HISTORY OF ICOOPMA

International Conference on Optical, Optoelectronic and Photonic Materials and Applications

Also known as

International Conference on Optical and Optoelectronic Properties of Materials and Applications

ICOOPMA is a non-profit conference that is run by scientists for scientists without any institutional constraints and restrictions

http://www.icoopma.org
ICOOPMA2018
8th International Conference on Optical, Optoelectronic and Photonic Materials and Applications
August 26-31
Maresias-SP, Brazil
FOREWORD

Welcome to the 8th International Conference on Optical, Optoelectronic and Photonic Materials and Applications (ICOOPMA2018).

ICOOPMA is a non-profit conference that is run by scientists for scientists without any institutional constraints and restrictions. It is an international conference series on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics, and optical, optoelectronic and electro-optic properties of all classes of materials and material systems. The previous seven ICOOPMA conferences were held in Darwin, Australia (2006), London, UK (2007), Edmonton, Canada (2008), Budapest, Hungary (2010), Nara, Japan (2012), Leeds, UK (2014) and Montréal, Canada (2016).

We are delighted to have you for this meeting at Beach Hotel Maresias, in Maresias-SP, one of the most beautiful beaches of the São Paulo State coast, located at ~180kms from São Paulo International Airport.

The 2018 ICOOPMA edition will run from Sunday (August 26) night until Friday (August 31). An exciting scientific program will be covered by 203 contributions. The scientific program includes 8 plenary lectures, 37 invited lectures, 51 oral presentations and 107 poster presentations. Two poster sessions that will be held on Monday (August 27) and Tuesday (August 28) designed to encourage interaction among participants.

We offer special thanks to the São Paulo State University- UNESP, the Local Organizing Committee, the Advisory Board and the many on-site assistants for their tireless efforts in preparing this world-class event.

We hope you will enjoy Maresias and our country and you experience a valuable and memorable meeting.

On behalf of the Organizing Committee

Sidney J.L. Ribeiro, Marcelo Nalin, Rogéria R. Gonçalves Hernane Barud and Anderson Gomes.
## PROGRAM SCHEDULE

### 26
#### Sunday
August, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:00 - 19:00</td>
<td>Registration</td>
</tr>
<tr>
<td>19:00 - 21:00</td>
<td>Welcome cocktail</td>
</tr>
</tbody>
</table>

### 27
#### Monday
August, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:45 - 09:00</td>
<td>Opening session</td>
</tr>
<tr>
<td>09:00 - 09:40</td>
<td><strong>Plenary session</strong></td>
</tr>
<tr>
<td></td>
<td>Exploring new Optical fibers for prevention and sensing in Medicine</td>
</tr>
<tr>
<td></td>
<td>Younes Messaddeq, University Laval, Canada.</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td><strong>Plenary session</strong></td>
</tr>
<tr>
<td></td>
<td>Modelling the luminescence due to 4f – 4f transitions in rare earth based materials: recent advances</td>
</tr>
<tr>
<td></td>
<td>Oscar Loureiro Malta, Universidade Federal de Pernambuco, Brazil.</td>
</tr>
<tr>
<td>10:20 - 10:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:50 - 12:50</td>
<td>Invited Lectures: G, K, Q, T</td>
</tr>
<tr>
<td>12:50 - 14:20</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:20 - 16:20</td>
<td>Invited Lectures: G, K, Q</td>
</tr>
<tr>
<td>16:20 - 16:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:50 - 18:30</td>
<td>Oral Sessions: B, G, K, L, O, Q, T</td>
</tr>
<tr>
<td>19:00 - 21:00</td>
<td>1st Poster Session: A, B, C, D, E, G, H, I, K, N, O, P, Q, R, T</td>
</tr>
</tbody>
</table>

### 28
#### Tuesday
August, 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00 - 09:40</td>
<td><strong>Plenary session</strong></td>
</tr>
<tr>
<td></td>
<td>Nonlinearity management of metal-dielectric nanocomposites and nanostructures</td>
</tr>
<tr>
<td></td>
<td>Cid B. de Araújo, Universidade Federal de Pernambuco, Brazil.</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td><strong>Plenary session</strong>&lt;br&gt;Nanoparticles for enhanced cardiovascular imaging&lt;br&gt;Jose Antonio Garcia-Sole, Universidad Autónoma de Madrid, Spain.</td>
</tr>
<tr>
<td>10:20 - 10:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:50 - 12:50</td>
<td>Invited Lectures: B, F, G, H, N, O, Q</td>
</tr>
<tr>
<td>12:50 - 14:20</td>
<td>Lunch</td>
</tr>
<tr>
<td>16:20 - 16:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>19:00 - 21:00</td>
<td>2nd Poster Session: B, D, E, G, H, I, K, M, O, P, Q, R, T</td>
</tr>
</tbody>
</table>

---

**Wednesday, August, 2018**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00 - 09:40</td>
<td><strong>Plenary session</strong>&lt;br&gt;Highly efficient and stable hybrid solar cells of nanostructures and bulk heterojunction semiconductors&lt;br&gt;Jai Singh, Charles Darwin University, Australia.</td>
</tr>
<tr>
<td>09:40 - 10:20</td>
<td><strong>Plenary session</strong>&lt;br&gt;Shedding light on luminescent nanothermometry&lt;br&gt;Luis Dias Carlos, University of Aveiro, Portugal.</td>
</tr>
<tr>
<td>10:20 - 10:50</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>19:00 - 22:00</td>
<td>Conference banquet</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>07:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00</td>
<td>Plenary session</td>
</tr>
<tr>
<td>09:40</td>
<td>Plenary session</td>
</tr>
<tr>
<td>10:20</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:50</td>
<td>Invited Lectures: G, I, Q</td>
</tr>
<tr>
<td>12:50</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:20</td>
<td>Oral Sessions: C, D, G, N, O, Q</td>
</tr>
<tr>
<td>16:20</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:50</td>
<td>Oral Sessions: A, B, D, G, M, N, O, V</td>
</tr>
<tr>
<td>10:00</td>
<td>Closing session</td>
</tr>
</tbody>
</table>

*Thursday, August 30, 2018*

*Friday, August 31, 2018*
# INDEX

<table>
<thead>
<tr>
<th>Category</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORAL PRESENTATIONS</td>
<td>7</td>
</tr>
<tr>
<td>POSTER PRESENTATIONS</td>
<td>32</td>
</tr>
<tr>
<td>AUTHOR INDEX</td>
<td>53</td>
</tr>
</tbody>
</table>
## ORAL PRESENTATIONS

**MONDAY, AUGUST 27**

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>SESSION S1</td>
<td>09:00 - 10:20</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV1-A</td>
<td>10:50 - 12:50</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV1-B</td>
<td>10:50 - 12:50</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>SESSION INV2-A</td>
<td>14:20 - 16:20</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV2-B</td>
<td>14:20 - 16:20</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>SESSION ORAL1A</td>
<td>16:50 - 18:30</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION ORAL1B</td>
<td>16:50 - 18:30</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>Session</td>
<td>Time</td>
<td>Location</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>SESSION S2</td>
<td>09:00 - 10:20</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV3-A</td>
<td>10:50 - 12:50</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV3-B</td>
<td>10:50 - 12:50</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>SESSION INV4-A</td>
<td>14:20 - 16:20</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION INV4-B</td>
<td>14:20 - 16:20</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>SESSION ORAL2A</td>
<td>16:50 - 18:30</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>SESSION ORAL2B</td>
<td>16:50 - 18:30</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Room</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>09:00 - 10:20</td>
<td>SESSION S3</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>10:50 - 12:30</td>
<td>SESSION ORAL3A</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>10:50 - 12:50</td>
<td>SESSION ORAL3B</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>Time</td>
<td>Session</td>
<td>Location</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>----------------</td>
</tr>
<tr>
<td>09:00 - 10:20</td>
<td>SESSION S4</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>10:50 - 12:20</td>
<td>SESSION INV5-A</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>10:50 - 12:50</td>
<td>SESSION INV5-B</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>14:20 - 16:20</td>
<td>SESSION ORAL4A</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>14:20 - 16:20</td>
<td>SESSION ORAL4B</td>
<td>Camburi Room</td>
</tr>
<tr>
<td>16:50 - 18:30</td>
<td>SESSION ORAL5A</td>
<td>Room Maresias</td>
</tr>
<tr>
<td>16:50 - 18:30</td>
<td>SESSION ORAL5B</td>
<td>Camburi Room</td>
</tr>
</tbody>
</table>
MONDAY, AUGUST 27

SESSION S1
09:00 - 10:20 - Room Maresias

09:00  S1.1 (Plenary Lecture)
Exploring new Optical fibers for prevention and sensing in Medicine
Younes Messaddeq¹; ¹Université Laval

09:40  S1.2 (Plenary Lecture)
Modelling the luminescence due to 4f – 4f transitions in rare earth based materials: recent advances
Oscar Loureiro Malta¹; ¹Universidade Federal de Pernambuco

SESSION INV1-A
10:50 - 12:50 - Room Maresias

10:50  INV1-A.1 (Invited Lecture)
Samarium-based Radio-photoluminescence Materials and Applications for Microbeam Radiation Therapy
Go Okada¹, Jumpei Ueda², Setsuhisa Tanabe², Farley Chicilo³, George Belev³, Cyril Koughia³, Tomasz Wysokinski⁴, Dean Chapman⁴, Takayuki Yanagida¹, Andy Edgar⁵, Safa Kasap³; ¹Nara Institute of Science & Technology, ²Kyoto University, ³University of Saskatchewan, ⁴Canadian Light Source, ⁵Victoria University of Wellington

11:20  INV1-A.2 (Invited Lecture)
Assessment of 4H-SiC epitaxial layers and high resistivity bulk crystals for radiation detectors
Krishna C. Mandal¹, Joshua W. Kleppinger¹, Yuriy V. Pershin¹, Towhid A. Chowdhury¹, Mohsin Sajjad¹; ¹University of South Carolina
11:50 INV1-A.3 (Invited Lecture)
Photoluminescence spectroscopy study of excited-state structures of thermally activated delayed-fluorescence emitters
Hiroyoshi Naito¹, Takashi Kobayashi¹, Kenichi Goushi², Chihaya Adachi²; ¹Osaka Prefecture University, ²Kyushu University

12:20 INV1-A.4 (Invited Lecture)
Structure-Property Relationship of the X-Ray Storage Phosphor CsBr:Eu²⁺
Elmar Kersting¹, Heinz von Seggern¹; ¹Technische Universität Darmstadt

SESSION INV1-B
10:50 - 12:50 - Camburi Room

10:50 INV1-B.1 (Invited Lecture)
Rare Earth Activated Glasses: Exploratory Investigation Toward New Scintillators
Luiz G Jacobsohn¹, Ugur Akgun²; ¹Clemson University, ²Coe College

11:20 INV1-B.2 (Invited Lecture)
On the Role of Graphene in Ultrafast Fiber Lasers
Hugo Luis Fragnito¹; ¹Universidade Presbiteriana Mackenzie

11:50 INV1-B.3 (Invited Lecture)
The ultimate performance of ultralong optical fibre Bragg gratings
Raman Kashyap¹; ¹Polytechnique Montreal

12:20 INV1-B.4 (Invited Lecture)
Femtosecond fiber Bragg gratings for the development of innovative sensors and lasers
Martin Bernier¹; ¹Université Laval
### SESSION INV2-A
14:20 - 16:20 - Room Maresias

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:20</td>
<td>INV2-A.1</td>
<td>Organic devices for near-infrared emission and up-conversion</td>
<td>Marco Cremona¹, Rian Esteves Aderne¹, Zubair Ahmed¹, Cristiano Legnani², Sandra Jenatsch³, Roland Hany³, Frank Nüesch³; ¹Pontifícia Universidade Católica do Rio de Janeiro, ²Universidade Federal de Juiz de Fora, ³Swiss Federal Laboratories for Materials Science and Technology</td>
</tr>
<tr>
<td>14:50</td>
<td>INV2-A.2</td>
<td>Tin(II)2,3-naphtalocyanine molecule used as near-infrared sensitive layer in Organic Up-Conversion Devices</td>
<td>Cristiano Legnani¹, Welber Gianini Quirino¹, Mônica Cristina Melquiades¹, Marco Cremona², Rian Esteves Aderne²; ¹Universidade Federal de Juiz de Fora, ²Pontifícia Universidade Católica do Rio de Janeiro</td>
</tr>
<tr>
<td>15:20</td>
<td>INV2-A.3</td>
<td>Synthesis of luminescent rare earth materials as light converting devices</td>
<td>Hermi Felinto Brito¹, Oscar Loureiro Malta², Maria Claudia França da Cunha Felinto³, Ercules Teotonio⁴; ¹Universidade de São Paulo, ²Universidade Federal de Pernambuco, ³Instituto de Pesquisas Energéticas e Nucleares, ⁴Universidade Federal da Paraíba</td>
</tr>
<tr>
<td>15:50</td>
<td>INV2-A.4</td>
<td>Efficient luminescent colloidal nitride semiconductor nanocrystals</td>
<td>Richard Curry¹; ¹Photon Science Institute, University of Manchester</td>
</tr>
</tbody>
</table>

---

### SESSION INV2-B
14:20 - 16:20 - Camburi Room

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:20</td>
<td>INV2-B.1</td>
<td>Twenty-five years of optically stimulated research of artificial materials: a personal perspective</td>
<td>Eduardo G. Yukihara¹²; ¹Oklahoma State University, ²Paul Scherrer Institute</td>
</tr>
</tbody>
</table>
14:50 INV2-B.2 (Invited Lecture)
Optical properties of rare-earth-doped amorphous chalcogenides
Tomas Wagner¹, Lukas Strizik¹, Vit Prokop¹, Jan Hrabovsky¹, Veronika Mouckova¹, Takeshi Aoki², Cyril Koughia³, Safa Kasap³;¹University of Pardubice, ²Tokyo Polytechnic University, ³University of Saskatchewan

15:20 INV2-B.3 (Invited Lecture)
Direct Measurements of Energy Levels in Next Generation Nitride Phosphors
Alexander Moewes¹;¹University of Saskatchewan

15:50 INV2-B.4 (Invited Lecture)
Second order non linear optical properties induced by thermal poling in microstructured tantalum germanate glasses and glass-ceramics
Gael Yves Poirier¹, Marc Dussauze², Vincent Rodriguez², Thierry Cardinal², Evelyne Fargin²;¹Universidade Federal de Alfenas, ²Université de Bordeaux

SESSION ORAL1A
16:50 - 18:30 - Room Maresias

16:50 ORAL1A.1 Photovoltaic Materials
Anomalous Capacitive Features of Perovskite Solar Cells
Osbel Almora Rodríguez¹, Gebhard J. Matt¹, Germà Garcia-Belmonte², Christoph J. Brabec¹;¹Friedrich-Alexander-Universität Erlangen-Nürnberg, ²Universitat Jaume I

17:10 ORAL1A.2 Photonic materials and devices
Femtosecond laser fabrication of cladding waveguides in aminoacid crystal for second harmonic generation
Gustavo Foresto B. Almeida¹, Renato Juliano Martins¹, Jonathas Paula Siqueira¹, Juliana M. P. Almeida¹, José Joatan Rodrigues Jr.², Cleber R. Mendonça¹;¹Universidade de São Paulo, ²Universidade Federal de Sergipe
**17:30** ORAL1A.3  **Photovoltaic Materials**  
Bimolecular Recombination in Organic Bulk-Heterojunction Solar Cells  
Roberto Mendonça Faria¹, Daniel Roger Amorim¹, Francineide Araujo¹, Douglas José Coutinho²; ¹Universidade de São Paulo, ²Universidade Tecnológica Federal do Paraná

**17:50** ORAL1A.4  **Non-oxide glasses Plasmonics**  
Periodic pattern in Laser induced forward transfer of chalcogenide glass  
Juliana M. P. Almeida¹, Kelly Tasso Paula¹, Craig Arnold², Cleber R. Mendonça¹; ¹Universidade de São Paulo, ²Princeton University

**18:10** ORAL1A.5  **Non-linear effects**  
Zinc selenide optical nonlinearities measured by nonlinear ellipse rotation  
Emerson Cristiano Barbano¹, Tiago Gualberto Bezerra de Souza¹, Lino Misoguti¹; ¹Universidade de São Paulo

**SESSION ORAL1B**  
16:50 - 18:30 - Camburi Room

**16:50** ORAL1B.1  **Luminescent materials**  
Direct femtosecond laser printing of silk fibroin microstructures.  
Molíria Vieira dos Santos¹, Kelly Tasso Paula¹, Sidney J.L. Ribeiro², Cleber R. Mendonça¹; ¹Universidade de São Paulo, ²Universidade Estadual Paulista Júlio de Mesquita Filho

**17:10** ORAL1B.2  **Photonic materials and devices**  
Chalcogenide microstructured optical fibers for Mid-IR Quantum Cascade Laser pigtailing  
Johann Troles¹, Celine Caillaud¹⁺², Laurent Brilland², Sebastien Venck², Jean-Luc Jean-Luc.Adam¹, Maxime Duris¹⁺³, Damien Deubel³, Loic Bodiou¹, Joel Charrier¹, Mathieu carras Carras⁴, Mickael Brun⁴; ¹University of Rennes 1, ²SelenOptics, ³Kerdry, ⁴Mirsense
17:30 ORAL1B.3 Semiconductors for optoelectronics
Novel organic semiconductors and their use in ultrafast photo-switching and near-infrared phototransistors
Jesse Thomas Ernest Quinn¹,²; ¹Universidade de São Paulo, ²University of Waterloo

