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1 Materials and Processes
Hans I. Bjelkhagen, Glyndwr University (United Kingdom) and Hansholo Consulting Ltd. (United Kingdom)

Introduction

Welcome to the proceedings of Photonics West OPTO 2020 conference on Practical Holography XXXIV: Materials and Applications, presented on 5th February 2020.

This 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 holography conference was chaired by Hans Bjelkhagen, from Glyndŵr University, and attracted about 50 participants. This year's conference featured long-time participants and new members of the practical holography community who shared many novel and interesting contributions in various holographic fields during one day of oral presentations and a poster session in the evening. The oral presentations were divided into four main sessions: Materials and Processes, Applications, Exhibitions and Digital Holography.

Jack Mills, Covestro LLC - USA, described how to apply Bayfol HX® photopolymer film into recording stacks and optical parts. PhD student Johannes Hofmann at Karlsruher Institut für Technologie in Germany gave a paper on holographic wave front printing for fabrication of reflection holograms with arbitrary recording wave fronts. This paper was awarded 'Best Student Paper' an award provided by HÜBNER.

Maria Isabel Azevedo, from the Universidade de Aveiro, Portugal, described how public engagement in science and technology can be accomplished using holography. Hosung Jeon, from Kyungpook National University, South Korea, described high-resolution binary hologram printing methods. Optical adhesives, such as Norland 65, are used to glue optical komponents. Arturo Olivares-Pérez, from the University Autonoma Metropolitana in Mexico had been able to sensitize Norland 65 using Eosin Yellow so that it was possible to record hologram gratings in this optical adhesive.

The SPIE holography technical evening event was held on Tuesday, 4 February, at the InterContinental Hotel. It focused on new developments, applications, holography events, and demonstrations. During the Tuesday evening event, a short presentation took place, by Ian Lancaster, from Reconnaissance, United Kingdom. He described the future of holograms in document security. Hans Bjelkhagen, gave information on the new Geola Facility for holography being built on David Brotherton-Ratcliffe's Forrest House Estate near London. It will be equipped with a digital color hologram printer and a darkroom for processing large glass plates.

A proposal for the 12th International Symposium on Display Holography (ISDH 2021) was presented by Seung Hyun Lee of KwangWoon University, Seoul, South Korea. It will take place between 28 June and 3 July, 2021.

COBOLT-HÜBNER, Sweden, and UNIK LASERS, Scotland, described their lasers suitable for holography. Both companies are going to make integrated systems containing RGB lasers for color holography emitting "white" laser beams. Bernard Kress, Microsoft, described Hololens 2. During Photonics West workshops on and demonstrations of AR, VR, MR equipment took place. The participants were able to test the latest head gear such as Magi Leap and Hololens 2.

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

Hans I. Bjelkhagen