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Materials and Applications***

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Introduction

The SPIE Practical Holography Conference, which takes place every year in January, is an important international event in the field of holographic applications and recording materials. This year marks the twenty-fifth meeting of the Practical Holography conference which is part of the Photonics West event.

The conference provides a venue for all aspects of holography: art, display, metrology, scientific, security, storage, CGHs and HOEs. The conference also brings together participants from all over the world. This year's meeting consisted of 26 oral and 18 poster papers. In addition, a Holography Technical Meeting took place during an evening focused on new developments and applications including demonstrations. An announcement of the upcoming ninth International Symposium on Display Holography which will take place at MIT in the summer of 2012 was provided by M. Bove, Jr.: responsible for the organization of the tri-annual event.

This year's conference featured many interesting contributions in various fields during two days of oral presentations. It was divided into six sessions on four main topics: digital, electronic, and CGHs, display holography, recording materials and processing, scientific holography, applications and experimental techniques.

Every year the amount of papers on digital holography systems are increasing. This year was no exception; it is now possible to generate improved quality color real-time displays as reported by K. Yamamoto. Geola Digital uab in Lithuania described that inexpensive high-quality digital holographic color portraits could be generated using a sequence of mobile phone camera photos as the input.

In the display session, one paper described a museum project in the UK where analogue color reflection Denisyuk holograms were used instead of the real artifacts for arranging a touring exhibition of rare art objects. The session included papers by artists using digital color holograms to create interesting art pieces.

Important contributions in the material secession were two new commercial recording materials. A progress report on Bayer MaterialScience's photopolymer material was one of them. The other material was the new HARMAN (former ILFORD) panchromatic silver-halide emulsion. The material's performance was described in two papers on recorded HOEs presented by S. Smith.

A review paper by C. Stojanoff described various technical applications of HOEs recorded in DCG materials, including photovoltaic HOE solar concentrators.

N. Tate of Tokyo University employed nanotechnology to embed information on the nanoscale within information on the macroscale which he referred to as a

nanophotonic hierarchical hologram. Document security is one possible application of this type of hologram.

I would like to thank all the authors and the Practical Holography XXV Program Committee members for their contribution. The session chairmen: M. Bove, Jr., H. Yoshikawa, and G. Heidt are acknowledged for helping with the paper presentations during the sessions.

I look forward to seeing you in San Francisco in January 2012.

Hans I. Bjelkhagen