17:50 ORAL1B.4 Luminescent materials
Excitonic luminescence of new mixed-anion compounds
Yuki Iwasa¹, Hiraku Ogino¹, Dongjoon Song¹, Kohei Yamanoi², Toshihiko Shimizu², Jumpei Ueda³, Setsuhisa Tanabe³, Nobuhiko Sarukura²; ¹National Institute of Advanced Industrial Science and Technology, ²Osaka University, ³Kyoto University

18:10 ORAL1B.5 Semiconductors for optoelectronics
Large Area Cd₀.₉Zn₀.₁Te Pixelated Detector: Fabrication and Characterization
Mohsin Sajjad¹, Joshua W. Kleppinger¹, Towhid A. Chowdhury¹, Krishna C. Mandal¹; ¹University of South Carolina

TUESDAY, AUGUST 28
SESSION S2
09:00 - 10:20 - Room Maresias

09:00 S2.1 (Plenary Lecture)
Nonlinearity management of metal-dielectric nanocomposites and nanostructures
Cid B. de Araújo¹; ¹Universidade Federal de Pernambuco

09:40 S2.2 (Plenary Lecture)
Nanoparticles for enhanced cardiovascular imaging
Jie Hu¹, Francisco Sanz Rodriguez¹, Fernando Rivero¹, Dirk Ortgies¹, Rio Aguilar Torres¹, Emma Martín Rodriguez¹, Fernando Alfonso², Daniel Jaque¹, Jose Antonio Garcia-Sole¹; ¹Universidad Autónoma de Madrid, ²Instituto Ramón y Cajal
Recent advances in femtosecond laser writing of mid-infrared waveguides in chalcogenide glasses
David Le Coq, Pascal Masselin; University of Rennes 1, University of Littoral Côte d'Opale

New composites with Potential Random Laser Application
Caroline Cássia Alves, Sidney J.L. Ribeiro, Cleber R. Mendonça, Leonardo De Boni, José Maurício Almeida Caiut; Universidade de São Paulo, Universidade Estadual Paulista Júlio de Mesquita Filho

High intensity femtosecond lasers at IPEN: tools for modification and characterization of materials
Ricardo Elgul Samad, Edison Puig Maldonado, Lilia Coronato Courrol, Wagner de Rossi, Denise Maria Zezell, Sonia Licia Baldochi, Nilson Dias Vieira Junior; Instituto de Pesquisas Energéticas e Nucleares, Universidade Federal de São Paulo

Synthesis of aminolevulinic acid with metal nanoparticles for Non-noncommunicable diseases diagnosis and therapy
Lilia Coronato Courrol, Karina de Oliveira Gonçalves, Daniel Perez Vieira; Universidade Federal de São Paulo, Instituto de Pesquisas Energéticas e Nucleares
## SESSION INV3-B
10:50 - 12:50 - Camburi Room

### 10:50 **INV3-B.1** (Invited Lecture)
**Materials for the Optimization of Solar Energy Harvesting**
Carlos FO Graeff\(^1\); \(^1\)Universidade Estadual Paulista Júlio de Mesquita Filho

### 11:20 **INV3-B.2** (Invited Lecture)
**Carbon-based nanostructures in nanoporous films: materials design for optical applications**
Luca Malfatti\(^{1,2}\); \(^1\)Department of Chemistry and Pharmacy, \(^2\)University of Sassari

### 11:50 **INV3-B.3** (Invited Lecture)
**Towards Optically Controlled Quantum Bits in Rare Earth Doped Nanoparticles**
Diana Serrano\(^1\), Jenny Karlsson\(^1\), Alexandre Fossati\(^1\), Alban Ferrier\(^1\), Philippe Goldner\(^1\); \(^1\)Chimie ParisTech

### 12:20 **INV3-B.4** (Invited Lecture)
Animesh Jha\(^1\), Christian Thomas Brown\(^2\), Monty S Duggal\(^3\), Antonios D Anastasiou\(^1\); \(^1\)University of Leeds, \(^2\)University of St. Andrews, \(^3\)National University of Singapore

## SESSION INV4-A
14:20 - 16:20 - Room Maresias

### 14:20 **INV4-A.1** (Invited Lecture)
**Second Harmonic Scattering: from liquids to interfaces and bulk materials**
Vincent Rodriguez\(^1\); \(^1\)University of Bordeaux
**14:50** **INV4-A.2** (Invited Lecture)
Recent developments in Mid-Infrared Fiber Lasers
Réal Vallée\(^1\); \(^1\)Université Laval

**15:20** **INV4-A.3** (Invited Lecture)
Innovative Chemical Sensors Based on Optical Polymers
Robert Lieberman\(^1\); \(^1\)Lumoptix LLC

**15:50** **INV4-A.4** (Invited Lecture)
Semiconductor nanowires for 3D nano-LEDs and hybrid optoelectronic devices
Tobias Voss\(^1\); \(^1\)Technische Universität Braunschweig

---

**SESSION INV4-B**
**14:20 - 16:20 - Camburi Room**

**14:20** **INV4-B.1** (Invited Lecture)
Exciting host-guest luminescent materials for photonic and biophotonic applications
Andrea Simone Stucchi de Camargo\(^1\); \(^1\)Instituto de Física de São Carlos

**14:50** **INV4-B.2** (Invited Lecture)
Nanoporous Anodic Alumina: a versatile material for biomedical applications
Lluis F. Marsal\(^1\), Elisabet Xifre-Perez\(^1\), Laura Karen Acosta\(^1\), Laura Pol\(^1\), Josep Ferre-Borrull\(^1\); \(^1\)Universitat Rovira i Virgili

**15:20** **INV4-B.3** (Invited Lecture)
Nanophotonic structures for enhanced light-sound interaction
Gustavo S Wiederhecker\(^1\); \(^1\)Universidade Estadual de Campinas
INV4-B.4 (Invited Lecture)
Rare Earth Smart Nanomaterials And Their Biological Application
Maria Claudia França da Cunha Felinto¹, Hermi Felinto Brito², Hercules Teotonio³, Oscar Loureiro Malta⁴; ¹Instituto de Pesquisas Energéticas e Nucleares, ²Universidade de São Paulo, ³Universidade Federal da Paraíba, ⁴Universidade Federal de Pernambuco

16:50 ORAL2A.1 Photovoltaic Materials
Critical analysis of the performance of InₓGa₁₋ₓN based solar cells
Carlos Hernández-Gutierréz¹, Arturo Morales-Acevedo¹, Dagoberto Cardona², Gerardo Contreras-Puente³, Máximo López-López¹; ¹CINVESTAV, ²ITESO Universidad Jesuita de Guadalajara, ³Instituto Politécnico Nacional

17:10 ORAL2A.2 Semiconductors for optoelectronics
Prediction of electrical response of solution-processed thin-film transistors using multifactorial analysis
João Paulo Braga¹, Lucas Augusto Moises¹, Giovani Gozzi¹, Lucas Fugikawa Santos¹; ¹Universidade Estadual Paulista Júlio de Mesquita Filho

17:30 ORAL2A.3 Luminescent materials
Highly luminescent microstructures tailored by direct laser writing (DLW) technique in Ag nanoclusters doped fluorophosphate glass: application in 3D waveguide and second harmonic generation (SHG)
Tarcio Castro Silva¹, Alain Abou Khalil², Hssen Fares¹, Jean-Charles Desmoulin², Sophie Rouzet², Clement Strutynski², Yannick Petit², Sylvain Danto², Véronique Jubera², Lionel Canioni², Marcelo Nalin¹, Sidney J.L. Ribeiro¹, Thierry Cardinal²; ¹Universidade Estadual Paulista Júlio de Mesquita Filho, ²Institute de Chimie de la Matière Condensée de Bordeaux
17:50 ORAL2A.4 Nanostructures including photonic crystals
Broad-spectrum UV-to-NIR-active photocatalyst based on semiconductors and lanthanides-doped upconversion crystals
Sajjad Ullah¹, Chanchal Hazra¹, Elias Paiva Ferreira Neto², Ubirajara Pereira Rodrigues-Filho², Sidney J.L. Ribeiro¹; ¹Universidade Estadual Paulista Júlio de Mesquita Filho, ²Universidade de São Paulo

18:10 ORAL2A.5 Photonic materials and devices
Random Laser emission from Rhodamine B-doped disordered fibers network
Lucas Fiocco Sciuti¹, Nathália Tomazio¹, Cleber R. Mendonça¹, Luíza Mercante², Daniel Souza Corrêa², Leonardo De Boni¹; ¹Universidade de São Paulo, ²Nanotechnology National Laboratory for Agriculture

SESSION ORAL2B
16:50 - 18:30 - Camburi Room

16:50 ORAL2B.1 Nanophotonics
A study of optical power induced spectral shift in Si photonics
Stefan Tenenbaum¹, Roberto Ricardo Panepucci¹; ¹Centro de Tecnologia da Informação Renato Archer

17:10 ORAL2B.2 Photonic materials and devices
X-ray Induced Sm-Valence Conversion in Fluoroaluminate Glasses as a Tool for Investigating Dose Distributions in Microbeam Radiation Therapy
Farley Chicilo¹, Go Okada², Cyril Koughia¹, George Belev¹, Tomasz Wysokinski³, Dean Chapman³, Andy Edgar⁴, Fred Geisler¹, Albert Hanson¹, Safa Kasap¹; ¹University of Saskatchewan, ²Nara Institute of Science & Technology, ³Canadian Light Source, ⁴Victoria University of Wellington
**17:30**  **ORAL2B.3**  Non-linear effects

Molecular second order process with optical polarization control: effect of chirality in the Hyper-Rayleigh scattering

Raian G Westin¹, Ruben Fonseca Rodriguez², Marcelo G. Vivas³, Cleber R. Mendonça⁴, Leonardo De Boni⁴; ¹Instituto de Física de São Carlos, ²Departamento de Ciencias Básicas, Universidad de la Costa, ³Universidade Federal de Alfenas, ⁴Universidade de São Paulo

**17:50**  **ORAL2B.4**  Photonic materials and devices

Rare-earth Yb³⁺-doped MoS₂ grown using femtosecond pulsed laser deposition for photonics applications

Chiranjeevi Maddi¹, Aparna P², Adarsh KV², Animesh Jha¹; ¹University of Leeds, ²Indian Institute of Science Education and Research

**18:10**  **ORAL2B.5**  Photoinduced effects

Luminescence of rare earth doping and interface related electrical transport properties of SnO₂ thin films based heterostructures

Luís Vicente de Andrade Scalvi¹, Cristina de Freitas Bueno¹, Diego Henrique Machado Olliveira¹; ¹Universidade Estadual Paulista Júlio de Mesquita Filho

---

**WEDNESDAY, AUGUST 29**

**SESSION S3**

09:00 - 10:20 - Room Maresias

**09:00**  **S3.1**  (Plenary Lecture)

Highly efficient and stable hybrid solar cells of nanostructures and bulk heterojunction semiconductors

Kiran Sridhar Ram¹, Jai Singh¹; ¹Charles Darwin University

**09:40**  **S3.2**  (Plenary Lecture)

Shedding light on luminescent nanothermometry

Luis Dias Carlos¹; ¹University of Aveiro
SESSION ORAL3A  
10:50 - 12:30 - Room Maresias

10:50  **ORAL3A.1 Luminescent materials**
X-ray induced persistent luminescence: How and why?
Lucas Carvalho Veloso Rodrigues\(^1\), Danilo Ormeni Almeida Santos\(^1\), Miguel Aguirre Stock Grein Barbará\(^1\), Douglas Lourenço Fritzen\(^1\), Veronica de Carvalho Teixeira\(^2\); \(^1\)Universidade de São Paulo, \(^2\)Centro Nacional de Pesquisa em Energia e Materiais

11:10  **ORAL3A.2 Quantum dots**
Green Aqueous Synthesis of Fluorescent Ag-In-Zn-S Quantum Dot/Biopolymer Nanomaterials for Potential Applications in Solar Energy Harvesting
Herman Sander Mansur\(^1\), Camila Tabare\(^1\), Alexandra A. P. Mansur\(^1\); \(^1\)Universidade Federal de Minas Gerais

11:30  **ORAL3A.3 Nanophotonics**
Multicolour Emissions through Bi-directional Energy Transfer in Nd\(^{3+}\)-Sensitized Gd\(^{3+}\)-based Core/Shell/Shell Upconverting Nanoparticles
Chanchal Hazra\(^1\), York Estewin Serge Correales\(^1\), Sajjad Ullah\(^1\), Lais Roncalho Lima\(^1\), Sidney J.L. Ribeiro\(^1\); \(^1\)Universidade Estadual Paulista Júlio de Mesquita Filho

11:50  **ORAL3A.4 Silicon photonics**
Rare-earth doped chalcogenide thin film on SOI plat form for Mid-IR integrated silicon photonic applications
Mehrdad Irannejad\(^1\), Sandra Helena Messaddeq\(^1\), Mohammed El Amraoui\(^1\), Philippe Jean\(^1\), Wei Shi\(^1\), Younes Messaddeq\(^1\); \(^1\)Université Laval

12:10  **ORAL3A.5 Nanostructures including photonic crystals**
Compact switchable power divider based on 2D photonic crystal with chalcogenide Ge\(_2\)Sb\(_2\)Te\(_5\) resonator
Daimam Darlam Zimmer\(^1\), Victor Dmitriev\(^1\), Wagner Ormanes Palheta Castro\(^1\); \(^1\)Universidade Federal do Pará
**SESSION ORAL3B**
*10:50 - 12:50 - Camburi Room*

**10:50 ORAL3B.1** Nanostructures including photonic crystals

Controllable graphene W-shaped three-port THz circulator  
Wagner Ormanes Palheta Castro¹, Victor Dmitriev¹, Geraldo Melo¹, Daimam Darlam Zimmer¹, Cristiano Braga¹; ¹Universidade Federal do Pará

**11:10 ORAL3B.2** Energy conversion in Rare Earths doped materials

Optical and dielectric properties of Nd and Sm-doped Bi₅Ti₃FeO₁₅ phases  
Jeferson Almeida Dias¹, Lia Mara Marcondes², Rosario Elida Suman Bretas¹, Márcio Raymundo Morelli¹; ¹Universidade Federal de São Carlos, ²Universidade Federal de Alfenas

**11:30 ORAL3B.3** Nanostructures including photonic crystals

The behavior of the deformation vibration of NH₃ in semi-organic crystals under high pressure studied by Raman spectroscopy  
André Luís de Oliveira Cavaignac¹, Ricardo Jorge Cruz Lima²; ¹Universidade Ceuma, ²Universidade Federal do Maranhão

**11:50 ORAL3B.4** Electro-optic effects

Bi-functional electro-optical material based on ureasil-polyether hybrid  
Gustavo Palacio¹², Sandra Helena Pulcinelli¹, Rachid Mahiou², Damien Boyer², Celso Valentim Santilli¹; ¹Instituto de Química - UNESP / Campus de Araraquara, ²Institut de Chemie de Clermont-Ferrand - Université Clermont Auvergne

**12:10 ORAL3B.5** Luminescent materials

The relationship between structural and optical properties of Eu³⁺ doped B₂O₃-Al₂O₃ compounds through soft chemical process  
Lauro June Queiroz Maia¹, Fausto Melo Faria Filho², Rogéria Rocha Gonçalves³, Sidney J.L. Ribeiro⁴; ¹Universidade Federal de Goiás, ²Instituto Federal Goiano, ³Universidade de São Paulo, ⁴Instituto de Química - UNESP / Campus de Araraquara
Nano-optofluidics for Surface Modification Sensing in Porous Anodic Alumina
Josep Ferre-Borrull¹, Chris Eckstein¹, Elisabet Xifre-Perez¹, Lluis F. Marsal¹; ¹Universitat Rovira i Virgili

THURSDAY, AUGUST 30

SESSION S4
09:00 - 10:20 - Room Maresias

09:00 S4.1 (Plenary Lecture)
Near-Infrared persistent luminescence: the quest for traps
Dirk Poelman¹, Olivier Q. De Clercq¹, Jiaren Du¹, Katelyn Korthout¹; ¹Ghent University / Universiteit Gent

09:40 S4.2 (Plenary Lecture)
Advances in the development of III-V semiconductors for photonic applications
Stephen J. Sweeney¹; ¹University of Surrey

SESSION INV5-A
10:50 - 12:20 - Room Maresias

10:50 INV5-A.1 (Invited Lecture)
Germanium and tellurium oxide glasses based metal-nanocomposites: fabrication and optical applications – a review of recent results.
Luciana Reyes Pires Kassab¹, Cid B. de Araújo², Davinson Mariano da Silva¹; ¹Faculdade de Tecnologia de São Paulo, ²Universidade Federal de Pernambuco
11:20  **INV5-A.2**  (Invited Lecture)
Optics in two-dimensional materials and nanocomposites
Christiano J.S. de Matos\textsuperscript{1}; \textsuperscript{1}Universidade Presbiteriana Mackenzie

11:50  **INV5-A.3**  (Invited Lecture)
Tunning the optical parameters in nanocomposites: electromagnetic modeling for “custom sized” structures
María Luz Martínez Ricci\textsuperscript{1}; \textsuperscript{1}Universidad de Buenos Aires

**SESSION INV5-B**
10:50 - 12:50 - Camburi Room

10:50  **INV5-B.1**  (Invited Lecture)
Random Laser materials: from ultrahigh efficiency to Anderson localization transition
Niklaus Ursus Wetter\textsuperscript{1}, Ernesto Jimenez-Villar\textsuperscript{1}; \textsuperscript{1}Instituto de Pesquisas Energéticas e Nucleares

