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Introduction

The growing demand for accurate and repeatable measurements of increasingly complex devices, especially in the semiconductor and MEMS industries as well as in the bio and outer space sciences, has driven the field of optical metrology to develop innovative methodologies capable of providing fast, precise, real-time assessments of components. While the range of techniques and technologies in interferometry is already vast, researchers strive to find solutions to new challenges that help make invisible things visible and to extend our vision further into outer space as well as into the nano-world and into the biological and medical fields.

Interferometry XV, which is a continuation of the Interferometry series, consists of two complementary conferences, one dedicated to Techniques and Analysis and the other to Applications. These two conferences present recent developments in analyses and techniques that use principles of interferometry to achieve highly precise measurements of different objects and their application to a wide range of systems. The proceedings of the two conferences comprising Interferometry XV are published in two separate volumes as Interferometry XV: Techniques and Analysis (SPIE Proceedings 7790) and Interferometry XV: Applications (SPIE Proceedings 7791).

This volume contains the proceedings of Interferometry XV: Applications, and consists of 25 papers: 2 invited, 16 contributed, and 7 posters. These papers address some of the pertinent work and illustrate the current status of developments in this field. They were grouped into five technical sessions: NDT and Subnano-Metrology; Shape and Deformation Measurements; Measurement of Dynamic Events; Novel Applications, and Optical Metrology Systems.

The two invited speakers set a high standard for the tone of the conference: Ralf B. Bergmann, who reviews developments relating to optical metrology and optical non-destructive testing from the perspective of object characteristics, and James M. Kilpatrick who discusses advances in the design and applications of a high-speed Doppler imaging vibrometer.

Contributions by all of the authors clearly show that interferometric methodologies are not merely laboratory curiosities, but that they have become accepted tools for obtaining solutions to a wide range of today's applications.

We thank SPIE, the program committee, the authors, and everyone attending this fifteenth Interferometry conference. SPIE continues to provide a forum for the exchange of ideas and dissemination of the latest research in interferometry and related fields. As a community, we come together at conferences such as this one to share not only our work, but also our professional vision. We reacquaint

ourselves with old friends and meet new colleagues. The value of these conferences comes from both the professional insight we gain and the relationships we foster.

Thank you very much for your participation!

Cosme Furlong
Christophe Gorecki
Erik L. Novak