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**Bernard Bell**  
**Takeshi Shimano**  
*Editors*

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## Introduction

The 2007 topical meeting on Optical Data Storage (ODS2007) was held on 20-23 May 2007 in Portland, Oregon. The number of attendees registered was 194. This was unfortunately the smallest attendance in the last seven years most likely due to the phase of development of the next generation DVD business such as Blu-ray Disc or HD-DVD which has been launched but has not yet matured. On the first day of the conference, four short courses were given on the timely topics of Bit-wise 3-D Memory, MEMS Technology for Optical Storage Systems, Advanced Media Technologies, and Holographic Storage: Advanced Media Systems. Over the following three days, 82 papers were presented in 14 technical sessions consisting of 57 oral presentations including 15 invited talks and 6 post deadline oral presentations and 25 poster presentations including 3 post deadline poster presentations. An evening panel session entitled "The influence of competitive technologies on the requirements and future role for optical data storage" included four presentations covering various applications and technologies as well as open discussion. Two newly established ODS Awards were presented for the first time: the Best Paper Award and the Best Student Paper Award. The former was given to Hideharu Mikami, Hitachi, Ltd. and the latter was given to Zhilong Rao of Stanford University.

This proceedings volume is organized into 14 sections corresponding to the technical sessions at the conference: "Multilayer Recording," "Micro-Holographic Recording," "Components and Testing," "Thermally Assisted Magnetic Recording," "Advanced Drive Systems," "Super Resolution," "Holographic Recording," "Near Field Recording," "Holographic Drive and Channel Design," and "Recording Media and Mastering Technology." Note that three holographic related sessions were held and more than one third of the papers presented were in holographic technologies.

The general chairs would like to thank program committee members, the advisory committee members, and the staff of the managing society (OSA) for their contributions to a successful conference. In particular, the general chairs would like to acknowledge the efforts of the program chairs, Tim Rauch of Seagate Research and Kimihiro Saito of Sony Corp., on organizing the excellent program and Barry Schechtman for helping to organize and chairing a very informative panel discussion.

We believe that this proceedings volume will be of great value in providing future direction to the optical data storage community.

**Takeshi Shimano**  
**Bernard Bell**

