

Preface

This book includes extended versions of a set of selected papers from PHOTOPTICS 2015 (the 4th International Conference on Photonics, Optics and Laser Technology), held in Berlin, Germany, in 2015, organized and sponsored by the Institute for Systems and Technologies of Information, Control and Communication (INSTICC).

PHOTOPTICS 2015 was held in cooperation with the European Optical Society (EOS) and The Japan Society of Applied Physics (JSAP). It was held in collaboration with the International Year of Light 2015 and technically sponsored by the IEEE Photonics Society and Photonics21. The Centre of Physics and Technological Research (CEFITEC) and Faculty of Sciences and Technology—New University of Lisbon (FCT) were Academic Partners and the Science and Technology Events (SCITEVENTS) was the Logistics Partner. The papers were peer-reviewed to the professional and scientific standards expected of a proceedings journal published by Springer. Papers were assessed according to the journal's Peer Review Policy which judges papers on aspects including scientific merit (notably scientific rigour, accuracy and correctness), clarity of expression and originality.

The technical program of PHOTOPTICS 2015 covered areas like “Optics”, “Photonics” and “Lasers technology”. We expect that these proceedings will appeal to a broad audience of researchers, engineers, scientists and business people interested in those areas. We further believe that the papers in these proceedings demonstrate new and innovative solutions, and highlight technical problems in the mentioned areas that are challenging and worthwhile.

The conference was also complemented with the first edition of the Special Session on Optical Sensors—OSENS 2015 (chaired by Orlando Frazão).

PHOTOPTICS 2015 received 113 paper submissions from 40 countries. From these, 12 papers were published and presented as full papers, 16 were accepted as short papers. These numbers, leading to a full-paper acceptance ratio of 11 % and the total oral acceptance ratio (including full papers and short papers) 25 % which show the intention of preserving a high quality forum for the next editions of this conference.

The high quality of the PHOTOPTICS 2015 programme was enhanced by five keynote lectures, delivered by experts in their fields, including: Ludger Wöste (Freie Universität Berlin) that delivered a keynote entitled “Fundamentals and Applications of Plasma Filaments”, Orlando Frazão (INESC Porto) delivered a keynote on “New Advances in Fabry-perot Cavity for Sensing Applications”, Klaus Petermann (Technische Universität Berlin) had a keynote entitled “Nonlinear Optics in Silicon Photonics”, João Magueijo (Imperial College London) with a keynote entitled “Varying Speed of Light, Cosmic Structure and the Quest for Quantum Gravity” and Wolfgang Schade (Clausthal University of Technology) with the keynote “FiberLab—A Multi-sensing Approach in a Single Optical Fiber”.

This book contains 10 papers from PHOTOPTICS 2015, which have been selected, extended and thoroughly revised.

We wish to thank all those who supported and helped to organize the conference. On behalf of the conference Organizing Committee, we would like to thank the authors, whose work mostly contributed to a very successful conference, the Keynote Lectures and to the members of the Program Committee, whose expertise and diligence were instrumental to ensure the quality of final contributions. We also wish to thank all the members of the Organizing Committee whose work and commitment was invaluable. Last but not least, we would like to thank Springer for their collaboration in getting this book to print.

Caparica, Portugal

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Photoptics 2015

Revised Selected Papers

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2016, XVII, 194 p. 119 illus., 30 illus. in color.,

Hardcover

ISBN: 978-3-319-30135-8