

## Optics and photonics in Latin America

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Received December 23, 2010; accepted December 23, 2010; published December 31, 2010

It is a great honor and pleasure to present the readers of *Photonics Letters of Poland* the first special issue of our journal. This special issue contains an overview of optical research in Latin America.

As a result of a strict and careful reviewing process, 11 papers were selected for this special issue. They cover a broad range of topics which, in our opinion, reflect well the diversity and richness of optical science in Latin America.

Tebaldi with colleagues presents a new multiplexing encryption technique based on a joint transform correlator by adding an additional random phase mask before the input of the correlator.

Castañeda shows efficient algorithms for the simulation of partially coherent optical fields based on their modelling as separate radiant and virtual layers of point sources that emit radiant and modulating energies along specific rays in the phase-space representation.

Augier and Sanchez present their contribution on scratch holograms, where they propose a significant development of this technique by introducing a computer generated scratch hologram termed as *hologravure*.

Gomez and Salazar propose a formal proof of the independence of optical activity from maximum gain position in a two-wave coupling experiment.

Ojeda-Castañeda and Gomez-Sarabia present a new approach to the treatment of partially coherent imaging, relying on orthonormal expansion for relating an optical transfer function with expectation values given by corresponding definitions in quantum physics.

In his second paper, Ojeda-Castañeda with Yépez-Vidal and García-Almanza presents improved characteristics of a cubic phase mask applied for an extended depth of focus, with an apodizing Gaussian mask additionally applied.

The third paper of Ojeda-Castañeda with Gomez-Sarabia defines a temporal similarity function for assessing the temporal evolution of short pulses in dispersion media.

Reyes-Vera with colleagues presents a study on a special kind of photonic crystal fibers with two integrated electrodes, where birefringence is introduced by mechanical stress when an electrical current heats the internal electrodes. The rotation of the fiber birefringence axes is explained and the nonlinear variation of the effective refractive index of the fundamental mode is explained in this way.

Rueda with others discusses the results of the characterization of a liquid crystal spatial modulator LCR2500 made on the basis of six wavelengths.

Trujillo with colleagues compares the performance of different numerical reconstructions applied in digital holography and shows their relationship with the depth of view of holograms.

In their second work they analyze the numerical reconstruction in real-time of holograms acquired in DIHM.

We would like to express our gratitude to the authors, first of all for their contributions, however, equally important and equally worth of praise was their commitment to meet the deadlines and strict requirements of this special issue.

We firmly hope that with this special issue of our journal we are making a single, however important, step towards establishing collaboration between our communities.