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Contents

vii *Conference Committee*
ix *Introduction*

KEYNOTE PRESENTATION

6653 02 **Photonic superlattices for photonic crystal lasers (Keynote Paper)** [6653-01]
K. Clays, K. Baert, M. Van der Auweraer, R. Vallée, Katholieke Univ. Leuven (Belgium)

ORGANIC LASERS

6653 04 **First order distributed feedback dye laser effect in reflection pumping geometry for nonlinear optical measurements** [6653-03]
F. Chen, D. Gindre, Lab. POMA, Univ. d'Angers (France); J.-M. Nunzi, Lab. POMA, Univ. d'Angers (France) and Queen's Univ. (Canada)

6653 05 **Photoresponsive polymers containing side-chain chiral azocarbazole chromophores as multifunctional materials (Invited Paper)** [6653-55]
L. Angiolini, Univ. degli Studi di Bologna (Italy); R. Bozio, T. Dainese, Univ. di Padova (Italy); L. Giorgini, Univ. degli Studi di Bologna (Italy); A. Golemme, Univ. della Calabria (Italy); F. Mauriello, Univ. degli Studi di Bologna (Italy); D. Pedron, Univ. di Padova (Italy); R. Termine, Lab. Licryl, CNR-INFM, e Centro di Eccellenza, CEMIF.CAL (Italy)

MULTIPHOTON EFFECTS

6653 07 **Broad bandwidth near-IR two-photon absorption in conjugated porphyrin-core dendrimers** [6653-06]
A. Rebane, N. Makarov, M. Drobizhev, Montana State Univ. (USA); C. W. Spangler, Montana State Univ. (USA) and Rasiris, Inc. (USA); A. Gong, F. Meng, Rasiris, Inc. (USA)

6653 08 **High sensitivity photo-thermal lens method for measurement of two-photon absorption** [6653-07]
A. Marcano O., K. Williams, N. Melikechi, Delaware State Univ. (USA)

OPTICAL COMPONENTS

6653 0D **Effect of silicon dioxide nanoparticles on the characteristics of PQ/PMMA holographic filters** [6653-13]
J. M. Russo, J. E. Castillo, R. K. Kostuk, The Univ. of Arizona (USA)

6653 0G **Fiber optic transmission of analog signals** [6653-16]
R. Furukawa, K. Uehara, Keio Univ. (Japan) and Japan Science and Technology Agency (Japan); S. Takahashi, N. Ohtsu, Japan Science and Technology Agency (Japan); Y. Koike, Keio Univ. (Japan) and Japan Science and Technology Agency (Japan)

6653 0H **Modal analysis of organic-inorganic hybrid planar waveguides for integrated optics** [6653-17]
L. Penedo Pellegrino, Nokia Siemens Networks Portugal SA (Portugal) and Univ. de Aveiro (Portugal); P. André, Univ. de Aveiro (Portugal) and Instituto de Telecomunicações (Portugal); R. A. Sá Ferreira, L. Carlos, Univ. de Aveiro (Portugal); C. Vicente, Univ. de Aveiro (Portugal) and Instituto de Telecomunicações (Portugal); P. Monteiro, Nokia Siemens Networks Portugal SA (Portugal) and Univ. de Aveiro (Portugal)

PHOTO-INDUCED EFFECTS

6653 0J **A new mechanism of relaxation in poled guest-host systems: Monte Carlo analysis of aggregation scenario (Invited Paper)** [6653-19]
G. Pawlik, D. Wronski, A. C. Mitus, Wroclaw Univ. of Technology (Poland); I. Rau, Politehnica Univ. of Bucharest (Romania); C. Andraud, Ecole Normale Superieure, Lyon (France); F. Kajzar, Lab. POMA, CNRS, Univ. d'Angers (France)

6653 0K **Photoinduced twisting behavior of chiral cyclic compounds (Invited Paper)** [6653-20]
M. Kawamoto, T. Aoki, T. Wada, RIKEN (Japan)

6653 0L **Stability of all-optical poling in hydrogen-bonded guest-host polymers** [6653-21]
F. J. Rodriguez, I. Kettunen, Tampere Univ. of Technology (Finland); A. Priimagi, Helsinki Univ. of Technology (Finland); M. Kauranen, Tampere Univ. of Technology (Finland)

NONLINEAR DEVICES

6653 0N **Multifunctional polyimides for tailorable high-performance electro-optical devices (Invited Paper)** [6653-23]
A. J. Guenthner, M. E. Wright, S. Fallis, G. R. Yandek, B. J. Petteys, J. J. Cash, Naval Air Warfare Ctr. (USA); D.-Y. Zang, C. Gaeta, M. Zounes, Ipitek, Inc. (USA)

6653 0O **Modeling and prediction of relaxation of polar order in high-activity nonlinear optical polymers** [6653-24]
A. J. Guenthner, G. A. Lindsay, M. E. Wright, S. Fallis, Naval Air Warfare Ctr. (USA); P. R. Ashley, M. Sanghadasa, U.S. Army Research, Development, and Engineering Command (USA)

6653 0P **Optical bistability of terthiophene/polymethylmethacrylate composite film** [6653-25]
S. Mototani, S. Ochiai, K. Kojima, T. Mizutani, Aichi Institute of Technology (Japan)

