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# Network and Operating Systems Support for Digital Audio and Video (NOSSDAV'13)

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*Advancing Computing as a Science & Profession*

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# Welcome to the Proceedings of the 2013 ACM Workshop on NOSSDAV

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# Foreword

It is a pleasure to welcome you to the 23rd ACM Workshop on Network and Operating Systems Support for Digital Audio and Video (NOSSDAV) in Oslo, Norway. For years, NOSSDAV has been recognized as a unique venue that attracts researchers and practitioners working on operating systems and networking support for emerging multimedia applications and services. This year's workshop tries to continue the long tradition and aims at accommodating timely exchange of research results and fostering lively, constructive discussions on potentially controversial concepts and solutions in the area of systems support for multimedia.

This year, it was decided that NOSSDAV for the first time should be held in conjunction with the ACM Multimedia Systems conference (MMSys) and the workshop on Mobile Video (MoVid). As the dates for MMSys already was set, the workshop is held at a different time of year compared to previous years. Unfortunately, this meant that the paper submission deadline overlapped with other important events like IEEE ICME. Still, NOSSDAV received 32 submissions for the one-day event from all over the globe. All submissions were interesting and of good value, and therefore, it was a hard task to select the best ones. Each paper received 3 to 5 reviews by the experienced technical program committee. Then, after long discussions between the committee members, 10 papers were accepted based on technical merit, interestingness and discuss-ability at the workshop - giving an acceptance rate of 31%.

The final program consists of 4 paper sessions looking into different aspects of multimedia computing and delivery. In addition, the technical program includes a keynote speech in the area of "3D Video Processing and Coding" by Dr. Aljosa Smolic (Disney Research Zurich). We believe that the program committee has made a rich and exciting program, and we hope that you are inspired by the many high-quality papers.

**Laszlo Böszörmenyi**, Klagenfurt University, Austria
**Pål Halvorsen**, University of Oslo & Simula Research Laboratory, Norway
NOSSDAV 2013 Program Co-Chairs

# Organization

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# Keynote

**Advanced 3D Video Processing and Coding**

Dr. Aljosa Smolic, Disney Research Zurich, Switzerland

**Abstract:** Stereoscopic 3D is established in cinema, on Blu-ray, TV, PCs, laptops, and mobile devices. Since nowadays technology for stereo 3D is mature and content creation is understood well enough, these developments are expected to be sustainable this time. Most current systems rely on classical approaches to 3D video, i.e., representation as stereo or multiview video, coding and transmission using simulcast, frame-compatible composition or MVC. More advanced “next generation” approaches exploit some kind of understanding of the 3D scene geometry such as depth or disparity, in order to extend functionality and increase efficiency. This includes for instance flexible adjustment of depth impression to viewing conditions and user preferences or support of autostereoscopic multiview displays. Also content creation for classical stereo 3D can greatly benefit from such 3D geometry aware processing. Naturally such advanced 3D video representation formats require advanced processing algorithms, e.g., to extract 3D geometry and to render virtual views. Such advanced 3D video representation and processing will be the focus of this talk, as well as related coding, transmission and quality aspects.