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Introduction

This year's conference on Linear and Nonlinear Optics of Organics VII confirmed the renewed interest observed last year, with 12 posters and 32 oral talks including nine invited and one topical paper.

Topics spanned the range of disciplinary activities required to design, synthesize, and characterize the properties of new organic-based optical materials, focusing on second-/third-order, and multiphoton nonlinear optical effects as well as novel organic material concepts and materials enabling the demonstration of entirely new devices and phenomena. Equally important topics include progress in the development of processing conditions, fabrication technology, and device-related research and emerging application areas employing these new materials.

Emphasis was placed on the interdisciplinary nature of this field and the range of chemistry, materials science, physics, optics, and engineering mastery required for technological success. This conference focused on how the linear and nonlinear optical properties of organic materials impact their use in both guided wave and through-the-plane optical devices. Recent developments in the area of nanophotonic structures, such as active photonic crystals based on organic materials, were of special interest.

New materials that exhibit exceptionally low optical losses at communications wavelengths were also of interest. In parallel, the conference improved the understanding of higher order optical functionality through the study of the relationship between the molecular optical properties and the macroscopic second- and third-order nonlinear optical susceptibilities. Organic materials manifesting new properties such as chiral effects were examples of an emerging area of concentration. There were reports on secondary properties such as polarization effects, temperature/humidity dependence, stress-optical properties, and optical power handling, highlighted potential device performance and reliability issues. Discussion of device performance and manufacturing techniques took place, especially devices or manufacturing techniques that are uniquely enabled by novel organic materials.

The merger with the Quantum Optical Effects in Organic Materials conference was a success. We envision next year converting the session on organic and polymer lasers into a joint session with the Organic Light-Emitting Materials and Devices conference.

Jean-Michel Nunzi

