

Editorial

This volume of the journal “Research in Computing Science” contains selected papers related to computational image processing, optics and photonics. The papers were carefully chosen by the editorial board on the basis of the at least two reviews by the members of the reviewing committee or additional reviewers. The reviewers took into account the originality, scientific contribution to the field, soundness and technical quality of the papers.

This is a memorable number for the Optics and Photonics community because it includes works presented at the 2017 Latin American Optics and Photonics Workshop held In Guadalajara Jalisco on February 15-26th, 2017. It was held to honor one of the most outstanding Quantum Optics scientist, Prof. J. H. Eberly from the University of Rochester, who has done not only outstanding contributions to the field, but also a strong supporter of our community in the international arena. The Mexican Optics and Photonics workshops have played quite an important catalyzing the growth of our community by partnering with our education graduate programs. By showing the Field Frontier to our youngest community members, by precisely those who created, they have encouraged their further development and leadership onto those areas and research groups. This workshop has continued such tradition and by bestowing such recognition has partially fulfilled a debt to those leaders who adopted our community as his own. The 1982 Optics Workshop held at Cuernavaca Morelos, and published in KINAM, was not only the first one of them, but also a list of the Who is Who of the Optics at the time. Another high point was The Temporal and Spatial Solitons Workshop held at Guadalajara Jal. on January 20-31st, 1997 where was everyone that has to be. In the meantime, we have gone from quite a small community to our current large and fast growing one. Such an effort cannot be sustained without the support of an international community and there is noticeable the academic support of the Optical Society of America and the longstanding support of the Secretaria de Educación Pública and CONACyT. In particular, the 2017 LAOP Workshop was realized with the financial support of the *Secretaría de Educación Pública-Dirección General de Educación Superior* (2016-21-002-080). The works of this volume were presented there by participants.

Those many years have witnessed the growth of the field, from Classic Optics to Optics and Photonics, to express not only the growth of a discipline but also their interests and applications. This number shows that, as far as Optics is concerned, the papers of this volume discuss the polarization of light, Flat convex lens design and measurement of optical scattering in fibers, a Hartman test for aspherical lenses, a rigorous theory for oblique incident Hermite-Gaussian beams, an analysis of the coupling between Fresnel lens and plastic optical fiber and the use of quaternion and rotation matrix to describe the orientation of a camera

As far as photonics is concerned, the papers of this volume describe non-linear transmission and non-invasive methods with applications in medical physics, a proposal for design cloaks using metamaterials and plasmonic structures, a fiber optic sensor for liquid fuel identification, a study entanglement of quantum dots, a comparison on configurations to excite surface plasmons, a generalization of Wootters concurrence for qutrit systems, a method to measure the Stokes vector and the Mueller matrix, a study of nonlinear optical loop mirrors and a discussion on measuring glucose using Raman scattering.

As far as computational applications, the papers of this volume describe digital optical restoration for unfocused images, digital image processing for biological systems, as well as digital image processing of mammography and thermography.

Finally, we would like to thank to the LAOP, Latin American Optics and Photonics, conference and workshops committee for their support during the preparation of this volume.

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Guest Editors

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