6653 0Q **Low half-wave voltage modulators using nonlinear optical polymers** [6653-26]
D. Jin, D. Huang, B. Chen, H. Chen, L. Zheng, A. Barklund, G. Yu, E. Miller, M. Moolayil, B. Li, R. Dinu, Lumera Corp. (USA)

SECOND ORDER EFFECTS

6653 0R **Structure-property relationship in organometallic compounds regarding SHG (Invited Paper)** [6653-27]
J. Heck, M. H. Prosenc, T. Meyer-Friedrichsen, J. Holtmann, E. Walczuk, M. Dede, Univ. of Hamburg (Germany); T. Farrell, A. R. Manning, Univ. College Dublin (Ireland); H.-G. Kuball, G. Archetti, Univ. of Kaiserslautern (Germany); Y.-H. Wang, K. Liu, Y. Luo, Royal Institute of Technology (Sweden)

6653 0U **Optical absorption and SHG in PMMA:DR1 thin films as function of poling time** [6653-30]
J. A. García-Macedo, A. Franco, G. Valverde-Aguilar, C. Aguilar-Gutiérrez, Univ. Nacional Autónoma de México (Mexico)

MOLECULAR ENGINEERING

6653 0V **Quantum spectroscopy of an organic material utilizing entangled and correlated photon pairs (Invited Paper)** [6653-31]
D.-I. Lee, T. Goodson III, Univ. of Michigan (USA)

6653 0W **Modulated conjugation for record-high intrinsic hyperpolarizabilities** [6653-32]
J. Pérez-Moreno, K. Clays, Univ. of Leuven (Belgium); M. G. Kuzyk, Washington State Univ. (USA); Y. Zhao, Y. Shen, L. Qiu, J. Hao, Technical Institute of Physics and Chemistry (China)

6653 0X **NLO properties of dithienothiophene-based chromophores: a comparison study between the donor/donor and donor/acceptor substitution patterns** [6653-33]
M. C. Ruiz Delgado, Georgia Institute of Technology (USA) and Univ. of Málaga (Spain); J. Casado, V. Hernández, J. T. López Navarrete, Univ. of Málaga (Spain); O.-K. Kim, H. Y. Woo, Naval Research Lab. (USA); B. Villacampa, R. Alicante, J. Orduna, J. Garín, Univ. of Zaragoza-CSIC (Spain)

POSTER SESSION

6653 0Z **Detection of alterations in human sperm using magnetic orientation techniques** [6653-37]
L. Sakhnini, M. Dairi, Univ. of Bahrain (Bahrain); H. Manaa, Kuwait Univ. (Kuwait)

6653 10 **Possibility of using Rhodamine B dye in diagnosis of some men's diseases** [6653-38]
G. Khodjayev, Samarkand Agriculture Institute (Uzbekistan); Z. F. Ismailov, E. N. Kurtaliev, N. Nizomov, F. U. Khaydarova, Samarkand State Univ. (Uzbekistan); Z. Hamidov, Special Medical Ctr. (Uzbekistan); D. P. Khakimova, Samarkand Polyclinic No. 3 (Uzbekistan)

6653 12 **Completely passive nonlinear transmission system using a nonlinear absorbing medium and azobenzene films** [6653-42]
C. S. Yelleswarapu, D. V. G. L. N. Rao, Univ. of Massachusetts, Boston (USA); B. R. Kimball, U.S. Army Natick Soldier Research Development and Engineering Ctr. (USA)

6653 13 **Enhanced photoinduced birefringence in hydrogen-bonded guest-host polymers** [6653-43]
A. Priimagi, Helsinki Univ. of Technology (Finland); F. J. Rodriguez, M. Kauranen, Tampere Univ. of Technology (Finland); M. Kaivola, Helsinki Univ. of Technology (Finland)

6653 14 **New sol-gel materials for high energy applications in nonlinear optics** [6653-44]
I. Fortunati, R. Signorini, R. Bozio, G. Brusatin, M. Guglielmi, Univ. of Padova (Italy)

6653 17 **Ultrafast excitation dynamics in organic multicromophoric systems after two-photon excitation** [6653-48]
O. Varnavski, T. Goodson III, Univ. of Michigan (USA); P. Bäuerle, Ulm Univ. (Germany)

6653 1C **Synthesis and chiroptical properties of methacrilic copolymers containing in side-chain optically active carbazole and azochromophores** [6653-54]
L. Angiolini, T. Benelli, L. Giorgini, F. Mauriello, E. Salatelli, Univ. degli Studi di Bologna (Italy)

Author Index

Conference Committee

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1 Organic Lasers
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2 Multiphoton Effects
Jean-Michel Nunzi, Laboratoire POMA, Université d'Angers (France) and Queen's University (Canada)

3 Microstructures
Aristides A. Marcano O., Delaware State University (USA)

4 Optical Components
Alain F. Fort, Institut de Physique et Chimie des Matériaux de Strasbourg (France)

5 Photo-Induced Effects
Rachel Jakubiak, Air Force Research Laboratory (USA)

6 Nonlinear Devices
Koen J. Clays, Katholieke Universiteit Leuven (Belgium)

7 Second Order Effects
Robert A. Norwood, College of Optical Sciences, The University of Arizona (USA)

8 Molecular Engineering
Robert A. Norwood, College of Optical Sciences, The University of Arizona (USA)

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