the needs of the residents. Multimedia data are also contributed and shared by the residents to report and enhance their experience in the environment. Underlying to such environments are the different services that need to be defined, developed, and integrated in a holistic manner.

The emergence of multimedia and sensory environment services for smart cities has brought many challenges, which are the core focus of this workshop. More specifically, this workshop aims to report on state-of-the-art techniques and methodologies to define, develop and integrate different services relevant to ambient multimedia and sensory environment.

- **The 10th IEEE International Workshop on Multimedia Information Processing and Retrieval (MIPR2014):** Huge amounts of multimedia data are increasingly available and the knowledge of spatial and/or temporal phenomena becomes critical for many applications, which requires techniques for the processing, analysis, search, mining, and management of multimedia data. The 10th IEEE International Workshop on Multimedia Information Processing and Retrieval (IEEE-MIPR 2014) will take place in Taichung, Taiwan on December 10-12, 2014, in conjunction with IEEE International Symposium on Multimedia (ISM2014). The workshop will provide a forum for original research contributions and practical system design, implementation, and applications of multimedia information processing and retrieval. The target audiences will be university researchers, scientists, industry professionals, software engineers and graduate students who need to become acquainted with new theories and technologies in multimedia information processing and retrieval.

- **The 9th IEEE Multimedia Technologies in E-Learning (MTEL2014):** Due to its potential to make learning easier, more convenient, and more effective, education is one of the preeminent areas of applications for multimedia. Video capturing of lectures has become common practice to produce e-learning content. Simulations allow to explore experiments which would be too expensive or too dangerous to be conducted physically by students. Multimedia-powered demonstrations are freed from many physical restrictions such as the availability of an object to study or the timescale of an effect to observe. Teaching enriched by vivid presentations and possibility for interaction for students can also gain from improved learner's motivation. Concepts may be given perceivable existence in a demonstration and the observability of important details can be augmented. With the present amounts of educational data produced, there is a high demand in techniques and methods capable of handling multimedia contents adequately. Educational content has to be presented, deployed, stored, navigated, searched, retrieved, edited, combined, and reused in a proper way. Furthermore, quality control and learning processes with feedback loops are considered to be important concepts for more effective and sustainable e-learning solutions. Multimedia technologies facilitate the evaluation, improvement, and assurance of quality in loopback controlled e-learning processes.

Most of these topics involve techniques from artificial intelligence, computer vision, multimedia, but also human computer interaction, and psychology. This workshop aims at bringing together researchers who are interested in this intersection area between the technological point of view and the human-centered view.

- **The 3rd IEEE International Ph.D. Workshop on Multimedia Computing Research (MCR2014):** The 2014 IEEE Ph.D. Workshop is an international forum for doctoral students in the field of Multimedia Computing. The workshop provides Ph.D. students with the opportunity to present, discuss, and receive feedback on their research in a constructive atmosphere. The workshop will include prominent researchers from the industry and academia, who will participate actively in the discussions. This is the third installment of the workshop, which was previously held in Irvine, California, USA (2012) and Anaheim, California, USA (2013).

We particularly encourage submissions from students who are in the final stages of their doctoral work, and who can therefore present a relatively complete picture of their dissertations, as well as students who are in the early stages of their work and thus have a significant future work component. The former group will have the opportunity to showcase their doctoral work to a wider audience in preparation for job search, whereas the latter can obtain valuable feedback about their research plans.

We hope these proceedings will serve as a valuable reference for the multimedia research community. We wish to thank all the organizers of these workshops and their program committee members and external reviewers for their great work. Finally, we would like to express our gratitude towards the ISM2014 organizers.

ISM2014 Workshop Co-Chairs

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