

# ImmersiveMe'14: 2<sup>nd</sup> ACM International Workshop on Immersive Media Experiences

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## ABSTRACT

The 2<sup>nd</sup> ACM International Workshop on Immersive Media Experiences (ImmersiveMe'14) at ACM Multimedia aims at bringing together researchers, students, media producers, service providers and industry players in the emergent area of immersive media experiences, through the exploration of different scenarios, applications, and neighboring fields. This second edition, after a successful first edition at ACM Multimedia 2013, provides a platform for presenting on-going work, to consolidate and tie different research communities working on this engaging area, as well as to point directions for the future.

## Categories and Subject Descriptors

H.5.1 [Information Interfaces and Presentation]: Multimedia Information Systems; I.2.10 [Artificial Intelligence]: Vision and Scene Understanding; H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval

**Keywords:** Immersive media; perceptual immersion; multisensory interaction; participatory and affective media experiences; augmented reality and virtual environments.

## 1. INTRODUCTION

Immersive Media is related to aspects that have a direct impact on the viewers' experience and on their conscious feeling of being inside the virtual or surrounding world. Immersion may be determined by sensory modalities and surround effect as well as by participation and social immersion in the media chain, increasing the sense of belonging. It has an impact on the users and may benefit from personalized and context-aware environments and content. This interdisciplinary and transversal emerging field has the potential for strong impact on users' emotions, their sense of presence and engagement.

New approaches for capturing, producing, sharing and accessing information from users' perspectives and experiences, over the

Internet, in social media, and through video on demand services offer tremendous opportunities for immersion, user participation and personalization. By using different media formats, including 3D content, panoramic displays, multiple views, as well as the possibility of delivering and accessing content through different communication methods, promote the development of a new participatory paradigm and enable new perceptual user experiences that provide more realistic, engaging and immersive involvement.

The workshop goal is to bring together researchers and practitioners in this field, and to foster discussion of ongoing work and future directions of related topics by providing a forum for focused exchanges on new ideas, developments, and results.

## 2. TOPICS OF INTEREST

The workshop covers a broad set of topics related to the concept of Immersive Media Experiences in terms of 1) the user's perceptual experience; 2) the consumer's participation; 3) context-aware service personalization; 4) new media formats, including 3D, multiview and panoramic video and interaction approaches; 5) the integration of technology to make media more realistic, and production more efficient. Researchers were invited to contribute in the following areas:

- Perceptual Immersion and multisensory interaction (including smell, taste and touch)
- Audiovisual Immersion: 3D, panoramic, and holographic video, spatial and stereoscopic audio
- Augmented reality enhancing current perception of immersion
- Immersive TV, film and cinema
- Multisensory telecommunication
- Participatory media experiences including user generated content, collaborative scenarios and crowdsourcing
- Personalization and context-aware adaptation in immersive scenarios
- Enabling technologies and formats
- Immersive media applications
- Quality of experience in multiview environments
- Emotions and affective interaction for immersive media
- Social aspects in new media services
- Field trials and user studies of immersive media
- Design and evaluation of immersive media experiences

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### 3. WORKSHOP CONTRIBUTIONS

This second edition of the ImmersiveMe workshop managed to attract a considerable number of high quality submissions from research teams around the world. Many of the papers presented at the workshop were motivated by real-life use cases and concrete application contexts, indicating practical relevance and applicability. These papers cover a broad number of relevant aspects that enable the creation and evaluation of immersive experiences, including synchronization of video streams captured from different viewing angles, multisensory interaction involving taste and smell, emotional computation, new applications of immersive storytelling concepts, virtual environments, games, and natural and immersive interaction. All these visions brought an interesting Immersive Media Experience to the workshop. The workshop was also enriched by an invited talk by Christopher Stapleton, an Experience Designer and Producer having projects with Disney, Universal Studios, Canon, IBM, Nickelodeon, Sanrio and the Wanda Group, where he presented his theories of immersion, imagination and innovation that can help define future design strategies for augmenting human experience.

### 4. WORKSHOP CHAIRS

**Dr. Teresa Chambel** is a professor at Faculty of Sciences, University of Lisbon (FCUL) in Portugal, and a senior researcher of the Human Computer Interaction and Multimedia group at the LaSIGE Lab. Her research interests include multimedia and hypermedia, with a special emphasis on video and hypervideo, human-computer interaction (HCI), creativity, immersion, visualization, accessibility, cognition and emotions, interactive TV, eLearning, digital talking books and digital art. Along with her students, she received the best paper award at EuroITV'2011.

**Dr. Paula Viana** is a Coordinator Professor at the Polytechnic of Porto and a Senior Researcher at INESC Porto, a research institute with more than 25 years of research results in the area of Telecommunications and Multimedia Services. She has authored papers in the areas of Digital TV, Multimedia Information Systems and Content Management. Her long collaboration with broadcasters and Industries enables an integrated vision of both future research topics as well as new applications for finished research. She has been serving as an expert for the European Commission on the evaluation of research proposals and on the assessment of project results.

**Dr. V. Michael Bove, Jr.** holds a Ph.D. in Media Technology, from MIT, where he is head of the Object-Based Media Group at the Media Lab, and co-directs the Center for Future Storytelling and the consumer electronics working group CE2.0. He has authored papers on digital TV systems, video processing HW/SW design, multimedia, scene modeling, visual display technologies, and optics. He holds patents relating to video recording, hardcopy, iTV, and medical imaging. He is co-author with the late Stephen A. Benton of the book *Holographic Imaging* (Wiley, 2008). He is on the Board of Editors of the SMPTE Journal, served as associate editor of *Optical Engineering* and is a fellow of SPIE and of the Institute for Innovation, Creativity, and Capital. He was a founder of and technical advisor to WatchPoint Media, Inc. and served as technical advisor to OneLaptopPer Child.

**Dr. Sharon Strover** is the Philip G. Warner Regents Professor in Communication at the University of Texas where she teaches communications and telecommunications courses and directs the

Telecommunications and Information Policy Institute. Her research investigates the relationship between economic outcomes, policy and investments in digital media programs; social media; the digital divide; rural broadband deployment; e-government; and market structure and policy issues for international audiovisual industries. She has worked with several government agencies on telecommunications policy matters. She recently stepped down from chairing her Department, to work on a national broadband infrastructure program with the federal government in Washington, D.C.

**Prof. Graham Thomas** leads Immersive & Interactive Content Section at BBC R&D. Whilst the current work in his section spans both audio and video, his background is in image processing, computer vision and their application to 3D virtual graphics. He was involved in a number of projects that have gone on to commercial success, e.g. free-d camera tracking system, retro-reflective chroma-key cloth, and sports graphics systems. Prior to 3D graphics, he worked on video compression, PAL coding, and motion estimation based on phase correlation (in his PhD), commercialized in a standards converter, which won an Emmy award and a Queen's Award to Industry. Graham holds over 20 patents and is a Visiting Professor at the University of Surrey.

### 5. PROGRAMME COMMITTEE

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