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Foreword

On behalf of VDE/VDI-GMM, the sponsors, and the organizing committee, we welcome you to the proceedings volume from the 29th European Mask and Lithography Conference, EMLC2013, which was held at the Hilton Hotel in Dresden, Germany.

Each year this conference brings together scientists, researchers, engineers, and technologists from research institutes and companies from around the world to present innovations at the forefront of mask lithography and mask technology. The two and a half day conference was dedicated to the science, technology, engineering, and application of mask and lithography technologies and associated processes, giving an overview of the present status in mask and lithography technologies and the future strategy where mask producers and users have the opportunity of becoming acquainted with new developments and results. This year's sessions included: EUV Tooling & Further Lithography Options, Optical Lithography & APC, Mask Materials, E-beam Lithography, Metrology & Inspection, and Resolution Enhancement & DFM.

Dr. G. Teepe from GLOBALFOUNDRIES was the conference's welcome speaker. Ther first keynote speaker was Dr. H. Morimoto from Toppan Printing Company of Japan. His presentation was entitled "Photomask Technology Progress to meet with Electronics Product Requirements." Our second keynote speaker was Dr. H.J. Levinson from GLOBALFOUNDRIES. His presentation was entitled "The Lithographer's Dilemma: Shrinking without Breaking the Bank."

As a tradition we invited the Best Paper of PMJ 2013 and the Best Poster from Photomask Space 2012 to present their papers at the EMLC2013.

A Panel Session "EUVL – What else?" took place on Wednesday afternoon. The panelists were: H. Morimto from Toppan; H.J. Levinson from GLOBALFOUNDRIES; F. Goodwin from SEMATECH; N. Hayashi, from DNP; J. Finders from ASML; and J.H. Peters from Carl Zeiss SMS. S. Wurm from SEMATECH acted as Session Chair and Moderator.

Parallel to the Conference Presentations, the Technical Exhibition took place on Tuesday afternoon (1:00 PM), and continued all of Wednesday, and concluded Thursday afternoon (1:00 PM). Some of the exhibitor companies were: Vistec E-Beam; Photronics; Entegris; Nuflare; PI; Pozzetta; Carl Zeiss; JEOL; S3Alliance; Sistem; ibss Group. EQUIcon informed us on their products and support.

We hope that you enjoyed the Technical Sessions of the EMLC2013 as well as the Technical Exhibition, but also allow yourself to visit Dresden!

Uwe F.W. Behringer

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The 29^{th} European Mask and Lithography Conference, EMLC would like to express its sincere appreciation to all the sponsors and cooperating partners mentioned below for their support.













































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