11:20  **INV5-B.2**  (Invited Lecture)
Surface decontamination by UV emission of rare-earth phosphors
Bruno Caillier\textsuperscript{1}, José Maurício Almeida Caiut\textsuperscript{2}, Cristina Muja\textsuperscript{1}, Philippe Guillot\textsuperscript{1}; \textsuperscript{1}Institut National Universitaire Champollion, \textsuperscript{2}Universidade de São Paulo

11:50  **INV5-B.3**  (Invited Lecture)
Rare-earth doped ceramic nanophosphors for applications in nanomedicine
Karina Nigoghossian\textsuperscript{1}; \textsuperscript{1}Tokyo University of Science

12:20  **INV5-B.4**  (Invited Lecture)
Photochromism of PMMA - phosphotungstic acid and luminescence of elastomeric copolymer - Eu (III) - b-Diketone
Celso Molina\textsuperscript{1}, Fernanda Ferraz Camilo\textsuperscript{1}, Ariane Espindola\textsuperscript{1}, Pamela Corradi Silva\textsuperscript{1}, Norberto Sanches Gonçalves\textsuperscript{1}, Rute A.S. Ferreira\textsuperscript{2}, Luis Dias Carlos\textsuperscript{2}; \textsuperscript{1}Universidade Federal de São Paulo, \textsuperscript{2}University of Aveiro
SESSION ORAL4A
14:20 - 16:20 - Room Maresias

14:20 ORAL4A.1 Electro-optic effects
Super-resolution Imaging and Photothermal Combustion of Nanoparticles on Plasmonic Gratings
Biyan Chen¹, Naadaa G. Zakiyyan¹, Aaron Wood¹, Keshab Gangopadhyay¹,
Jacob McFarland¹, Matthew R. Maschmann¹, Shubhra
Gangopadhyay¹,²; ¹University of Missouri Columbia, ²National Science Foundation

14:40 ORAL4A.2 Energy conversion in Rare Earths doped materials
Energy transfer in Eu³⁺-Tb³⁺ co-doped a-SiNx thin films
Diego Silva Oliveira¹, Leandro R. Tessler¹; ¹Universidade Estadual de Campinas

15:00 ORAL4A.3 Energy conversion in Rare Earths doped materials
High quantum yield of infrared-to-visible upconversion in Er³⁺/Yb³⁺ co-
doped germanate based materials
Rogéria Rocha Gonçalves¹, Fábio José Caixeta¹, Anderson Aparecido Alves Tostes¹, Vítor Santos Souza¹, Leonardo Sousa Rosa¹, Ramon Josef Nicolete
Nascimento¹, Felipe Thomaz Aquino¹, Alban Ferrier², Philippe
Goldner²; ¹Universidade de São Paulo, ²Chimie ParisTech

15:20 ORAL4A.4 Photovoltaic Materials
Simplified and quick electrical modeling for dye sensitized solar cells: An experimental and theoretical investigation
Rocelito Lopes Andrade¹, Emerson Kohlrausch¹, Matheus Costa Oliveira¹,
Marcos Jose Leite Santos¹; ¹Universidade Federal do Rio Grande do Sul

15:40 ORAL4A.5 Photoinduced effects
Study of the photothermal effect in conjugated polymers
Deize Corradi Grodniski¹, Lucimara Stolz Roman¹, Marlus
Koehler¹; ¹Universidade Federal do Paraná
16:00  ORAL4A.6  Photonic materials and devices
Inverse ridge waveguide platform for optical material development
Roberto Ricardo Panepucci\textsuperscript{1}, Gilliard Nardel Malheiros-Silveira\textsuperscript{2}, Celio Antonio Finardi\textsuperscript{1}, Eliana Van Etten\textsuperscript{3}, Talita S. Burger\textsuperscript{3}, Ricardo C. G. Silva\textsuperscript{3}, André M. Daltrini\textsuperscript{3}; \textsuperscript{1}Centro de Tecnologia da Informação Renato Archer, \textsuperscript{2}Universidade Estadual Paulista Júlio de Mesquita Filho, \textsuperscript{3}CEITEC S. A.
Semiconductors

SESSION ORAL4B
14:20 - 16:20 - Camburi Room

14:20  ORAL4B.1  Energy conversion in Rare Earths doped materials
Luminescent Solar Concentrators based on europium complexes utilizing commercially available solar protectors as primary ligands
Helmut Isaac Padilla Chavarría\textsuperscript{1}, Ian Werner\textsuperscript{1}, Marcelo Folhadella Azevedo\textsuperscript{1}, Jiang Kai\textsuperscript{1}; \textsuperscript{1}Pontifícia Universidade Católica do Rio de Janeiro

14:40  ORAL4B.2  Luminescent materials
Photonic properties of Yb\textsuperscript{3+} doped binary glasses and glass ceramics for optical refrigeration
Jyothis Thomas\textsuperscript{1}, Lauro June Queiroz Maia\textsuperscript{2}, Wonji Park\textsuperscript{3}, Yannick Ledemi\textsuperscript{3}, Denis Seletskiy\textsuperscript{1}, Younes Messaddeq\textsuperscript{3}, Raman Kashyap\textsuperscript{1}; \textsuperscript{1}Polytechnique Montreal, \textsuperscript{2}Universidade Federal de Goiás, \textsuperscript{3}Université Laval

15:00  ORAL4B.3  Biophotonics
Magneto-Luminescent Nanoprobe of Fe\textsubscript{3}O\textsubscript{4} with Engineered Surface Chemistry by Calixarene and Eu\textsuperscript{3+} TTA Complex for Blood Plasma Protein Detection
Latif Ullah Khan\textsuperscript{1,2}, Diego Stefani Teodoro Martinez\textsuperscript{1}, Romana Petry\textsuperscript{1}; \textsuperscript{1}Centro Nacional de Pesquisa em Energia e Materiais, \textsuperscript{2}Laboratório Nacional de Nanotecnologia
Photoinduced effects

Periodic structures in Ag-based Chalcogenide thin films produced by laser dewetting
Sandra Helena Messaddeq¹, Alexandre Douaud¹, Younes Messaddeq¹; ¹Université Laval

Photoluminescence of β-Ga₂O₃ nanostructures: controlled phase synthesis with promising optoelectronic and gas sensor applications
Aline Varella Rodrigues¹, Naira Linhares Sabino², Marcelo Ornaghi Orlandi²; ¹Instituto de Química - UNESP / Campus de Araraquara, ²Universidade Estadual Paulista Júlio de Mesquita Filho

Time-resolved Photoluminescence (TRPL) Spectroscopy – a Macroscopic and Microscopic approach from HORIBA Scientific
Joao Lucas Rangel¹, Linda Casson¹, Francis Ndi¹, Igor Carvalho¹; ¹Horiba Scientific

Efficient energy transfer in transparent nanostructured RE³⁺ doped sol-gel SiO₂-LaF₃ glass-ceramics
Francisco Javier del Castillo Vargas¹, Angel Carlos Yanes Hernández¹; ¹Universidad de La Laguna
17:30 **ORAL5A.3** Photoinduced effects

*Phototinduced Charge Shifts And Electron Transfer In Tetra(aryl)borate Systems: Dynamics Of Radical-Pair, Spintronics Properties And Polymerization Kinetics*

Willy Glen Santos¹, Sidney J.L. Ribeiro²; ¹Instituto de Química - UNESP / Campus de Araraquara, ²Universidade Estadual Paulista Júlio de Mesquita Filho

17:50 **ORAL5A.4** Biophotonics

*FRET-based communication for Photodynamic Therapy*

Cesar Roberto de Souza¹, Walter Jaimes Salcedo¹; ¹Universidade de São Paulo

18:10 **ORAL5A.5** Waveguides

*Ultrafast pulse generation by the use of 2D materials in fiber lasers*

Eunézio Antônio Thoroh de Souza¹; ¹Universidade Presbiteriana Mackenzie

---

**SESSION ORAL5B**

16:50 - 18:30 - Camburi Room

16:50 **ORAL5B.1** Photoconductivity

*Gelatin electrospun nanofibers filled with Ag/POSS composite for electrically conductive biodegradable films*

Ali Riaz², Sidney J.L. Ribeiro²; ¹Instituto de Química - UNESP / Campus de Araraquara, ²Universidade Estadual Paulista Júlio de Mesquita Filho

17:10 **ORAL5B.2** Bioimaging

*Synthesis and Characterization oZnSe:xMn²⁺ Quantum Dots. Analysis of their Toxicity and kinetic of uptake in vitro (RAW 264-7) as a first step in the development of a Diagnostic Nanoprobe*

Zahid Ullah Khan¹,², Hermi Felinto Brito¹, Latif Ullah Khan¹,³, Hiro Goto¹, Eduardo Sanchez¹, Magnus Ake Gidlund¹,³; ¹Universidade de São Paulo, ²Instituto Ciências Biomédicas/ Imunologia, ³Instituto Ciências Biomédicas
High efficiency room temperature binder free TiO$_2$ paste for flexible dye sensitized solar cells

Kishore Kumar Devarepally$^1$, Younes Messaddeq$^2$; $^1$Universidade Estadual Paulista Júlio de Mesquita Filho, $^2$Université Laval
POSTER PRESENTATIONS

MONDAY, AUGUST 27

SESSION P1 19:00 - 21:00 - Room Maresias

TUESDAY, AUGUST 28

SESSION P2 19:00 - 21:00 - Room Maresias
ICOOPMA is an international conference on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics; and optical, optoelectronic and electro-optic properties of all classes of materials and material systems. The conference will be held at Polytechnique Montréal, which is rated as among the top universities in Canada in engineering. It is located on the northern slope of Mount Royal in the very heart of Montreal. It is easily accessible by buses or the metro. Montreal is one of the most attractive and lively cities in Northern America with a strong francophone heritage, beautiful historical buildings and churches, parks, museums, lively cafes, and some of the best cuisine in North America.
CONFERENCE CHAIRS, LOCAL ORGANIZING COMMITTEE

Younes Messaddeq, Université Laval, Chair
Raman Kashyap, École Polytechnique de Montréal, Co-Chair
Carlos Silva, Co-Chair, Université de Montréal
Victor Lambin Iezzi, École Polytechnique de Montréal, Conference Secretary and Manager
Sébastien Loranger, École Polytechnique de Montréal, Conference Assistant Manager
Jean-Sébastien Boisvert, École Polytechnique de Montréal, Conference Assistant Manager
Diane Déziel, Université Laval, Conference Assistant Manager
Sandra Helena Messaddeq, Université Laval, Conference Assistant Manager
Robert Johanson, University of Saskatchewan
David Cooke, McGill University
Ramaswami (Sammy) Sammynaiken, University of Saskatchewan
Mojtaba Kahrizi, Concordia University
Dayan Ban, University of Waterloo
Jayshri Sabarinathan, Western University
Stephen O'Leary, UBC-Kelowna
Fiorenzo Vetrone, Université de INRS
Michael Bradley, University of Saskatchewan
Peter Mascher, McMaster University
Derek Oliver, University of Manitoba
Ishiang Shih, McGill University
Ayse Turak, McMaster University
Zetian Mi, McGill University

SCOPE

Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots
Excitonic processes
Luminescence, Phosphors, Scintillators and Applications
Photoinduced effects
Electro-optic properties and applications
Nonlinear optical properties and applications
Materials for optoelectronics and photonics
Nano-optoelectronics and Nanophotonics
Photoconductivity, photogeneration, quantum efficiency
Optically induced processes
Optical fibers
Materials for optical storage
Photovoltaic materials
Experimental techniques
Optoelectronic and photonic devices
Optical components for telecommunications
Applications of materials in photonics and optoelectronics
Amorphous and organics
Nanostructures, including photonic crystals
Quantum dots
Quantum wires
II-VI and related semiconductors including alloys
III-V and related semiconductors including alloys
Oxide semiconductors
Silicon photonics
a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H
Nonoxide glasses and chalcogenide glasses
ZBLAN and oxyfluoride glasses
Excitonic processes
Luminescence, phosphors and applications
Photoinduced effects and applications
Photoconductivity and photogeneration
Nonlinear optical effects and applications
Electro-optic effects and applications
Semiconductors for optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.
Light emitting devices (including organics)
Photonic and optoelectronic materials and devices
Quantum wells, quantum wires, quantum dots, Nanophotonics and nano-optoelectronics
Optical storage
Photovoltaics (materials and devices, and their properties)
Waveguides and fibers
Integrated photonics
Experimental techniques
Photoreflectance
Photic bandgap materials and nonlinear photonic bandgap materials
Defect spectroscopy
Femtosecond and terahertz spectroscopy
Optical fibers and fiber Sensors
Plasmons and surface plasmons
Selected topics (e.g. photocatalysis in materials, materials for energy conversion etc)

ICOOPMA HISTORY

ICOOPMA16 is the seventh in the ICOOPMA series, an International Conference on Optical, Optoelectronic and Photonic Materials and Applications, which was held for the first time in Darwin, Australia, in 2006. The ICOOPMA series arose from a need for such a conference for those researchers who sought a truly international conference that covered a wide range of materials and applications in optics, optoelectronics and photonics. The International and Local Organizing Committees have the responsibility of ensuring an in-depth scientific coverage with invited and contributed papers from various countries and in various disciplines; and ensuring an enjoyable scientific program. By tradition, the conference has a large number of invited papers from top researchers in various fields to review the advances and bring the audience up-to-date. The plenary and invited talks are the most exciting part of the scientific program; and for finding out the advances, challenges and the current problems.

ICOOPMA is a non-profit conference that is run by scientists for scientists without any institutional constraints and restrictions. http://icoopma.org
VENUE AND CONTACTS
Polytechnique Montreal
http://icoopma.org

IMPORTANT DATES
Oral abstract Submission: 1 March 2016
Poster abstract submission: 1 May 2016 (Latest)
Early registration: 31 March 2016
Late abstracts will be considered at the discretion of the Conference Chairs, based on content, quality and scheduling availability

PLENARY
Setsuhisa Tanabe, University of Kyoto, Japan, Glass and Rare-Earth Elements: A Personal Perspective
Frank Hegmann, University of Alberta, Canada, Nanoscale imaging with ultrafast terahertz scanning tunneling microscopy
Paul N Stavrinou, Imperial College London, UK, Photonics with Solution Processable Materials
Ursula Keller, ETH Zurich, Switzerland, Attosecond Ionization Dynamics and Time Delays

INVITED
Mathieu Allix, Conditions Extrêmes et Matériaux: Haute Température et Irradiation, France, Application to transparent polycrystalline ceramics and nanostructured glass-ceramics
Gaetano Assanto, University di Roma Tre, Italy, Solitons, Nematicons
Jean-Louis Auguste, Laboratoire Science des Procédés Céramiques et de Traitements de Surface, France, Photonique fibre: Fibres micro/ nanostructurées et matériaux innovants pour la photonique Jose Azana, INRS, Canada, 'Green' ultrafast optical signal processing
Natalie Frank, Fribourg University, Switzerland, The Photophysics of Polythiophenes - From Solar Cells to Biological Sensors
Rana, Iowa State University, USA, Photo-structural changes in organic semiconductors - experiment and simulation
Eric, University of Houston, USA, Quantum dynamics simulations of materials for energy conversion
Cid B. de Araujo, Universidade Federal de Pernambuco, Brazil, High-order optical nonlinearities in condensed matter
Thierry Cardinal, Institut de Chimie de la Matière Condensée de Bordeaux, France, to be confirmed
Luiz Carlos Dias, Aveiro University, Portugal, Hybride Materials
Richard Curry, University of Surrey, UK, ‘Non-Equilibrium Doped Amorphous Chalcogenides’ or ‘High-Performance Hybrid Organic-Inorganic PbS Nanocrystal Photodetectors’
Jan Dubowski, Université de Sherbrooke, Canada, Laser tuning of emission wavelength of InAs quantum dots
Heike Ebendorff-Heidepriem, University Adelaide, Australia, Special optical fibers
Andy Edgar, Victoria University of Wellington, New Zealand, Optical Materials for High-Resolution X-ray Imaging
Mahmood Fallahi, University of Arizona, USA, High power lasers results
Vassili Fedotov, University of Southampton, UK, Exploiting the full potential of liquid crystals in tunable and re-configurable metamaterials
Marty Fejer, Stanford University, USA, PPLN
Maurizio Ferrari, Institute for Photonics and Nanotechnologies, Italy, Photonic Glass-Ceramics
Hugo, University of Campinas, Brazil, graphene on fibres
Tigran, Université Laval, Canada, The physics of angularly correlated molecular complexes in the service of medicine
Senthil Ganapathy, University of Southampton, UK, Chalcogenide Waveguides on Silicon for Mid-infrared Sensing Applications
Leonid B. Glebov, University of Central Florida, USA, Volumetric grating on glass
Anderson Gomes, Federal University, Recife, Brazil, Random lasers
Mohammed Gondal, King Fahd University, Saudi Arabia, Synthesis of colloidal nanocrystal-based nanocomposites semiconductors for photonic applications using advanced pulsed laser ablation in liquids technique
Frank Hegmann, University of Alberta, Canada, Nanoscale imaging with ultrafast terahertz scanning tunneling microscopy
Jong Heo, Pohang University of Science and Technology, Korea, Photoluminescence from quantum dots dictated by the host glass compositions
Dan Hewak, University of Southampton, UK, Advancing the applications of chalcogenide glass
Matthias C. Hoffmann, Slac National Accelerator Laboratory, USA, to be confirmed
Chennupati Jagadish, Australian National University, Australia, Semiconductor nanowires as photonics platform
Himanshu Jain, Lehigh University, Pennsylvania, USA, to be confirmed
Peter Jepsen, Technical University of Denmark, Denmark, to be confirmed
Animesh Jha, University of Leeds, UK, Ultrafast pulsed laser induced phase transformation and densification in phosphate biominerals - its consequences in dental/bone tissue engineering
Micheal Johnston, Oxford, UK, Ultrafast THz spectroscopy on III-V semiconductors
Nicolas Joly, Max Plank Institute for the Science of Light, Germany, to be confirmed
Saulius Juodkazis, Centre for Micro-Photonics, Australia, to be confirmed
Pat Kambhampati, McGill University, Montreal, Canada, to be confirmed
Ajoy Kumar Kar, Herriot Watt, UK, fs laser writing of stuff
Ursula Keller, Institute of Quantum Electronics, Zurich, Switzerland, Attosecond Ionization Dynamics and Time Delays
non-linear optical and lasing properties of tellurium oxide based glasses and glass-ceramics
Dmitry Turchinovich, Max Plank Institute of Polymer Research, Germany, Ultrafast electron transport in graphene and magnetic nanostructures
Réal, COPL, Canada, Development of laser sources addressing the new challenges of the Mid-infrared
Valy, Utah, Spintronics on organic semiconductor materials
Heinz von Seggern, University of Darmstadt, Germany, Influence of hydration on structure, sensitivity and spatial resolution of the X-Ray storage phosphor CaBr₂Eu
Lei Wei, Nanyang technological University, Singapore, Recent development and perspectives of multimaterial fibers
Richard Williams, Wake Forest University, USA, Using extra information encoded in the pulse shape to improve proportionality of scintillators
Lothar Wondraczek, Advanced Glasses and Glass-Ceramics, Otto-Schott-Institute, Germany,
Takayuki Yanagida, Nara Institute of Science and Technology, Japan, Development of scintillator materials and scintillation detectors
Long Zhang, China, China, Microstructure-composited materials for high-power lasers

