

Preface

Optical, Optoelectronic and Photonic Materials and Applications



The Fifth International Conference on Optical, Optoelectronic and Photonic Materials and Applications (ICOOPMA 2012) was held at the Nara Prefectural New Public Hall, Nara, Japan from June 3 to 7, 2012. The conference was one of the series of previous four international conferences, the first of which was held in Darwin, Australia, in 2006. ICOOPMA 2007, 2008 and 2010 were held in London, UK (2007), Edmonton, Canada (2008), and Budapest, Hungary (2010), respectively. The scope of the conference covered a wide range of materials and applications in optics, optoelectronics and photonics. By tradition, the conference has a large number of invited papers from top researchers in various fields to review recent advances and bring the audience up-to-date.

The topics emphasized were: Electro-optic properties and applications, excitonic processes, experimental techniques, light emitting devices, luminescence, phosphors, scintillators and applications, materials for optoelectronics and photonics, modeling and simulation, nano-optoelectronics and photonics, nonlinear optical properties and applications, optoelectronic and photonic devices, optical components for telecommunication, optical fibers, optical storage, photoconductivity, photoinduced effects, photovoltaic materials and devices, plasmons and surface plasmons, and terahertz materials, devices and techniques.

The scientific program of the conference consisted of 4 plenary talks, 60 invited talks, 67 oral presentations and 161 poster presentations. The conference provided a major opportunity to learn much from all of the presentations. This has, undoubtedly, encouraged the invaluable cross-fertilization of ideas from different areas. In addition, it provided an occasion for the younger members of the community to meet with some of its leading figures; and for them to learn from each other. There were also valuable opportunities for participants to meet and hold informal discussions in the beautiful and historical atmosphere at the ancient capital of Japan.

An indication of the depth and breadth of scientific content that was presented and discussed at the conference can be found in this special issue. We hope that its readers will gain as much pleasure and benefit from this as those who were privileged to participate in this unique conference.

Finally, we would like to express our sincere thanks to the members of the Organizing Committee, the International Program Committee, the International Advisory Committee and the Steering Committee of this conference. Especially, we thank Professors Safa Kasap, Koichi Shimakawa, Jai Singh and Sandor Kugler for their valuable advice and suggestions during the preparation of the conference. We also wish to thank all of those institutions and companies who by their invaluable support and sponsorship made this conference possible: Commemorative Organization for the Japan World Exposition (1970), Japan Society for the Promotion of Science, Nara Visitors Bureau, Support Center for Advanced Telecommunications Technology Research, Research Group on Photoelectronics of Disordered Materials (The Japan Society of Applied Physics), The Chemical Society of Japan, The Institute of Electrical Engineers of Japan, The Japan Society of Applied Physics, The Physical Society of Japan, The Society of Polymer Science, Japan, Division of Molecular Electronics and Bioelectronics (The Japan Society of Applied Physics), American Elements, Applied Materials, Asahi Spectra, Coherent, Hamamatsu Photonics, Japan Laser, Kodansha Scientific, NF Corporation, Niki Glass, Silvaco, THORLABS, Tokyo Electron, Tokyo Instruments, TOYO Corporation, Wave Front, Wiley-Blackwell, and WITec.

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Plenary Speakers



Chihaya Adachi

Kyushu University, Japan

Organic light-emitting diodes employing efficient reverse intersystem
crossing for triplet to singlet state conversion



Benjamin J. Eggleton

University of Sydney, Australia

Nonlinear photonic circuits transforming the new information age: Faster,
smaller and smarter



Stephen W. S. McKeever

Oklahoma State University, USA

Optically stimulated luminescence: Principles and recent developments
for use in radiation dosimetry



Takashi Asano and Susumu Noda

Kyoto University, Japan

Recent progress and future prospects of photonic crystals