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Practical Holography XXXI: Materials and Applications

**Hans I. Bjelkhagen
V. Michael Bove Jr.**
Editors

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Introduction

The SPIE conference on Practical Holography XXXI: Materials and Applications took place 30 January–1 February 2017 at the Moscone Center in San Francisco. The conference is an important international event in the field of holographic applications and recording materials. The conference provides a venue for all aspects of holography: art, display, metrology, scientific, security, storage, materials and processes, CGHs, and HOEs. The conference also brings together participants from all over the world. The Practical Holography conference is part of SPIE Photonics West 2017. The large Photonics West exhibition involved over 1,400 companies.

The holography conference was chaired by Hans Bjelkhagen, Glyndŵr University (United Kingdom), and V. Michael Bove Jr., MIT Media Laboratory (United States), and attracted about 50 participants. This year's conference (as always) featured long-time participants and new members of the practical holography community sharing many novel and interesting contributions in various holographic fields during two days of oral presentations and a poster session. The oral presentations divided into three main sessions: Applications, Materials and Processes; Holography, Art, and Perception; and Digital Holography.

Ramunas Bakanas, Geola (Lithuania), demonstrated that it is possible to record digital color master holograms on photoresist materials using pulsed RGB lasers. The main application is enhanced embossed security holograms. Thomas Fäcke, Covestro AG (Germany) (formerly Bayer MaterialScience AG) described mass-production of volume HOEs in Bayfol® HX photopolymer in a roll-to-roll copying process. In the art section, Tove Noorjahaan Dalenius, De Montfort University (United Kingdom), described holographic data visualization using synthetic full-parallax holography. Sundeep Jolly, MIT (United States), described the development of a near-to-eye 3D display based on waveguide holography.

The SPIE Holography Technical Evening Event took place on 31 January at the InterContinental Hotel. It was focused on new developments, applications, holography events, and demonstrations. During the Tuesday evening event, short presentations took place. For example, Bernard Kress from Microsoft (United States) described holographic and diffractive waveguides used in VR displays, such as, in the HoloLens. A review of the HoloCenter in New York was given by Martina Mrongovius, Center for Holographic Arts (United States). Pedro Pombo, University of Aveiro (Portugal) and Fábrica Ciência Viva Science Centre (Portugal), informed us about the 11th International Symposium on Display Holography (ISDH 2018) which will take place 25–29 June 2018 at the University of Aveiro in Portugal.

The conference chairs would like to thank the authors and the program committee members for their contributions to the conference. We look forward to seeing you at next year's conference in San Francisco.

**Hans I. Bjelkhagen
V. Michael Bove Jr.**