INTERNATIONAL PROGRAM COMMITTEE
Amin Abdolvand, University of Dundee, UK
Rolindes Balda, University of the Basque Country, Spain
Dayan Ban, University of Waterloo, Canada
David Binks, University of Manchester, UK
Michael P Bradley, University of Saskatchewan, Canada
David Cooke, McGill University, Canada
Richard J Curry, University of Surrey, UK
Jan Dubowski, University of Sherbrooke, Canada
George Fern, Brunel University, UK
Shubhra Gangopadhyay, University of Missouri-Columbia, USA
Anderson S L Gomes, Federal University of Pernambuco, Brazil
Dan Hewak, University of Southampton, UK
Richard Hogg, University of Sheffield, UK
Stuart Jackson, University of Sydney, Australia
Animesh Jha, University of Leeds, UK
Gin Jose, University of Leeds, UK
Mojtaba Kahrizi, Concordia University, Canada
Raman Kashyap (Co-Chair, 2016), Polytechnique Montréal, Canada
Anthony J Kenyon, University College London, UK
Sandor Kokenyesi, University of Debrecen, Hungary
Jayanta Kumar Sahu, University of Southampton, UK
Paolo Laporta, Politecnico di Milano, Italy
Byoungho Lee, Seoul National University, Korea
Hans Georg Limberger, Swiss Federal Institute of Technology, Switzerland
Krishna Mandal, University of South Carolina, USA
Kevin Macdonald, University of Southampton, UK
Christopher F McConville, University of Warwick, UK
Younes Messaddeq (Chair, 2016), Université Laval, Canada
Hiroyoshi Naito, Osaka Prefecture University, Japan
Marcelo Nalin, UNESP Araraquara, Brazil
Yasutake Ohishi, Toyota Technological Institute, Japan
Derek Oliver, University of Manitoba, Canada
Sidney J L Ribeiro, Sao Paulo State University, Brazil
Jayshri Sabarinathan, Western University, Canada
Jayanta Kumar Sahu, University of Southampton, UK
Peyman Servati, University of British Columbia, Canada
Ishiang Shih, McGill University, Canada
Carlos Silva (Co-Chair, 2016), Université de Montréal, Canada
Stephen Sweeney, University of Surrey, UK
Setsuhiisa Tanabe, Kyoto University, Japan
James R Taylor, Imperial College London, UK
Fiorenzo Vetrone, INRS, Canada
Furong Zhu, Hong Kong Baptist University, Hong Kong

INTERNATIONAL ADVISORY COMMITTEE
John Ballato, Clemson University, USA
David Binks, University of Manchester, UK
Mikhail Brik, University of Tartu, Estonia
Ray DeCorby, University of Alberta, Canada
Michael Fokine, KTH Royal Institute of Technology, Stockholm, Sweden
Senthil Ganapathy, University of Southampton, UK
Anderson S L Gomes, Federal University of Pernambuco, Brazil
Chris Haugen, National Institute for Nanotechnology, Canada
Hironori Kaji, University of Kyoto, Japan
Safa Kasap (Chair), University of Saskatchewan, Canada
Raman Kashyap (Co-Chair, 2016), Polytechnique Montréal, Canada
Tony Kenyon, University College London, UK
Sandor Kugler, Budapest University of Technology, Hungary
Roger Lewis, University of Wollongong, Australia
Marian Marchiniak, National Institute of Telecommunications, Poland
Lius Marsal, Universitat Rovira i Virgili, Spain
Maurizio Martino, Universita del Salento, Italy
Peter Mascher, McMaster University, Canada
Patrick McNally, Dublin City University, Ireland
Younes Messaddeq (Conference Chair, 2014), University of Leeds, UK
Hironori Kaji, University of Kyoto, Japan
Safa Kasap (Chair), University of Saskatchewan, Canada
Raman Kashyap (Co-Chair, 2016), Polytechnique Montréal, Canada
Tony Kenyon, University College London, UK
Sandor Kugler, Budapest University of Technology, Hungary
Roger Lewis, University of Wollongong, Australia
Marian Marchiniak, National Institute of Telecommunications, Poland
Lius Marsal, Universitat Rovira i Virgili, Spain
Maurizio Martino, Universita del Salento, Italy
Peter Mascher, McMaster University, Canada
Patrick McNally, Dublin City University, Ireland
Younes Messaddeq (Conference Chair, 2016), Université Laval, Canada
Steve Moffatt, Applied Materials Inc, USA
Hiroyoshi Naito, Osaka Prefecture University, Japan
Marcelo Nalin, UNESP Araraquara, Brazil
Taiichi Otsuji, Tohoku University, Japan
Aaron Peled, HAÏT, Israel
Dirk Poelman, Ghent University, Belgium
Asim Ray, Brunel University, UK
Sidney José Lima Ribeiro, UNESP Araraquara, Brazil
Andrei Sazonov, University of Waterloo, Canada
Jack Silver, Brunel University, UK
Jai Singh, Charles Darwin University, Australia
Stephen Sweeney (Conference Co-Chair, 2014), University of Surrey, UK
Setsuhiisa Tanabe, Kyoto University, Japan
Ashok Vaseashta, Institute for Advanced Sciences
Convergence and Int’l Clean Water Institute, USA
Tomas Wagner, Pardubice University, Czech Republic
Mitsuo Yamaga, Gifu University, Japan

STEERING COMMITTEE

Safa Kasap (Chair), University of Saskatchewan, Canada
(Conference Chair, 2008)
Raman Kashyap (Vice-Chair), École Polytechnique de
Montréal, Université de Montreal, Canada
(Conference Co-Chair, 2016)
Animesh Jha, University of Leeds, UK (Conference Chair,
2014)
Asim Ray (Emeritus), Brunel University (Conference Chair,
2007)
Hiroyoshi Naito, Osaka Prefecture University, Japan
(Conference Chair, 2012)

Jai Singh (Emeritus), Charles Darwin University, Australia
(Conference Chair, 2006)
Sandor Kugler, Budapest University of Technology, Hungary
(Conference Chair, 2010)
Setsuhisa Tanabe, University of Kyoto, Japan (Conference
Co-Chair, 2012)
Stephen Sweeney, University of Surrey, UK (Conference Co-
Chair, 2014)

CONFERENCE PAPERS

Papers that represent complete works may be submitted
to a special issue of the Journal of Materials Science:

Journal of Materials Science: Materials in
Electronics

A special issue dedicated to this conference

SPECIAL ISSUE
Materials for Optoelectronics and Photonics

GUEST EDITORS
Younes Messaddeq, Raman Kashyap and Carlos Silva
Located in beautiful West Yorkshire in northern England, Leeds is the third largest city in the UK. It is considered to be an important cultural, financial and commercial center in northern England with striking architecture, numerous restaurants, theaters, galleries and museums. The University of Leeds was founded in 1904 and is among the top universities in the UK and among the top 100 in the world. William Henry Bragg (Nobel Laureate, 1915 shared with his son, William Lawrence Bragg) carried out his pioneering X-ray diffraction experiments while he was the Cavendish Chair at the University Leeds. The conference will be held in the Faculty of Engineering at the University of Leeds, one of the largest universities in the UK situated on the edge of the city center.

An international conference on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics; and optical, optoelectronic and electro-optic properties of all classes of materials and material systems.
CONFERENCE CHAIRS AND LOCAL ORGANIZING AND PROGRAM COMMITTEES

Animesh Jha
Conference Chair and Program Chair
University of Leeds, UK

Stephen Sweeney
Conference Co-Chair, University of Surrey, UK

SCOPE

Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots

Excitonic processes

Luminescence, Phosphors, Scintillators and Applications

Photoinduced effects

Electro-optic properties and applications

Nonlinear optical properties and applications

Materials for optoelectronics and photonics

Nano-optoelectronics and Nanophotonics

Photoconductivity, photogeneration, quantum efficiency

Optically induced processes

Optical fibers

Materials for optical storage

Photovoltaic materials

Experimental techniques

Optoelectronic and photonic devices

Optical components for telecommunications

Applications of materials in photonics and optoelectronics

SESSIONS

Optical properties of materials

General

Crystals

Polycrystalline bulk and film

Amorphous and organics

Nanostructures, including photonic crystals

Quantum Dots

Quantum Wires

II-VI and Related Semiconductors Including Alloys

III-V and Related Semiconductors Including Alloys

Oxide Semiconductors

Silicon Photonics

a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H

Nonoxide Glasses and Chalcogenide Glasses

ZBLAN and Oxyfluoride Glasses

Excitonic Processes

Luminescence, Phosphors and Applications

Photoinduced Effects and Applications

Photoconductivity and Photogeneration

Nonlinear Optical Effects and Applications

Electro-Optic Effects and Applications

Semiconductors for Optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.

Light Emitting Devices (including organics)

Photonic and Optoelectronic Materials and Devices

Quantum Wells, Quantum Wires, Quantum Dots, Nanophotonics and Nano-Optoelectronics

Optical Storage

Photovoltaics (materials and devices, and their properties)

Waveguides and Fibers

Integrated Photonics

Experimental Techniques

Photoreflectance

Photonic Bandgap Materials and Nonlinear Photonic bandgap materials

Defect Spectroscopy

Femtosecond Spectroscopy

Optical Fibers and Fiber Sensors

Plasmons and Surface Plasmons

Selected Topics (e.g. Photocatalysis in Materials, Materials for Energy Conversion etc)

ICOOPMA HISTORY

ICOOPMA12 is the sixth in the ICOOPMA series, an International Conference on Optical, Optoelectronic and Photonic Materials and Applications, which was held for the first time in Darwin, Australia, in 2006. ICOOPMA07, 08, 10, 12 were held in London, England (2007), Edmonton, Canada (2008), Budapest, Hungary (2010), and Nara, Japan and each had over 200 participants and several plenary lectures from world’s top researchers. The ICOOPMA series arose from a need for such a conference for those researchers who sought a truly international conference that covered a wide range of materials and applications in optics, optoelectronics and photonics. The International and Local Organizing Committees have the responsibility of ensuring an in-depth scientific coverage with invited and contributed papers from various countries and in various disciplines; and ensuring an enjoyable scientific program. By tradition, the conference has a large number of invited papers from top researchers in various fields to review the advances and bring the audience up-to-date. The plenary and invited talks are the most exciting part of the scientific program; and for finding out the advances, challenges and the current problems. ICOOPMA is a non-profit conference run by scientists for scientists without any institutional constrains and restrictions: http://icoopma.org

VENUE AND CONTACTS

The conference will be held in the Faculty of Engineering at the University of Leeds

http://www.icoopma14.org

For general enquiries and registration enquiries please contact the ICOOPMA14 Conference Secretariat at:

E: ICOOPMA14@leeds.ac.uk

T: +44 (0)113 343 8104

F: +44 (0)113 343 2511

IMPORTANT DATES

Call for abstract: Opens Friday 1 November 2013

Oral abstract Submission: Monday 17 March 2014

Poster abstract submission, Friday 30 May 2014

Abstract acceptance: Thursday 10 April 2014
INTERNATIONAL PROGRAM COMMITTEE

Animesh Jha (Chair) University of Leeds, UK
Amin Abdolvand, University of Dundee, UK
Rolindes Balda, University of the Basque Country, Spain
Dayan Ban, University of Waterloo, Canada
David Binks, University of Manchester, UK
Dr Michael P Bradley, University of Saskatchewan, Canada
Richard J Curry, University of Surrey, UK
Maurizio Ferrari, IFN-CNR CSMFO Lab. Trento, Italy
Shubhra Gangopadhyay, University of Missouri-Columbia, USA
Dan Hawak, University of Southampton, UK
Richard Hogg, University of Sheffield, UK
Stuart Jackson, University of Sydney, Australia
Animesh Jha, University of Leeds, UK
Gin Jose, University of Leeds
Raman Kashyap, École Polytechnique de Montréal, Montreal
Anthony J Kenyon, University College London, UK
Sandro Kökenyesi, University of Debrecen, Hungary
Paolo Laporta, Polytecnico di Milano, Italy
Byoungho Lee, Seoul National University, Korea
Hans Georg Limberger, Swiss Federal Institute of Technology
Lausanne (EPFL)
Kevin Macdonald, University of Southampton, UK
Christopher F McConville, University of Warwick, UK
Hiroyoshi Naito, Osaka Prefecture University, Japan
Yasutake Ohishi, Toyota Technological Institute, Japan
Sidney J L Ribeiro, São Paulo State University, Brazil
Jayshri Sabarinathan, Western University, Canada
Jayanta Kumar Sahu, University of Southampton, UK
Angela B Seddon, University of Nottingham, UK
Peyman Servati, University of British Columbia, Canada
Jack Silver, Brunel University, UK
Stephen Sweeney, University of Surrey, UK
Setsuhisa Tanabe, Kyoto University, Japan
James R Taylor, Imperial College London, UK
Furong Zhu, Hong Kong Baptist University, Hong Kong

INTERNATIONAL ADVISORY COMMITTEE

Safa Kasap (Chair), University of Saskatchewan, Canada
Raman Kashyap (Vice-Chair), École Polytechnique, Université de Montréal, Canada
Jai Singh, Charles Darwin University, Australia (Conference Chair, 2006)
Stephen Sweeney, University of Surrey, UK (Conference Co-Chair, 2014)
Setsuhisa Tanabe, University of Kyoto, Japan (Conference Co-Chair, 2012)

STEERING COMMITTEE

Safa Kasap (Chair), University of Saskatchewan, Canada
Raman Kashyap (Vice-Chair), École Polytechnique, Université de Montréal, Canada
Jai Singh, Charles Darwin University, Australia
Stephen Sweeney, University of Surrey, UK
Setsuhisa Tanabe, University of Kyoto, Japan

LOCAL ORGANIZING COMMITTEE

Animesh Jha (Conference Chair), University of Leeds
Stephen Sweeney (Conference Co-chair), University of Surrey
Senthil Ganapathy, University of Southampton
Dan Hawak, University of Southampton
David Binks, University of Manchester
Tom Brown, University of St Andrews
Richard A Hogg, University of Sheffield
Gin Jose, University of Leeds
Tony Kenyon, University College London
Asim Ray, Queen Mary & Westfield
Billy Richards, University of Leeds
Angela Seddon, University of Nottingham
### Keynote Speaker

**Sir David Neil Payne**  
Professor at the University of Southampton and Director of the Optoelectronics Research Centre

### Plenary Lectures

**Neil Greenham**  
Professor, Department of Physics, University of Cambridge, UK

**James Harris,**  
James and Ellenor Chesebrough Professor, Department of Electrical Engineering, Stanford University, USA

**Ortwin Hess**  
Leverhulme Chair in Metamaterials, Co-Director, Centre for Plasmonics & Metamaterials; The Blackett Laboratory and Department of Physics, Imperial College London, London, UK

**Stephen Elliott**  
Professor, Department of Chemistry, University of Cambridge, UK

**Jerry R Meyer**  
Navy Senior Scientist for Quantum Electronics (ST) and Acting Head of the Quantum Optoelectronics Section, Naval Research Laboratory, Washington DC

**C. Kumar N Patel**  
President and CEO of Pranalytica, Santa Monica, California, USA

**Wolfgang Stolz**  
Professor and Co-Head of the Structure and Technology Research Laboratory in the Material Sciences Center at Philipps-University of Marburg (Germany)

