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Valentin I. Vlad
Editor

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Introduction

The conference ROMOPTO 2012: Micro- to Nano-Photonics II is the tenth (jubiliary) in a series of international conferences dedicated to optics and photonics, held every three-year in Romania. The first three conferences were organized by Acad. Ioan Ursu, in collaboration with Acad. A. M. Prokhorov, under the name "Trends in Quantum Electronics". The Romanian optics community and our friends from abroad celebrate now 50 years since the first He-Ne laser was constructed at the Institute of Atomic Physics Bucharest, in the Laboratory of Optical Methods in Nuclear Physics lead by Prof. Ion Agarbiceanu, a member of Romanian Academy.

The topics of our conference are related to the modern micro- and nano-photonics and reflect the fast evolutions of optics and photonics providing essential technologies for new materials, information science and technology, biology and medicine, manufacturing, sensing and metrology. The results in these fields demonstrate the important role of photonics in the progress of modern society, in the 21 century.

The purpose of ROMOPTO 2012 is to provide an opportunity for the optics scientists to discuss their newest results, to stimulate interdisciplinary research and to consider the perspective of applications. The position of our country, Romania, in the Central-East Europe plays an important role in the promotion of the scientific contacts in this region. In the national strategy in R&D, photonics plays an important role in basic research, development and innovation. An actual challenge for all of us is the financial and economic crisis, which has effects on the research funding, the participation in scientific meetings and many others. We follow with interest the new strategy of the EU in research, development and innovation, Horizon 2020, including partnerships in the new projects. We are involved in an important EU project and infrastructure in R&D, the Extreme Light Infrastructure (ELI). Our colleague, Prof. Nicolae Zamfir, who is leading the Romanian pillar of ELI, will present an invited paper on using extremely high intensity lasers (tens PW) in Nuclear Physics.

The organization of ROMOPTO 2012 was possible thanks to the actions and support of several national and international institutions. We have to mention and thank the Romanian Academy, the Romanian Ministry of Education and Research and the National Agency for Science, Technology and Innovation, the National Institute of Laser, Plasma and Radiation Physics (NILPRP), the University of Bucharest, the "Menahem H. Elias" Foundation, the Politehnica University of Bucharest and the Division of Optics and Quantum Electronics of the Romanian Physical Society (which is a territorial committee of ICO and EOS). My gratitude is specially conveyed to Acad. Ionel Haiduc, the President of the Romanian Academy, Prof. Ecaterina Andronescu, the Minister of Education, Prof. Mircea Dumitru, the Rector of the University of Bucharest, Prof. E. Barna, the Vice Rector,

Prof. St. Antohe, the Dean of Faculty of Physics and Prof. V. Stanescu – Exec. Director of “Menahem H. Elias” Foundation.

We address our thanks to the co-sponsoring institutions of this conference: the International Commission for Optics (ICO), the « Abdus Salam » International Centre for Theoretical Physics (ICTP, Trieste, Italy), the International Society for Optics and Photonics (SPIE), Optical Society of America (OSA) and European Optical Society (EOS). Particularly, I express my entire gratitude to Prof. Mario Bertolotti, Dr. Eugene G. Arthurs, Prof. Christos Flyzanis, Prof. Anna Consortini, Prof. Gerd Leuchs, Prof. Francois Kajzar, Prof. Stefan Hell, Prof. Concita Sibilila, Dr. Costel Subran, Prof. Edmond Turcu, Prof. Angela Guzman, Prof. Th. Szoplík, Prof. Mircea Guina, Prof. Ion Tighineanu, Prof. Oleg Angelsky, Prof. Eugenio Fazio and Prof. G. von Bally (ICO), Prof. Joseph Niemela and Prof. G. Thompson (ICTP), for their important support to the conference ROMOPTO 2012 and to our optics community.

I would like to express my thanks to the members of the international Scientific Advisory Committee, Programme Committee and Organizing Committees of ROMOPTO 2012 for their hard work. Special address and thanks are to the local organizing team: Dr. Ion Morjan, General Director of NILPRP, Dr. Traian Dascalu, Deputy Director and OSA representative, Dr. Rares Medianu, Dr. Adrian Petris, the coordinator of the Organizing Committee, Dr. Tatiana Bazaru Rujoiu (for conference Programme preparation and other organization matters) and Mariana Buzatu (for financial matters and social events) for their important efforts in all steps of conference organization, to Dr. Ioan Dancus (for conference poster and Programme cover), Eng. S. Popescu, PhD student (for the design and updating the conference web site), Alexandra Olteanu (treasurer) and Petronela S. Gheorghe (for preliminary information). The sponsorships by Romanian laser small companies “Apel Laser” - Director Dr. Mircea Udrea and “Hysteresis” – Director Catalin Trangla are also acknowledged.

By the efforts of the Scientific Advisory Committee, coordinated by Prof. M. Bertolotti and the Programme Committee, around 100 scientific papers by authors from 10 countries have been selected for presentation at ROMOPTO 2012, in 9 plenary lectures, 25 invited lectures, 22 oral presentations and 44 posters. I express my entire gratitude to the members of these committees, referees, to the invited professors and to all participants for their high level work. Some of these papers, reviewed by an international referee board, are published in this SPIE Proceedings volume, which hopefully will have a wide distribution and interest in the scientific world. By a generous support, the best student papers selected at this conference were awarded by SPIE and OSA.

Finally, I hope that the participants in ROMOPTO 2012 enjoyed the scientific sessions, met in Romania friends, have had the opportunity to start new scientific collaborations and remember with pleasure their visit in Romania, particularly, the trip to the Carpathian mountains.

Valentin I. Vlad
Vice President of Romanian Academy
Chair of "ROMOPTO 2012"