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Emerging Digital Micromirror Device Based Systems and Applications III

**Michael R. Douglass
Patrick I. Oden**
Editors

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Introduction

We are once again pleased to have chaired a MOEMS/MEMS conference at SPIE Photonics West. For the third year, our conference was an exciting forum for presenting and networking with colleagues in this internationally recognized symposium.

The Digital Micromirror Device (DMD) was conceived at Texas Instruments in 1987, following a decade of work on analog deformable-mirror and cantilever-mirror devices. This particular MOEMS device has been applied most famously to conference room and portable projectors, large-screen high-definition televisions, and digital cinema projection systems, all of which were enabled by DLP® technology.

As evidenced in this well-attended conference at Photonics West 2011, the DMD and associated development platforms are enabling many exciting new systems and applications beyond the traditional display technologies. The goal of this conference was to bring together scientists, technologists, and developers working on applications in these emerging markets. In that regard, it was a rousing success. In these proceedings, you will find 18 very interesting papers covering a wide range of applications. We categorized them into four separate sessions:

Session 1 – Medical Applications Using Hyperspectral Imaging
Session 2 – Direct Imaging and Beam Projection
Session 3 – 3D Measurement Systems Using Structured Light
Session 4 – Multi-Spectral Metrology and Microscopy.

Our five invited authors are considered experts in their fields and we are honored that they participated in our conference. They and the other authors shared their progress on developing new applications using a DMD to process light. Many of the developers are now using DLP® Discovery kits which include a DMD along with supporting components.

We want to thank our program committee for the great work they did developing the conference concept, finding all these wonderful speakers, and organizing the papers into a cohesive structure. Special thanks go to the session chairs for working with their authors, coordinating the conference, and keeping it on schedule. And of course extra special thanks to the authors who did a fantastic job presenting their subjects in an interesting and passionate way. You made the conference a success.

We also want to thank Dr. Thomas Suleski and Dr. Harald Schenk (symposium chair and cochair) for their support and guidance. And of course thanks to the SPIE staff for keeping us on task.

If you were able to attend the conference, we know you enjoyed it and are looking forward to reading more about these interesting DMD applications. For those who did not attend, we hope you enjoy reading the papers as well. Keep those innovations coming; who knows what might be around the next corner.

Michael R. Douglass
Patrick I. Oden