### INVITED SPEAKERS

**Jean-Luc Adam,** University of Rennes 1, France  
**Amin Abdolvand,** University of Dundee, UK  
**Dominique Ausserre,** The Institute of Molecules and Materials of Le Mans, France  
**David Binks,** University of Manchester, Manchester UK  
**Rana Biswas,** Iowa State University & AMes Laboratory, USA  
**Alain Braud,** CIMAP Lab., University of Caen, France  
**Guilio Cerullo,** Dipartimento di Fisica, Politecnico di Milano, Italy  
**Monica Craciun,** Centre for Graphene Science, University of Exeter, UK  
**Giuseppe Della Valle,** Politecnico di Milano, Italy  
**Heike Ebendorff-Heidepriem,** The University of Adelaide, Australia  
**Vassili Fedotov,** ORC, University of Southampton, UK  
**Toney Fernandez,** CSIC Madrid, Spain  
**Miloslav Frumar,** University of Pardubice, Czech Republic  
**Boris Galagan,** Russian Academy, Moscow  
**Malte C. Gather,** University of St Andrews, UK  
**Jose Gonzalo,** Laser Processing Group, Instituto de Optica, CSIC, Spain  
**James Greer,** PVD Products, USA  
**Duncan Hand,** Heriot-Watt University, Edinburgh  
**Olav Gaute Hellesø,** University of Tromsø, Norway  
**Jong Heo,** POSTECH, Pohang, South Korea  
**Sven Höfling,** University of St Andrews, Scotland  
**Richard Hogg,** University of Sheffield, UK  
**Chung-Che Huang,** Southampton University, UK  
**Raman Kashyap,** Ecole Polytechnique de Montreal, Russia  
**Andrey Kazanskii,** M.V. Lomonosov Moscow State University, Russia  
**Nazir Kherani,** University of Toronto, Canada  
**Jonathan Knight,** The University of Bath, UK  
**Roger Lewis,** Wollongong, Australia  
**Huiyun Liu,** University College London, UK  
**James Lloyd-Hughes,** University of Warwick, UK  
**David Lockwood,** NRC, Canada  
**Marian Marcinak,** National Institute of Telecommunications, Department of Transmission and Optical technologies  
**Andrew Marshall,** Lancaster University, UK  
**Maurizio Martino,** Università del Salento, Lecce, Italy  
**Peter Mascher,** McMaster University, Canada  
**Younes Messaddeq,** University of Laval, Quebec, CA  
**Benjamin Metcalf,** University of Oxford, UK  
**Daniel Milanese,** Politecnico di Torino, Italy  
**Kohki Mukai,** Yokohama National University, Japan  
**Hiroyoshi Naito,** Osaka Prefecture University, Japan  
**Jayakrupakar Nallala,** University of Exeter, UK  
**Geoffrey Nash,** University of Exeter, UK  
**Yasutake Ohishi,** Toyota Technological Institute, Nagoya, Japan  
**Derek Oliver,** University of Manitoba, Canada  
**Yannick Petit,** Université Bordeaux, France  
**Mihai Popescu,** University of Bucharest  
**Annie Pradel,** Université Montpellier, France  
**Debabrata Pradhan,** Indian Institute of Technology, Kharagpur, India  
**Gaddam Vijaya Prakash,** Indian Institute of Technology Delhi, India
Pierre Ruterana, CNRS/CIMAP, Caen, France
Jayanta Kumar Sahu, University of Southampton, UK
Gaetano Scamarcio, University of Bari, Italy
Angela Seddon, University of Nottingham, UK
Brandon Shaw, Naval Research Laboratory
Mark Silver, Thales UK, UK
Jai Singh, Charles Darwin University, Australia
Samuel Shutts, Cardiff University, UK
Mitsuru Sugawara, QD Laser, Japan
Yohihiro Takahashi, Tohoku University, Japan
Setsuhisa Tanabe, Kyoto University, Japan
Lucia Torsi, University of Bari Aldo Moro, Italy
Yuen Hong Tsang, The Hong Kong Polytechnic University, Hong Kong
Tao Wang, The University of Sheffield, UK
Ji Wang, Corning Inc, USA
Tomas Wagner, Univerzita Pardubice, Czech Republic
Rafal J Wiglusz, Polish Academy of Sciences, Wroclaw
James Wilkinson, University of Southampton, UK
Masahiro Yoshimoto, Kyoto Institute of Technology, Japan

ICOOPMA14 WORKSHOP
Chair: Dan Hewak, University of Southampton

Introduction to Advanced Photonic Materials
University of Leeds
Sunday 27 July 2014, 13:00 – 17:30

Topics
Graphene – University of Exeter Graphene Centre
Organic Optoelectronic Complexes – Advanced Technology Institute – University of Surrey
Amorphous Semiconductors – University of Cambridge
Metamaterials – Centre for Nanostructured Photonic Metamaterials – University of Southampton

Speakers
Introduction to Organic Optoelectronic Complexes, Richard Curry, Advanced Technology Institute, University of Surrey
Introduction to Metamaterials, Vassili Fedotov, Centre for Nanostructured Photonic Metamaterials, University of Southampton
Introduction to Graphene, Monica Craciun, University of Exeter Graphene Centre
Introduction of Amorphous Semiconductors, Jiri Orava, Department of Materials Science & Metallurgy at the University of Cambridge and the Advanced Institute for Materials Research, Tohoku University, Japan

CONFERENCE PROCEEDINGS
General Conference Proceedings is

J. Physics: Conference Series
(Open Access)
Selected papers will be published in
Nara is one of the most beautiful cities in Japan, not far from Kyoto. It is the capital of the Nara Prefecture in the Kansai region. It was the ancient imperial capital of Japan from 701 to 784. According to the legendary history of Kasuga Shrine, a mythological god Takemikazuchi arrived in Nara on a white deer to guard the newly built capital of Heijō-kyō. Since then the deer have been regarded as heavenly animals, protecting the city and the country. The dear wander around the city and add to its beauty; visitors enjoy feeding the deer. June is a perfect season to visit Nara with the day-time average temperatures around 22 °C. Nara can be easily reached from Osaka (Kansai International Airport) or Kyoto.

An international conference on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics; and optical, optoelectronic and electro-optic properties of all classes of materials and material systems.
CONFERENCE CHAIRS AND LOCAL ORGANIZING PROGRAM COMMITTEES

Hiroyoshi Naito
Conference Chair and Program Chair
Osaka Prefecture University, Japan

Setsuhisa Tanabe
Conference Co-Chair, Kyoto University, Japan

SCOPE

Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots

- Excitonic processes
- Luminescence, Phosphors, Scintillators and Applications
- Photoinduced effects
- Electro-optic properties and applications
- Materials for optoelectronics and photonics
- Nano-optoelectronics and Nanophotonics

- Photoconductivity, photogeneration, quantum efficiency
- Optically induced processes
- Optical fibers
- Materials for optical storage
- Photovoltaic materials
- Experimental techniques
- Optoelectronic and photonic devices
- Optical components for telecommunications
- Applications of materials in photonics and optoelectronics

SESSIONS

Optical properties of materials
- General
- Crystals
- Polycrystalline bulk and film
- Amorphous and organics

Nanostructures, including photonic crystals

- Quantum Dots
- Quantum Wires
- II-VI and Related Semiconductors Including Alloys
- III-V and Related Semiconductors Including Alloys
- Oxide Semiconductors
- Silicon Photonics
- a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H
- Nonoxide Glasses and Chalcogenide Glasses
- ZBLAN and Oxyfluoride Glasses

- Excitonic Processes
- Luminescence, Phosphors and Applications
- Photoinduced Effects and Applications
- Photoconductivity and Photogeneration
- Nonlinear Optical Effects and Applications
- Electro-Optic Effects and Applications

- Semiconductors for Optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.
- Light Emitting Devices (including organics)
- Photonic and Optoelectronic Materials and Devices
- Quantum Wells, Quantum Wires, Quantum Dots, Nanophotonics and Nano-Optoelectronics
- Optical Storage

Photovoltaics (materials and devices, and their properties)
- Waveguides and Fibers
- Integrated Photonics
- Experimental Techniques
- Photoreflectance
- Photonic Bandgap Materials and Nonlinear Photonic bandgap materials
- Defect Spectroscopy
- Femtosecond Spectroscopy
- Optical Fibers and Fiber Sensors
- Plasmons and Surface Plasmons
- Selected Topics (e.g. Photocatalysis in Materials, Materials for Energy Conversion etc)

ICOOPMA HISTORY

ICOOPMA12 is the fifth in the ICOOPMA series, an International Conference on Optical, Optoelectronic and Photonic Materials and Applications, which was held for the first time in Darwin, Australia, in 2006. ICOOPMA07, 08 and 10 were held in London, England (2007), Edmonton, Canada (2008), and Budapest, Hungary (2010), and each had over 250 participants and several plenary lectures from world's top researchers. The ICOOPMA series arose from a need for such a conference for those researchers who sought a truly international conference that covered a wide range of materials and applications in optics, optoelectronics and photonics. The International and Local Organizing Committees have the responsibility of ensuring an in-depth scientific coverage with invited and contributed papers from various countries and in various disciplines; and ensuring an enjoyable scientific program. By tradition, the conference has a large number of invited papers from top researchers in various fields to review the advances and bring the audience up-to-date. The plenary and invited talks are the most exciting part of the scientific program; and for finding out the advances, challenges and the current problems. http://icoopma.org

VENUE AND CONTACTS

Nara-Ken New Public Hall, Nara, Japan

http://www.icoopma12.org

Hiroyoshi Naito, Chair: naito@pe.osakafu-u.ac.jp
Setsuhisa Tanabe, Co-Chair: stanabe@gls.mbox.media.kyoto-u.ac.jp>

IMPORTANT DATES

- Oral abstract Submission: 10 February 2012
- Poster abstract submission, 1 April 2012
- Early registration: 17 March 2012
International Advisory Committee

Safa Kasap, Chair, University of Saskatchewan, Canada
Hiroyoshi Naito, Osaka Prefecture University, Japan (ICOOPMA12 Chair)
Setsuhisa Tanabe, Kyoto University, Japan (ICOOPMA12 Co-Chair)
Jai Singh (ICOOPMA06 Chair), Charles Darwin University, Australia
Koichi Shimakawa, Gifu University, Japan
Tomas Wagner, Pardubice University, Czech Republic
Sándor Kugler (ICOOPMA10 Chair), Budapest University of Technology, Hungary
Asim Ray (ICOOPMA07 Chair), The Wolfson Centre for Materials Processing, Brunel University, UK
Takeshi Aoki (Honorary), Tokyo Polytechnic University, Japan
Raman Kashyap, Ecole Polytechnique, Université de Montréal, Canada
Aaron Peled, HAIT, Israel
Ray DeCorby, University of Alberta, Canada
Chris Haugen, National Institute for Nanotechnology, Edmonton, Canada
Jørn M. Hvam, Technical University of Denmark, Denmark
Ashok Vaseashta, Institute for Advanced Sciences Convergence and International Clean Water Institute, Herndon, VA, and US Department of State, USA
Patrick McNally, Dublin City University, Ireland
Stephen Sweeney, University of Surrey, UK
Animesh Jha, University of Leeds, UK
Ralph Whaley, Ohio University, Athens, USA
John Ballato, Clemson University, USA
Andrew Edgar, Victoria University, New Zealand
Ivan Blonsky, NASU Center, Laser Femtosecond Complex Kiev, Ukraine
Hans Georg Limberger, Ecole Polytechnique Fédérale de Lausanne, Switzerland
Roger Lewis, University of Wollongong, Australia
Peter Mascher, McMaster University, Canada
Kenkichi Tanioka, NHK, Japan
Taiichi Otsuji, Tohoku University, Japan
Hironori Kaji, Institute for Chemical Research, Kyoto University, Japan
Martin Mika, Institute of Chemical Technology, Prague, Czech Republic
Maurizio Martino, Lecce University, Italy
Tony Kenyon, University College London, UK
Steve Moffatt, Applied Materials Inc, USA
Dirk Poelman, Ghent University, Belgium
Lluís Marsal, Universitat Rovira i Virgili, Spain
Andrei Sazonov, University of Waterloo, Canada

International Program Committee

Sidney Ribeiro, UNESP, Brazil

Hiroyoshi Naito, Chair (2012) and Coordinating Editor, Proceedings, Osaka Prefecture University, Japan
Setsuhisa Tanabe, Kyoto University, Japan
Sándor Kökenyvesi (Chair, 2010), University of Debrecen, Hungary
Sándor Kugler, Budapest University of Technology and Economics, Budapest, Hungary
Safa Kasap, University of Saskatchewan, Canada
Frank Hegmann, University of Alberta, Canada
Sadao Adachi, Gunma University, Japan
Mark Kuzyk, Washington State University, USA
Younes Messaddeq, University of Laval, Canada
Hideo Hosono, Tokyo Institute of Technology, Japan
Ajay Kar, Heriot-Watt University, Scotland, UK
Jong Kyu Kim, Pohang University of Science and Technology (POSTECH), Korea
Alex Kolobov, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
Jianrong Qiu, Zhejiang University, China
Dagou Zeze, University of Durham, UK
Michael Fokine, Royal Institute of Technology (KTH), Sweden
Senthil Ganapathy, Optoelectronics Research Centre, University of Southampton, UK
Shubhra Gangopadhyay, University of Missouri - Columbia, USA
Jayshri Sabarinathan, University of Western Ontario, Canada
Peyman Servati, University of British Columbia, Canada
Zheng-Hong Lu, University of Toronto, Canada
Mikhail Brik, University of Tartu, Estonia
Mitsuo Yamaga, Gifu University, Japan
Dayan Ban, University of Waterloo, Canada
Gurinder K. Ahluwalia, College of the North Atlantic, Canada
Furong Zhu, Hong Kong Baptist University, Hong Kong
Himanshu Jain, Lehigh University, USA
Maria Mitkova, Boise State University, USA
Arunas Krotkus, Semiconductor Physics Institute, Vilnius, Lithuania
Takumi Fujiwara, Tohoku University, Japan
Che Ting Chan, Hong Kong University of Science and Technology, Hong Kong
Taiichi Otsuji, Tohoku University, Japan
Hideyuki Murata, Japan Advanced Institute of Science and Technology (JAIST), Nomi, Japan
Spyros Yannopoulos, Foundation for Research and Technology Hellas (FORTH), Patras, Greece
Byoungho Lee, Seoul National University, Korea
Jack Silver, Brunel University, UK
Andy Y-G Fuh, National Cheng Kung University, Taiwan

Steering Committee

Safa Kasap (Chair), University of Saskatchewan, Canada
Raman Kashyap (Vice-Chair), Ecole Polytechnique, Universite de Montreal, Canada
Hiroyoshi Naito (Conference Chair, 2012), Osaka Prefecture University, Japan
Jai Singh, Charles Darwin University, Australia
Asim Ray, The Wolfson Centre for Materials Processing, Brunel University, UK
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki (Honorary) Tokyo Polytechnic University, Japan

Local Organizing Committee

Hiroyoshi Naito, Osaka Prefecture University, Japan (Chair)
Setsuhisa Tanabe, Kyoto University, Japan (Co-chair)
Shingo Fuchi, Nagoya University, Japan
Takumi Fujiwara, Tohoku University, Japan
Tamihiro Gotoh, Gunma University, Japan
Tomokatsu Hayakawa, Nagoya Institute of Technology, Japan
Takuya Iida, Osaka Prefecture University, Japan
Koichi Itoh, Gifu University, Japan
Koichi Kajihara, Tokyo Metropolitan University, Japan
Yoichi Kawakami, Kyoto University, Japan
Takashi Kobayashi, Osaka Prefecture University, Japan
Kouji Maeda, Miyazaki University, Japan
Hirokazu Masai, Kyoto University, Japan
Shuichi Murakami, Technology Research Institute of Osaka Prefecture, Japan
Takashi Nagase, Osaka Prefecture University, Japan
Chisato Ogihara, Yamaguchi University, Japan
Yonggu Shim, Osaka Prefecture University, Japan
Koichi Shimakawa, Gifu University, Japan
Kousaku Shimizu, Nihon University, Japan
Katsuhisa Tanaka, Kyoto University, Japan
Keiji Tanaka, Hokkaido University, Japan
Yomei Tokuda, Kyoto University, Japan
Takashi Uchino, Kobe University, Japan
Kazuki Wakita, Chiba Institute of Technology, Japan

Plenary Lectures

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

Invited Speakers

Sergei Baranovski, Philipps University Marburg, Germany,
Theory to charge generation, transport and recombination in organic solar cells

Kokwai Cheah, Hong Kong Baptist University, China, Novel plasmonic materials and devices

Chun-Wei Chen, National Taiwan University, Taiwan, Nanomaterials in organic solar cells

David G. Cooke, McGill University, Canada, Ultra-broadband THz spectroscopy revealing sub-picosecond mobile charge dynamics in conjugated polymers

Andy Edgar and Nicola Winch, Victoria University of Wellington, New Zealand, Third generation cesium bromide storage-phosphors for radiation imaging

Giovanni Fanchini, University of Western Ontario, Canada, Transparent and conducting graphene thin films and nanocomposites for optoelectronic and solar applications

Michael Fokine, Royal Institute of Technology, Stockholm, Sweden, Photosensitivity and index changes in silica based fibers
Yasufumi Fujiwara, Osaka University, Japan, Current status of environment-friendly red light-emitting diodes with Eu-doped GaN

Fuji Funabiki, Tokyo Institute of Technology, Japan, Optical properties of rare-earth-doped B2O3 glasses: Effect of high pressure

Tom Gregorkiewicz, University of Amsterdam, Netherlands, Using Si and Si nanocrystals for the 1.5μm emission from Er3+ ions

Chunlei Guo, University of Rochester, USA, The black and colored metals and applications

Liyuan Han, National Institute for Materials Science, Japan, Highly efficient dye-sensitised solar cells

Mark Hopkinson, University of Sheffield, UK, Advances in the growth and fabrication of III-V Semiconductors for photonics

Linhua Hu and Songyuan Dai, Chinese Academy of Sciences, China, Mechanism of surface pretreatments and modification for dye-sensitized solar cells

Animesh Jha, University of Leeds, UK, Nanoscale engineering of dissimilar materials using Pulsed Laser Deposition for integrated optics

Animesh Jha, University of Leeds, UK, Nanoscale engineering of dissimilar materials using Pulsed Laser Deposition for integrated optics

Koichi Kajihara, Tokyo Metropolitan University, Japan, Photoluminescence study of oxygen exchange at the internal surface of amorphous SiO2

Yoshihiko Kanemitsu, Kyoto University, Japan, Multicarrier recombination dynamics in semiconductor nanomaterials

Christian A. Kaufmann, Helmholtz-Zentrum Berlin, Germany, CIGSe thin film solar cells on polyimide substrates

Anthony Kenyon, University College London, UK, Nanocluster-sensitised luminescence from rare-earth ions: perspectives and prospects

Tadamasa Kimura, University of Electro-Communications, Tokyo, Japan, High optical gain in Er10% Y2-O5 slot waveguides and possibility for compact light amplifiers and optical sources

Takashi Kita, Kobe University, Japan, Extremely uniform excitonic states in nitrogen delta-doped GaAs

Kristian Kohary, University of Exeter, UK, Arithmetic and biologically-inspired computing using phase-change materials

Nobuyoshi Koshida, Tokyo University of Agriculture and Technology, Japan, Photonic and related functional applications of quantum-sized nanosilicon

Sándor Kugler, Budapest University of Technology and Economics, Hungary, Photoinduced volume changes in obliquely and flatly deposited amorphous chalcogenide glasses - Universal description of the kinetics

Roger Lewis, University of Wollongong, Australia, Monte Carlo simulations of the emission of terahertz-frequency electromagnetic radiation from semiconductors

Hao-Wu Lin, National Tsing Hua University, Taiwan, Efficient organic solar cells based on push-pull small molecules

Chao Liu and Jong Heo, Wuhan University of Technology and Pohang University of Science and Technology, Korea, Building quantum dots inside glasses

David J. Lockwood, National Research Council of Canada, Canada, Fast light-emitting silicon-germanium nanostructures

Pierre Lucas, University of Arizona, USA, Long-wave infrared-transmitting glasses: Optical and electrical properties for sensing applications

Barry Luther-Davies, Australian National University, Australia, Optimizing chalcogenide glasses for nanophotonics

Maurizio Martino, University of Salento, Italy, Pulsed laser deposition of high-k dielectric Y2CuTiO6 thin films

Hirokazu Masai, Kyoto University, Japan, White light emission of rare earth-free phosphate glass

Peter Mascher, McMaster University, Canada, Visible light emission from rare-earth doped silicon-based nanostructures

Atsunobu Masuno and Hiroyuki Inoue, University of Tokyo, Japan, High refractive index glasses prepared by containerless processing

Younes Messaddek, Laval University, Canada, Progress on photoinduced effect on chalcogenide glasses

Alexander Moewes, University of Saskatchewan, Canada, Anion ordering and tunable band gap in Spinel nitrides: α-, β-, and γ-phase of Si3N4, γ-Ge3N4, γ-GeSi2N4, γ-Sn3N4 and Ga3O3N

Martin Nikl, Institute of Physics, ASCR, Czech Republic, New material concepts in complex oxide phosphors and scintillators

Yutaka Noguchi, Chiba University, Japan, Interface charges in organic light-emitting diodes: The origin and impacts on device properties

Hideo Ohkita, Kyoto University, Japan, Near-IR dye sensitization of polymer/fullerene solar cells

Ci-Ling Pan, National Tsing Hua University, Taiwan, THz conductivities of indium-tin-oxide nanowhiskers as a graded-refractive-index structure

Dirk Poelman, Ghent University, Belgium, Persistent luminescence: traps in materials and in research

Jianrong Qiu, South China University of Technology, China, Novel glasses and glass-ceramics for broadband optical amplification

Alla Reznik, Lakehead University, Canada, Recent advances in avalanche amorphous selenium technology and its applications in optical and gamma-ray imaging

Harry Ruda, University of Toronto, Canada, Influence of defects on optoelectronic response of nanowires

Ramaswami Samynnaiken, University of Saskatchewan, Canada, Ultra-violet light emitting nanoparticles for clean water technology
Heinz von Seggern, University of Darmstadt, Germany, Recent progress in the understanding of the x-ray storage phosphor CsBr:Eu2

Jai Singh, Charles Darwin University, Australia, Recipe for attaining optimal energy resolution in inorganic scintillators

Aasmund S. Sudbo, University of Oslo, Norway, Photonic crystals for light trapping in solar cells

Stephen John Sweeney, University of Surrey, UK, New semiconductor approaches to energy efficient integrated photonics

Takahiro Wada, Ryukoku University, Japan, Cu-chalcogenide photovoltaic materials from CuInSe2 to Cu2ZnSnS4 and other ternary and multinary compounds

Richard Williams, Wake Forest University, USA, The importance of excitation diffusion in scintillators

Robert Withnall, Brunel University, UK, Nanophosphors for displays and lighting

Christian Wolpert and Markus Lippitz, Max Planck Institute for Solid State Research, Germany, Nonlinear spectroscopy of single quantum dots

Chih-I Wu, National Taiwan University, Taiwan, Investigation of the diffusion length of cathodes in OLEDs through the impedance characteristics

Hiroyuki Yoshida and Masanori Ozaki, Osaka University, Japan, Tunable lasing from a nano-sized polymer-dispersed cholesteric liquid crystal

Akira Yoshikawa, Tohoku University, Japan, Crystal growth and scintillation properties of colquirite (6LiCaAlF6, 6LiSrAlF6) single crystal, as a candidate for neutron scintillator alternatives to 3He

Furong Zhu, Hong Kong Baptist University, Hong Kong, Semitransparent organic solar cells

Conference Proceedings
Papers will be peer reviewed for publication in Physica Status Solidi C. Papers that are found to be of high quality, presenting original and novel work will be further considered for a higher impact publication in Physica Status Solidi A: Applications and Materials science.

Manuscript submission deadline: June 30, 2012.

Authors of accepted abstracts were invited to submit a paper. For the paper to be considered for publication in the Proceedings of ICOOPMA2012, it must have been presented at the conference (either orally or as a poster).
**Registration Information**

Early registration: Before 17th March  
Standard registration: After 18th March  

<table>
<thead>
<tr>
<th></th>
<th>Early</th>
<th>Standard</th>
<th>Onsite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>60,000 JPY</td>
<td>65,000 JPY</td>
<td>70,000 JPY</td>
</tr>
<tr>
<td>Student</td>
<td>30,000 JPY</td>
<td>35,000 JPY</td>
<td>40,000 JPY</td>
</tr>
</tbody>
</table>

Registration fee includes: Conference participation, Conference bag, Program & Abstract, Welcome reception, Lunch, Open bar at the poster sessions, Coffee/Tea breaks, Free use wireless internet.
Fourth International Conference on
Optical, Optoelectronic and Photonic Materials
and Applications 2010

Fourth International Conference on
Optical and Optoelectronic Properties of Materials and Applications

ICOOPMA 2010

http://www.icoopma.org
http://icoopma10.org

Budapest is the capital of Hungary in the middle of Europe where the Blue Danube separates the city into two parts, Buda and Pest. Its beautiful harmony is not only due to its location on the Danube but also its historical heritage with some of the best architectures in Europe. Visitors to Budapest leave with deep nostalgia and beautiful memories. Budapest has always been an important center for scientific meetings between the East and West. The conference will take place at the Conference Center in Budapest. Friday is the conference excursion.

An international conference on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics; and optical, optoelectronic and electro-optic properties of all classes of materials and material systems.

Conference Proceedings to be published in Physica Status Solidi A and C
CONFERENCE CHAIRS AND LOCAL ORGANIZING AND PROGRAM COMMITTEES

Sandor Kugler, Chair, Budapest University of Technology and Economics; Sandor Kökenyesi, Co-Chair and Program Chair, University of Debrecen; Jozsef Gyulai, Research Institute for Technical Physics and Materials Science, Budapest; Istvan Barsony, Research Institute for Technical Physics and Materials Science, Budapest; Peter Richter, Budapest University of Technology and Economics; Gabor Szabo, University of Szeged, Szeged; Istvan Rajta, Institute of Nuclear Research, Debrecen; Aladar Czitrovszky, Research Institute for Solid State Physics and Materials Science, Budapest; Andras Pungor, BAY-NANO Institute for Nanotechnology, Miskolc; Miklos Veres, Secretary, Research Institute for Solid State Physics and Optics, Budapest

SCOPE

Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots

Excitonic processes

Luminescence, Phosphors, Scintillators and Applications

Photoinduced effects

Electro-optic properties and applications
Nonlinear optical properties and applications
Materials for optoelectronics and photonics
Nano-optoelectronics and Nanophotonics

Photoconductivity, photogeneration, quantum efficiency

Optically induced processes

Optical fibers
Materials for optical storage
Photovoltaic materials
Experimental techniques

Optoelectronic and photonic devices

Optical components for telecommunications

Applications of materials in photonics and optoelectronics

SESSIONS

Optical properties of materials

General
Crystals
Polycrystalline bulk and film
Amorphous and organics

Nanostructures, including photonic crystals
Quantum Dots
Quantum Wires

II-VI and Related Semiconductors Including Alloys
III-V and Related Semiconductors Including Alloys
Oxide Semiconductors
Silicon Photonics
a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H

Nonoxide Glasses and Chalcogenide Glasses
ZBLAN and Oxyfluoride Glasses

Excitonic Processes

Luminescence, Phosphors and Applications

Photoinduced Effects and Applications

Photoconductivity and Photogeneration

Nonlinear Optical Effects and Applications

Electro-Optic Effects and Applications
Semiconductors for Optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.

Light Emitting Devices (including organics)

Photonic and Optoelectronic Materials and Devices
Quantum Wells, Quantum Wires, Quantum Dots, Nanophotonics and Nano-Optoelectronics

Optical Storage

Photovoltaics (materials and devices, and their properties)

Waveguides and Fibers

Integrated Photonics

Experimental Techniques

Photoreflectance

Photic Bandgap Materials and Nonlinear Photonic bandgap materials

Defect Spectroscopy

Femtosecond Spectroscopy

Optical Fibers and Fiber Sensors

Plasmons and Surface Plasmons

Selected Topics (e.g. Photocatalysis in Materials, Materials for Energy Conversion etc)

ICOOPMA HISTORY

ICOOPMA10 is the fourth in the ICOOPMA series, an International Conference on Optical, Optoelectronic and Photonic Materials and Applications, which was held for the first time in Darwin, Australia, in 2006. ICOOPMA07 and 08 were held in London, England (2007), and Edmonton, Canada (2008), and each had over 260 participants and seven plenary lectures. The ICOOPMA series arose from a need for such a conference for those researchers who sought a truly international conference that covered a wide range of materials and applications in optics, optoelectronics and photonics. The International and Local Organizing Committees have the responsibility of ensuring an in-depth scientific coverage with invited and contributed papers from various countries and in various disciplines; and ensuring an enjoyable scientific program. By tradition, the conference has a large number of invited papers from top researchers in various fields to review the advances and bring the audience up-to-date. The plenary and invited talks are the most exciting part of the scientific program; and for finding out the advances, challenges and the current problems. http://icoopma.org

VENUE AND CONTACTS

Budapest Conference Center

http://icoopma10.org

Sandor Kugler, Chair: kugler@eik.bme.hu
Sandor Kökenyesi, Co-Chair: kiki@tigris.klte.hu
Secretariat: icoopma@asszisztencia.hu

IMPORTANT DATES

Oral abstract Submission: 26 March 2010
Poster abstract submission, 24 June 2010
Early registration: 14 May 2010
PLENARY TALKS

Hideo Hosono  
Tokyo Institute of Technology  
Japan  
*Progress in Doping Issues for Optoelectronic Transparent Crystalline and Amorphous Oxides*

Mark Kuzyk  
Washington State University, USA  
*Reversing the Arrow of Time via Photonics Using Polymer-Dye Interactions*

Norbert Kroo  
Hungarian Academy of Sciences  
Budapest, Hungary  
*There is light at the bottom*

Michael Petty  
Durham University, UK  
*Electronic and Optoelectronic Devices Based on Thin Organic Films*

Stephan Koch  
Philipps University Marburg  
Germany  
*Microscopic simulation of semiconductor laser devices*

Thomas Krauss  
University of St. Andrews, UK  
*Enhanced light-matter interaction with photonic nanostructures*

INVITED TALKS

Jean-Luc Adam  
 Universite de Rennes (France)  
*Progress in nonoxide photonic glasses*

Valery Barachevsky  
Russian Academy of Sciences, Moscow (Russia)  
*Light-sensitive organic recording media for 3D optical memory*

Sergei Baranovski  
Philipps University Marburg (Germany)  
*Generalized Onsager-Frenkel recombination of optically generated electron-hole pairs*

Nikolay Dmitruk  
ISP NAS Ukraine, Kijev (Ukraine)  
*Plasmonic photovoltaics: relief-induced transparency & photocurrent enhancement by metal nanoparticles on solar cell interface*

Andrew Edgar  
Victoria University of Wellington (New Zealand)  
*New Materials and Structures for Optical Detection of Ionising Radiation*

Mike Gal  
University of New South Wales (Australia)  
*High quality optical devices made from porous silicon*

Harold Haugen  
McMaster University, Hamilton (Canada)  
*Femtosecond Laser Ablation and Micromachining of Semiconductors and Dielectrics*

Jong Heo  
Pohang University of Science and Technology (Korea)  
*Multiphase Semiconductor Quantum Dots in Glasses*

Animesh Jha and Gin Jose  
University of Leeds (UK)  
*Rare-earth doped tellurite glass near and mid-IR fibre lasers*

Andrew Knights  
McMaster University, Hamilton (Canada)  
*Sub-micron Silicon Photonic Device Structures*

Joseph Salzman  
Israel Institute of Technology, Haifa (Israel)
Nano-cavities in Diamond for Quantum Electrodynamic Experiments

Krisztian Kohary
University of Exeter (UK)
Crystallisation kinetics of phase-change materials

Giancarlo Righini and Simone Berneschi
CNR, Institute of Applied Physics, Firenze and Institute of Photonics & Nanotechnologies, Trento (Italy)
Erbium-doped glass-ceramic materials and waveguides

Roger Lewis
University of Wollongong (Australia)
Optical Rectification for Terahertz Generation

David Lockwood
NRC, Ottawa (Canada)
Self-assembled silicon-germanium nanostructures for CMOS compatible light emitters

Pal Andor Maak
Budapest University of Technology and Economics (Hungary)
Novel acousto-optic devices targeting applications of high standard

Maria Mitkova
Boise State University, Idaho (USA)
Optically induced processes in chalcogenide glasses - from visible light to x-rays

Kazuo Morigaki, University of Tokyo (Japan) and Harumi Hikita, Meikai University, Chiba (Japan)
Stretched Exponential Relaxation Processes in Hydrogenated Amorphous Silicon and Hydrogenated Polymorphous Silicon

Hiroyoshi Naito
Osaka Prefecture University (Japan)
Localized-state distributions and charge carrier mobilities of organic bulk heterojunction solar cells

Arokia Nathan
University College London University (UK)
Advances in Nanocrystalline Silicon Devices for Optoelectronics Applications

Diana Nesheva
Bulgarian Academy of Sciences, Sophia (Bulgaria)
Photoluminescence from SiOx layers containing amorphous silicon nanoparticles

Annie Pradel
Université Montpellier (France)
IR waveguide based upon chalcogenide thick films deposited by co-thermal evaporation

Victor Ralchenko
Prokhorov General Physics Institute RAS (Russia)
Chemical vapor deposited (CVD) diamond - the material for optics and optoelectronics

Ramaswami Sammynaiken
University of Saskatchewan (Canada)
Secondary optical processes and application of x-ray excited optical luminescence in medicine

Jai Singh
Charles Darwin University (Australia)
Advances in organic and polymeric light emitting devices

Oleh Shpotyuk
Institute of Materials of SRC, "Karat", Lviv (Ukraine)
Pseudo-self-adaptive topological phases in glassy selenides for IR photonics

Stephen Sweeney
University of Surrey (UK)
Novel III-V semiconductors for next generation photonic devices

Keiji Tanaka
Hokkaido University (Japan)
Photodeformations in As2S3: from atomic, nano, to macroscopic

Janis Teteris
University of Latvia, Riga (Latvia)
Photoinduced Mass Transfer in Soft Materials

Heinz von Seggern
University of Darmstadt (Germany)
Oxygen in CsBr:Eu, its influence on photostimulated luminescence

Rui Almeida
Instituto Superior Tecnico, Lisbon (Portugal)
Properties and applications of sol-gel derived active photonic crystals

Lluis Marsal
Universitat Rovira i Virgili (Spain)
Template-assisted fabrication and characterization of photoluminescent conducting polymer nanopillars

Lorenzo Pavesi and Paolo Bettotti
University of Trento (Italy)
Nanosilicon: a new platform for photonics

Emanuele Pelucci
Tyndall National Institute (Ireland)
Fabrication and Characteristics of Site-controlled (111)B quantum dots by high purity MOVPE
Robert Horvath  
Research Institute for Technical Physics and Materials Science, Budapest (Hungary)  
Optical waveguide biosensors for proteins and cells

Harry Ruda  
University of Toronto (Canada)  
Toward fundamental limits on the optoelectronic characteristics of single nanowires

Janos Volk  
Research Institute for Technical Physics and Materials Science, Hungarian Academy of Sciences, Budapest (Hungary)  
Highly ordered ZnO nanostructures for UV photonic devices

Janos Veres  
PolyPhotonix (UK)  
Organic semiconductors and light emitting diodes in applications

Darren Bagnall  
University of Southampton University (UK)  
Plasmonic and photonic light-trapping for photovoltaics

Andriy Kryuchyn  
Institute for Information Recording, National Academy of Sciences of Ukraine  
Application of thin films of chalcogenide vitreous semiconductors in optical recording systems

Peter Domaschuk  
University of Sydney (Australia)  
Silk Photonics: Biopolymer Optofluidics and Applications

Alia Reznik  
Thunderbay Regional Health Sciences Centre and Lakehead University (Canada)  
Recent advances in x-ray photoconductors: selected examples on PbO and a-Se

Yoonchan Jeong  
Optoelectronics Centre, Univ. of Southampton (UK)  
Recent advances in high power optical fibers

Mihail Trunov  
Uzhgorod National University (Ukraine)  
Photoplastic effect, giant photodeformation and mass-transport phenomena in amorphous chalcogenides

Taiichi Otsuji  
Tohuku University (Japan)  
Observation of amplified stimulated terahertz emission from optically pumped graphene

Wieslaw Krolikowski  
Australian National University (Australia)  
Second and Third Harmonic Generation in Nonlinear Crystals with Random Distribution of Ferroelectric Domains

Peter Brodie  
Advantechus, Pittsburgh (USA)  
Historical and Conceptual Roots of Active Matrix Technology: Science to Technology and AMOLEDs

Volkan Demir  
Bilkent University, Ankara (Turkey)  
Förster resonance energy transfer (FRET) enhanced white LEDs using semiconductor quantum dot nanophosphors

Nobuyoshi Koshida  
Graduate School of Engineering, Tokyo University of A&T, Koganei, Tokyo (Japan)  
Photonic and Related Applications of Quantum-sized Nanosilicon

Geza Mark  
MFA Research Institute for Technical Physics and Materials Science, Budapest (Hungary)  
Ordered and disordered biological and biomimetic photonic nanoarchitectures

Osamu Wada  
Kobe University (Japan)  
Quantum Dot Photonic Devices for Ultrafast Signal Transmission and Processing Systems

Q. Y. Zhang  
South China University of Technology (China)  
Broadband sensitization of near infrared emission through energy transfer from transition metal to rare-earth ions in LiYbMo2O8 phosphors

ICOOPMA2010

International Advisory Committee
Safa Kasap, Chair University of Saskatchewan, Canada
Sandor Kugler, Conference Chair, Budapest University of Technology, Hungary
Koichi Shimakawa, Gifu University, Japan
Tomas Wagner, Pardubice University, Czech Republic
Jai Singh, Charles Darwin University, Australia
Asim Ray, The Wolfson Centre for Materials Processing, Brunel University, UK
Takeshi Aoki, Tokyo Polytechnic University, Japan
Raman Kashyap, Ecole Polytechnique, Universite de Montreal, Canada
Aaron Peled, HAIT, Israel
Ray DeCorby, University of Alberta, Canada
Michael Gal, University of New South Wales, Australia
Andrei Sazonov, University of Waterloo, Canada
Chris Haugen, National Institute for Nanotechnology, Edmonton, Canada
Ashok Vaseashta, Marshall University, USA
Paul Stradins, NREL, Colorado, USA
Patrick McNally, Dublin City University, Ireland
Setsuhisa Tanabe, Kyoto University, Japan
Hiroyoshi Naito, Osaka Prefecture University, Japan
Stephen Sweeney, University of Surrey, UK
Animesh Jha, University of Leeds, UK
Anderson Gomes, UFPE, Brazil
John Ballato, Clemson University, USA
Andrew Edgar, Victoria University, New Zealand
Ivan Blonsky, NASU Center, Laser Femtosecond Complex Kiev, Ukraine
Istvan Barsony, Research Institute for Technical Physics and Materials Science, Hungary
Kanatingal Sivasankaran Sangunni, Indian Institute of Science, Bangalore, India
Hans Georg Limberger, Ecole Polytechnique Fédérale de Lausanne, Switzerland
Roger Lewis, University of Wollongong, Australia
Peter Mascher, McMaster University, Canada
Gilles Pauliat, Laboratoire Charles Fabry de l’Institut d’Optique, France
Kenkichi Tanioka, NHK, Japan
Hironori Kaji, Institute for Chemical Research, Kyoto University, Japan
Joaquin Fernández, Escuela Superior de Ingeniería de Bilbao, University of the Basque Country, Spain

International Program Committee
Sandor Kökenyesi, Chair, University of Debrecen, Hungary
Sandor Kugler, Co-Chair, Budapest University of Technology and Economics, Budapest, Hungary
Safa Kasap, University of Saskatchewan, Canada
Frank Hegmann, University of Alberta, Canada
Sadao Adachi, Gunma University, Japan
Stephen McKeever, Oklahoma State University
Mark Kuzyk, Washington State University, USA
Younes Messaddeq, UNESP, Brazil
Hideo Hosono, Tokyo Institute of Technology, Japan
Chris McConville, University of Warrick, UK
Helge Weman, Norwegian University of Science and Technology (NTNU), Norway
Himanshu Jain, International Materials Institute for New Functionality in Glass, Lehigh University, USA
Valery Barachevsky, Photochemistry Center, Russian Academy of Sciences, Russia
Jozsef Gyulai, Research Institute for Technical Physics and Materials Science, Budapest, Hungary
Ajoy Kar, Hariot-Watt University, Scotland, UK
Jong Kyu Kim, Pohang University of Science and Technology (POSTECH), Korea
Alex Kolobov, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
Jianrong Qiu, Zhejiang University, China
Dagou Zeze, University of Durham, UK
Michael Fokine, Royal Institute of Technology (KTH), Sweden
Jørn M. Hvam, Technical University of Denmark, Denmark
Senthil Ganapathy, Optoelectronics Research Centre, University of Southampton, UK
Doriana Dimova-Malinovska, Bulgarian Academy of Sciences, Sofia, Bulgaria
Shubhra Gangopadhyay, University of Missouri - Columbia, USA
Martin Mika, Institute of Chemical Technology, Prague, Czech Republic
Zheng-Hong Lu, University of Toronto, Canada
Mikhail Brik, University of Tartu, Estonia
Mitsuo Yamaga, Gifu University, Japan
Mauro Tonelli, Scuola Normale Superiore di Pisa and Instituto Nazionale per la Fisica della Materia, Italy
Ralph Whaley, Ohio University, Athens, USA
Arunas Krotkus, Semiconductor Physics Institute, Vilnius, Lithuania
Takumi Fujiwara, Tohoku University, Japan
Jean-Michel Nunzi, Queens University, Canada
Che Ting (C.T.) Chan, Hong Kong University of Science and Technology, Hong Kong
Taiichi Otsuji, Tohoku University, Japan
Maurizio Martino, Lecce University, Italy
Tony Kenyon, University College London, UK
Hideyuki Murata, Japan Advanced Institute of Science and Technology (JAIST), Nomi, Japan
Kalai Saravananmuttu, McMaster University, Canada
Dirk Poelman, Ghent University, Belgium
Submitted papers will be refereed and accepted ones will be published in a special issue of the journal *Physica Status Solidi* (Wiley-VCH, Germany) within 8 months. The Proceedings will be edited by Guest Editors. The papers will be divided between PSS A and C, depending on contents and referee reports.

### Guest Editors

**Sandor Kugler**
Budapest University of Technology and Economics, Budapest, Hungary

**Sandor Kökenyesi**
University of Debrecen, Hungary

Note: PSSA has an impact factor of 1.21 (2008)

---

**ICOOPMA PROCEEDINGS**

**Principal Conference Sponsors**

**Applied Materials**
Platinum Sponsor

**OZ Optics**
Gold Sponsor

**WILEY-BLACKWELL**

---

Francesc Diaz, Universitat Rovira i Virgili, Spain
Spyros Yannopoulos, Foundation for Research and Technology Hellas (FORTH), Patras, Greece
Byoungho Lee, Seoul National University, Korea
Stephen O'Leary, University of British Columbia at Okanagan, Canada

**Steering Committee**

Safa Kasap (Chair), University of Saskatchewan, Canada
Jai Singh, Charles Darwin University, Australia
Asim Ray, The Wolfson Centre for Materials Processing, Brunel University, UK
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki, Tokyo Polytechnic University, Japan
Raman Kashyap, Ecole Polytechnique, Universite de Montreal, Canada
An international conference on optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics; and optical, optoelectronic and electro-optic properties of all classes of materials and material systems. Edmonton is the capital of Alberta and is a thriving cosmopolitan city with many exciting things to do. It is close to Jasper Park and not far from the Canadian Rockies. The University of Alberta is one of the top universities in Canada. The conference will be held at the Lister Conference Centre on campus.
CONFERENCE CHAIRS for 2008
Safa Kasap, Chair, University of Saskatchewan, Canada
Ray DeCorby, Vice-Chair, University of Alberta
Frank Hegmann, Vice-Chair, University of Alberta
Chris Haugen, Vice-Chair, TRLabs, Edmonton

LOCAL ORGANIZING COMMITTEE
---Edmonton and Saskatoon---
Safa Kasap, Chair, University of Saskatchewan
Ray DeCorby, Vice-Chair, University of Alberta
Frank Hegmann, Vice-Chair Program and Proceedings, University of Alberta
Chris Haugen, Vice-Chair Industry, TRLabs, Edmonton
Linda Richens, Conference Secretary (Conference Management and Administration), TRLabs, Edmonton
Gokul Soundararajan (Webmaster, University of Saskatchewan

---Across Canada---
Raman Kashyap, Ecole Polytechnique, Montreal
Siegfried Janz, NRC, Ottawa
Peter Mascher, McMaster University
Harry Ruda, University of Toronto
Frank van Veggel, University of Victoria
Stephen O'Leary, University of Windsor
David Lockwood, NRC, Ottawa
Nazir Kherani, University of Toronto
Réal Vallée, University of Laval, Canada

INTERNATIONAL ORGANIZING AND ADVISORY COMMITTEE
Koichi Shimakawa (Chair 2008) Gifu University, Japan
Tomas Wagner (Vice-Chair 2008) Pardubice University, Czech Republic
Safa Kasap (Honorary Chair) University of Saskatchewan, Canada
Jai Singh (Chair 2006) Charles Darwin University, Australia
Asim Ray, Queen Mary University of London, UK
Takeshi Aoki, Tokyo Institute of Polytechnics, Japan
Aaron Peled, HAIT, Israel
Michael Gal, University of New South Wales, Australia
Andrei Sazonov, University of Waterloo, Canada
Raman Kashyap, Ecole Polytechnique, Montreal, Canada
Chris Haugen, TRLabs, Edmonton, Canada
Ashok Vaseashta, Marshall University, USA
Paul Stradins, NREL, Colorado, USA
Patrick McNally, Dublin City University, Ireland
Setsuhisa Tanabe, Kyoto University, Japan
Stephen Sweeney, University of Surrey, UK
Frank Hegmann, University of Alberta, Canada
Animesh Jha, University of Leeds, UK
Sandor Kugler, Budapest Univ. of Technology, Hungary
Réal Vallée, University of Laval, Canada

INTERNATIONAL PROGRAM COMMITTEE
Safa Kasap (Chair, 2008) University of Saskatchewan, Canada
Ray DeCorby (Vice-Chair Program, 2008) University of Alberta, Canada
Frank Hegmann (Vice-Chair Program and Proceeding 2008) University of Alberta, Canada
Raman Kashyap (Vice-Chair Applications, 2008) Ecole Polytechnique, Montreal, Canada
Harry Ruda, University of Toronto, Canada
Tomas Wagner, Pardubice University, Czech Republic
Animesh Jha, University of Leeds, UK
Jai Singh, Charles Darwin University, Australia
Andy Edgar, Victoria University, New Zealand
Roger Lewis, University of Wollongong, Australia
Sadao Adachi, Gunma University, Japan
Stephen McKeever, Oklahoma State University
Aaron Peled, HAIT, Israel
Nasser Peyghambarian, Optical Sciences Center Arizona, USA
Keiji Tanaka, Sapporo University, Japan
Robert Glosser, University of Texas, Dallas, USA
Mark Kuzyk, Washington State University, USA
Asim Ray, Queen Mary University of London, UK
Younus Messaddeq, UNESP, Brazil
Armando Luches, Lecce University, Italy
Sandor Kokenyesi, University of Debrecen, Hungary
Hideo Hosono, Tokyo Institute of Technology, Japan
Chris McConville, University of Warrick, UK
David Lockwood, NRC, Ottawa, Canada
Helge Weman, Norwegian University of Science and Technology (NTNU), Norway

SCOPE
- Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots
- Excitonic processes
- Luminescence, Phosphors and Applications
- Photoinduced effects
- Electro-optic properties and applications
- Nonlinear optical properties and applications
- Materials for optoelectronics and photonics
- Nano-optoelectronics and Nanophotonics
- Photoconductivity
- Optically induced processes
- Optical fibers
- Materials for optical storage
- Photovoltaic materials
- Photogeneration, quantum efficiency
- Experimental techniques
- Terahertz materials, devices and techniques
- Optoelectronic and photonic devices
- Optical components for telecommunications
- Applications of materials in photonics and optoelectronics
ICOOPMA HISTORY

ICOOPMA08 is the third in the ICOOPMA series, an International Conference on Optical, Optoelectronic and Photonic Materials and Applications, sponsored by Springer, that was held for the first time in Darwin, Australia, in July 2006. The ICOOPMA Series arose from a need for such a conference for those researchers who sought a truly international conference that covered a wide range of materials and applications in optics, optoelectronics and photonics. One of the goals is to provide discussions between researchers working on different classes of materials that have similar applications; or have been characterized by similar techniques. The conference has a large number of invited speakers to allow such cross-fertilization between researchers working in different classes of materials. The conference also seeks papers in interesting or novel applications, or papers that enhance material properties for applications. The International and Local Organizing Committees have the responsibility of ensuring an in-depth scientific coverage with invited and contributed papers from various countries and in various disciplines; and ensuring an enjoyable scientific program.

SECTIONS

Optical properties of materials
- General, crystals, polycrystalline bulk and film
- Amorphous and organics
- Nanostructures, including photonic crystals

Quantum Dots

Quantum Wires

II-VI and Related Semiconductors Including Alloys

III-V and Related Semiconductors Including Alloys

Oxide Semiconductors

Silicon Photonics
- a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H

Nonoxide Glasses and Chalcogenide Glasses

ZBLAN and Oxyfluoride Glasses

Excitonic Processes

Luminescence, Phosphors and Applications

Photoinduced Effects and Applications

Photoconductivity and Photogeneration

Nonlinear Optical Effects and Applications

Electro-Optic Effects and Applications

Semiconductors for Optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.

Light Emitting Devices (including organics)

Photonic and Optoelectronic Materials and Devices
- Quantum Wells, Quantum Wires, Quantum Dots,
- Nanophotonics and Nano-Optoelectronics

Optical Storage

Photovoltaics (materials and devices, and their properties)

Waveguides and Fibers

Integrated Photonics

Experimental Techniques

Photoreflectance

Photonic Bandgap Materials and Nonlinear Photonic bandgap materials

Defect Spectroscopy

Femtosecond Spectroscopy

Terahertz (THz) techniques, including materials, emitters and detectors

Optical Fibers and Fiber Sensors

Plasmons and Surface Plasmons

Selected Topics (e.g. Photocatalysis in Materials, Materials for Energy Conversion etc)

IMPORTANT DATES

Abstract Submission: 31 March 2008
Acceptance: 15 April 2008
Early registration: Friday 30 April 2008

PROCEEDINGS

Presented papers will be refereed and accepted ones will be published in a special issue of the journal Physica Status Solidi A and C (Wiley-VCH, Germany) within 8 months. The Proceedings will be edited by Guest Editors.

Safa Kasap
University of Saskatchewan

Frank Hegmann
University of Alberta

Harry Ruda
University of Toronto

Ray DeCorby
University of Alberta

Raman Kashyap
Ecole Polytechnique, Montreal

REGISTRATION

ICOOPMA2008 Conference

Conference Registration Fees include the reception, all breakfasts and lunches during the week. We would like the conference participants to use the breakfast and lunch to mix and interact. Registration fees:

Before 30 April 2008
- Full: C$ 685
- Student: C$ 385

After 30 April 2008
- Full: C$ 750
- Student: C$ 425
PLENARY TALKS

Eli Yablonovitch
University of California Berkeley, USA
Nano-Photonics, From Photonic Crystals to Plasmonics

Alexander Gaeta
Cornell University, USA
Photonic Nanowires: Ideal Waveguides for Nonlinear Optics

Jeff Young
University of British Columbia, Canada
Engineering Semiconductor Nanostructures to Miniaturize Nonlinear Optics

Kenkichi Tanioka
Vice-President, NHK, Tokyo, Japan
Ultra-Sensitive Imaging with HARP: From Concept to Realization at NHK

Yasuhiko Arakawa
University of Tokyo, Japan
Advances In Quantum Dots for Nanophotonic and Quantum Information Devices

Klaus Ploog
Paul Drude Institute for Solid State Electronics, Berlin, Germany
Prospects of Conventional and Dilute III-Nitrides for Light Emitters and Solid-State Lighting

Arthur Nozik
DOE National Renewable Energy Laboratory (NREL), Golden, Colorado, USA
Third Generation Photovoltaics

SELECTED INVITED SPEAKERS

Bill Milne, University of Cambridge, UK, Carbon Nanotubes for Photonic Devices

Magnus Willander, Linkoping University, Sweden, Light Emission from different Zinc Oxide Junctions and Nanostructures

Hadis Morkoc, Virginia Commonwealth University, USA, GaN Based Light Emitters

Chennupati Jagadish, Australian National University, Canberra, Australia, Nanowires for Optoelectronic Device Applications

Mark Kuzyk, Washington State University, USA, Transmitting Mechanical Forces on a Beam of Light

Nobuyoshi Koshida, Tokyo University of Agriculture & Technology, Japan, Silicon Innovations by Nanosilicon

Mark Fox, University of Sheffield, UK, Ultrafast Non-Linear Switching in AlGaAs Photonic Crystals

Hideo Hosono, Tokyo Institute of Technology, Japan, Doping Effects in Transparent Amorphous Oxides

Andy Edgar, Victoria University of Wellington, New Zealand, Novel Scintillating Materials for Radiation Detection and Imaging

Stephen Mckeever, Oklahoma State University, USA, Induced luminescence for Dosimetry: Recent Advances

Arockia Nathan, University College, London University, UK, Nanocrystalline Silicon Thin Film Transistors in Optoelectronics Applications

Hans Georg Limberger, Ecole Polytechnique Federale de Lausanne, Switzerland, Light Induced Stresses in Silica Fibers

Robert Collins, University of Toledo, USA, Optical Properties of Amorphous Semiconductors: Recent Advances

Heinz von Seggern, University of Darmstadt, Germany, Advances in Organics for OLEDs: Recent Selected Examples

Hiroyoshi Naito, Osaka Prefecture University, Japan, Optical Spectroscopic Studies of Polyfluorene and its Copolymers

Jean-Marc Baribeau, NRC, Ottawa, Canada, Advances in Self-Assembled SiGe Dots and Nanostructures

Jong Heo, Pohang University of Science and Technology, Korea, Tuning the Photoluminescence of Quantum Dots in Glasses

Jorn Hvam, Technical University of Denmark, Recent Advances in Nanophotonics
Kazuo Morigaki, Hiroshima Institute of Technology, Japan, Recombination Processes and Light-Induced Defect Creation in Hydrogenated Amorphous Silicon

Mike Petty, Durham University, UK, Towards Organic Solid State Lighting

Aasmund Sudbo, UNIK – Universitetssstudiene pa Kjeller, Norway, Photonic Crystal Films

Leonid Tsybeskov, New Jersey Institute of Technology, Newark, USA, Electro-Optics of Silicon Nanostructures

Anderson Gomes, UFPE, Brazil, Metallic Nanoparticles for Photonics and Bio Applications

Matt Beard, NEWL (National Renewable Energy Laboratory), Golden, Colorado, USA, Multiple Exciton Generation and Photo-Induced Charge Transport in Three Dimensional Arrays of Semiconductor Nanocrystals: Progress Towards Third Generation Photovoltaics

Miloslav Frumar, Pardubice University, Czech Republic, Recent Advances in Phase Change Memory Materials: Composition, Structure and Properties

Noboru Yamada, Matsushita Electric Industrial Co Ltd, Japan, Optical Data Storage: Technology and Recent Advances

Osamu Wada, Kobe University, Japan, Quantum Dots and Semiconductor Nanostructures for Photonic Signal Processing Devices

Daniel Mittleman, Rice University, USA, Terahertz Spectroscopic Studies of Metal Oxides

Patrick Desjardins, Ecole Polytechnique de Montreal, Canada, Bandgap Tuning of Quantum Dot Structures Using Grow-In Defects and Ion Implantation

Yasufumi Fujiwara, Osaka University, Japan, Injection-type Light-Emitting Devices fabricated by atomically controlled doping of Er to GaAs

Paul Braun, University of Illinois, Urbana-Champaign, USA, Adding Function to 3D Self-Organized Photonic Crystals through Materials Chemistry

Peter Jepsen, Technical University of Denmark, Terahertz Time-Domain Spectroscopy of Molecular Crystals and Liquids

Yasushi Nanishi, Ritsumeikan University, Japan, Potential Achievements and Issues of InN and Related Alloys for Device Applications

Richard Blaikie, university of Canterbury, New Zealand, Super-resolution Photolithography using Surface Plasmons

Ruediger Goldhahn, Institut fur Physik, TU Ilmenau, Germany, Band Structure and Optical Properties of Nitride Semiconductors

Rodrigo Martins, Universidade Nova de Lisboa, DCM/FCTUNL, Portugal, Characterization of Optoelectronic Platforms using and Amorphous/Nanocrystalline Silicon Biosensor

Sergei Baranovski, Philipps University Marburg, Germany, Disorder Effects in Photoluminescence from Quantum Structures

John Marsland, University of Liverpool, UK, Imapact Ionization in Semiconductor: Recent Progress and Non-Local Effects

Takayuki Komatsu, Nagaoka University of Technology, Japan, Laser Patterning of Nonlinear Optical Single Crystal Lines in Glasses

Vikram Dalal, Iowa State University, Ames, USA, Physics and Status of Thin Film Si technology for Photovoltaic Energy Conversion

Willie Padilla, Boston College, MA, USA, Metamaterial Electronics: New Materials for Novel Devices

Yasutake Ohishi, Toyota Technological Institute, Japan, Novel Photonic Glasses for Future Optical Signal Processing

Michael Fokine, Politecnico di Torino, Italy, Manipulating Glass for Photonics

Ted Sargent, University of Toronto, Canada Solution-Processed Infrared Optoelectronic Devices Based on Colloidal Quantum Dots

Akihiko Yoshikawa, Chiba University, Japan, Novel InN/GaN MQW Visible-Light-Emitters Consisting of One Monolayer-Thick InN Wells Inserted in GaN Matrix

Michael Brett, University of Alberta, Canada, GLAD Thin Films: Optical Properties and Photonics Applications

Himanshu Jain, Lehigh University, USA, Speed of Photoinduced Phenomena in Chalcogenide Glasses

Jean-Michel Nunzi, Queen's University, Canada, Auger Fountain Electroluminescence in an Organic Diode

Ben Eggleton, University of Sydney, Australia, Highly Nonlinear Chalcogenide Glass Devices for Ultrafast All-Optical Signal Processing

Kimberlay Hall, Dalhousie University, Halifax, Canada, Femtosecond Optical Studies of Spintronic Materials

Gerry Lucovsky, North Carolina State University, Raleigh, USA, Microscopic Description of Strain-Reducing Chemical Bonding Self-Organizations in Chalcogenide and Oxide Non-Crystalline Alloys: Applications to Electronic and Optoelectronic Devices
Keiji Tanaka, A. Saitoh and N. Terakado, Hokkaido University, Sapporo, Japan, *Anisotropic Photodeformation of Chalcogenide Glasses by Optical Pressure*

Ken Bosnick, National Institute for Nanotechnology, National Research Council of Canada, *Discrete Carbon Nanotube Diodes*

Edmund Linfield, University of Leeds, UK, *Recent Developments in Terahertz Quantum Cascade Lasers*

Kerry Vahala, California Institute of Technology, USA, *Cavity Opto-Mechanics: Mechanical Cooling and Amplification Using Radiation Pressure*

Maria Mitkova, Boise State University, Idaho, USA, *Photoinduced Diffusion in Tetrahedrally Coordinated Chalcogenide Glasses*

Animesh Jha, University of Leeds, UK, *Novel Single and Multi-Core IR Fibres for near and mid-IR Lasers and Amplifiers*

Shanhui Fan, Stanford University, USA, *Dynamic and Non-Reciprocal Effects in Nanophotonics*


Thomas Krauss, University of St. Andrews, Scotland, UK, *Slow Light in Silicon*

Giancarlo Righini, CNR Department of Materials and Devices, Roma, Italy, *Photonic Properties and Applications of Glass Micro- and Nanospheres*

Michael Blair, Ross Muenchausen, Luiz Jacobsohn, Bryan Bennett, Los Alamos National Laboratory, Los Alamos, USA, *Luminescence and Structural Properties of Nanophosphors*

Kaori Fukunaga, NICT, Tokyo, Japan, *Terahertz Spectroscopy and Imaging Techniques for Non-Invasive Material Analysis*

Mahi Singh, University Western Ontario, Canada, *All-Photonic Switching In Nanophotonic Quantum Wells*

Tom Tiedje, University British Columbia, Canada, *Growth and Properties of Gallium Arsenide Bismide, a New Long Wavelength Semiconductor Alloy*

David Mills, Queen Mary University of London, *Integrated Optics Devices for Biosensing Applications*

John Ballato, Clemson University, USA, *Novel Light Emitting Nanoparticles and Nanocomposites*

**VENUE**

*University of Alberta Lister Conference Center*

**CONFERENCE CONTACTS**

Linda Richens, Conference Secretary: lrichens@trlabs.ca

Ray DeCorby, Vice-Chair: rdecorby@trlabs.ca

Frank Hegmann, Vice-Chair: hegmann@phys.ualberta.ca

Safa Kasap, Chair: safakasap@usask.ca
An international conference on optical, optoelectronic and electro-optic properties of all classes of materials and material systems; optical, optoelectronic and photonic materials for a wide range of applications from telecommunications to photovoltaics. Authors are invited to submit abstracts on line by 30 March 2007, using the web link:

http://www.icoopma.org
ICOOPMA 2007

ICOOPMA07 is the second in the ICOOPMA series, and will be hosted by Queen Mary, University of London. The conference is co-sponsored by The Institution of Electrical Engineers and Technology, Springer and LG Philips Displays. London is the largest city in Europe offering a great mixture of cultures and unique experiences for visitors of all ages to enjoy its art galleries, museums and exciting buildings and monuments of historical importance.

CONFERENCE CHAIR for 2007

Asim Ray, Queen Mary London University

LOCAL ORGANIZING COMMITTEE

Asim Ray, Chair, Queen Mary, University of London
Stephen Sweeney, Proc. Editor, University of Surrey
Steffi Krause, Proc. Editor, Queen Mary University of London
David S Barratt, L.G. Philips Displays
Animesh Jha, University of Leeds
Arokia Nathan, University College London
Pankaj Vadgama, Queen Mary, University of London
Robert Withnall, Program Co-Chair 2007, Brunel University

INTERNATIONAL ORGANIZING AND ADVISORY COMMITTEE

Safa Kasap, Chair, University of Saskatchewan, Canada
Asim Ray, Conference Chair 2007, Queen Mary London University, UK
Stephen Sweeney, Proc. Editor, University of Surrey
Jai Singh, Charles Darwin University, Australia
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki, Tokyo Institute of Polytechnics, Japan
Aaron Peled, HAITE, Israel
Michael Gal, University of New South Wales, Australia
Tomas Wagner, Pardubice University, Czech Republic
Andy Edgar, Victoria University, New Zealand
Harry Ruda, University of Toronto, Canada
Andrei Sazonov, University of Waterloo, Canada
Ashok Vaseashta, Marshall University, USA
Paul Stradins, NREL, Colorado, USA
Patrick McNally, Dublin City University, Ireland.

INTERNATIONAL PROGRAM COMMITTEE

Asim Ray (Chair, 2007)
Queen Mary University of London, UK
Stephen Sweeney, Proc. Editor, University of Surrey
Robert Withnall, Brunel University, UK
Safa Kasap, University of Saskatchewan, Canada
Arokia Nathan, University College London, UK
Jai Singh, Charles Darwin University, Australia
Harry Ruda, University of Toronto, Canada
Michael Gal, University of New South Wales, Australia
Andy Edgar, Victoria University, New Zealand
Sadao Adachi, Gunma University, Japan
Aaron Peled, HAITE, Israel
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki, Tokyo Polytechnic University, Japan
Tigran Galstian, Laval University, Canada

SCOPE

Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots

II-VI and Related Semiconductors Including Alloys

III-V and Related Semiconductors Including Alloys

Oxide Semiconductors, Silicon Photonics

a-Si:H, a-SiNx:H, a-SiC:H, a-SeGe:H

Nonoxide Glasses and Chalcogenide Glasses

ZBLAN and Oxyfluoride Glasses

Excitonic processes

Luminescence, Phosphors and Applications

Photoinduced effects

Electro-optic properties and applications

Nonlinear optical properties and applications

Materials for optoelectronics and photonics

Nano-optoelectronics and Nanophotonics

Photoconductivity

Optically induced processes

Optical fibers and waveguides

Materials for optical storage

Materials for photovoltaics or solar cells

Photogeneration, quantum efficiency

Experimental techniques

Optoelectronic and photonic devices

Applications of materials in photonics and optoelectronics

IMPORTANT DATES

Abstract Submission: 30 March 2007
Acceptance: 23 April 2007
Early registration: Friday 11 May 2007

Manuscripts: Electronic submission online before or during the conference

REGISTRATION

ICOOPMA2007 Conference

Conference Registration Fees. Includes meals, except conference dinner (GBP40)
Full  **GBP 450** (GBP 575 after 11 May 2007)
Student  **GBP 250** (GBP 325 after 11 May 2007)
Exhibitor  **GBP 575** (GBP 675 after 11 May 2007)

PLENARY LECTURES

**Sajeev John**, University of Toronto, Canada
*Photonic Band Gap Materials: Localization of Light*

**David Lockwood**, FRS (Canada), NRC, Ottawa, Canada,
*Light Emission in Silicon Nanostructures*

**Shuji Nakamura**, University of California, Santa Barbara,
*Current Progress of Solid State Lighting*

**Philip Russell**, FRS, University Erlangen-Nuremberg, Germany,
*Enhancing Light-Matter Interactions with Photonic Crystal Fibres*

**Osamu Wada**, Kobe University, Japan
*Semiconductor quantum dots and nanostructures for photonic device applications*

SELECTED INVITED SPEAKERS

**Jean-Luc Adam**, Universite de Rennes, France,
*Chalcogen Based Glasses for Infrared Applications*

**Carmen N. Afonso** and **Jose Gonzalo**, Instituto de Optica, CSIC, Madrid, Spain,
*Advanced Heavy Metal Oxide Film Glasses with Large Optical Nonlinearities*

**Rui Almeida**, Instituto Superior Tecnico, Lisbon, Portugal,
*Rare-Earth Doped Photonic Crystals via Sol-Gel*

**Claudia Ambrosch-Draxl**, University Leoben, Austria,
*Tailoring the Optical Properties of Organic Semiconductors*

**Yasuhiko Arakawa**, Institute of Industrial Science, Komaba, Japan,
*Advances In Quantum Dots for Nanophotonic and Quantum Information Devices*

**Sergei Baranovski**, Philipps University Marburg, Germany,
*Impact Ionization Phenomena in Disordered Systems Related to the Avalanche Multiplication and Switching Effect.*

**Harbhajan Singh Bhatti**, Punjabi University, India
*Low temperatre plasma deposition of silicon thin films for solar cells*

**Giulio Cerullo**, Institute for Photonics and Nanotechnologies, Milano, Italy,
*Few-Optical-Cycle Pulses with Stable Carrier-Envelope Phase from Optical Parametric Amplifiers*

**Isabel Cristina dos Santos Carvalho**, Pontifical University Catholic of Rio De Janeiro, Brazil,
*New Glassy Materials for Sensors & applications*

**Jamal Deen**, McMaster University, Canada
*High Sensitivity Photodetection Systems for Biological/Medical Applications*

**Ananth Dodabalapur**, The University of Texas at Austin, USA,
*Organic and Polymer Thin-Film Transistors: Recent Advances*

**Jaroslav Fabian**, University Regensburg, Germany
*Semiconductor Spintronics Devices*

**Miloslav Frumar**, University of Pardubice, Czech Republic
*Phase change memory materials and the mechanism of their solidification*

**Shubra Gangopadhyay**, University of Missouri - Columbia, USA,
*Novel Processes for Low Temperature Crystallization of a-Si:H and a-SiC:H for Optoelectronic Applications*

**Michael Graetzel**, ISIC, Switzerland and Ayodha N. Tiwari, University of Loughborough, UK,
*Development of flexible dye sensitized solar cells: challenges and strategies.*

**Frank Hegmann**, University of Alberta, Canada
*Using Terahertz Spectroscopy to Probe Carrier Dynamics and Localization in Semiconductor Materials*

**Jong Heo**, Pohang University of Science and Technology, Korea,
*Novel nano-structured glasses containing semiconductor quantum dots*

**Peter Hess**, University of Heidelberg, Germany,
*Spectroscopic and ellipsometric characterization of SiC films*

**Hideo Hosono**, Tokyo Institute of Technology, Japan,
*Low Work Function in C12A7 Electride and Its Applications*

**Jorn Hvam**, Technical University of Denmark,
*Recent Advances in Nanophotonics*

**Richard Jones** and **Mario Paniccia**, Intel, USA
*Silicon Photonics: Materials and Devices, and Recent Advances*

**Raman Kashyap**, Ecole Polytechnique, University of Montreal, Canada,
*Progress in Bragg Grating Optical Fiber Sensors*
Junji Kido, Yamagata University, Japan, Design and Fabrication of High Performance OLEDs for Lighting Applications

Andrew Knights, McMaster University, Canada
Progress in Bragg Grating Optical Fiber Sensors

Krisztian Kohary, University of Oxford, Oxford, UK
Structural optimization of organi light-emitting diodes incorporating nanocrystal quantum dots

Nobuyoshi Koshida, Tokyo University of Agriculture & Technology, Tokyo, Japan, Photonic, Electronic and Acoustic Devices Based on Nanocrystalline Silicon

S. Kugler, Budapest University of Technology & Economics, Hungary, Microscopic and macroscopic models of Photoinduced volume changes in chalcogenides

Miguel Levy, Michigan Technological University, Houghton, USA, Magnetophotonic Crystals: Nonreciprocity, Birefringence and Confinement

Roger Lewis, University of Wollongong, Australia, Reflectance Studies of Candidate THz emitters

Zhenghong Lu, University of Toronto, Canada, Superluminescent Organic Light-Emitting Diodes

Takayuki Makino, University of Hyogo, Japan, Optical Properties of ZnO and Their Extension to the Ultraviolet Optoelectronic Application

Walter Margulis, Acreo Fibre Optic Centre, Sweden, Electrical control of light in fibre-based components

Stefan Matefi-Tempfli, Unite de Physico-Chimie et Physique des Materiaux, Universite Catholique de Louvain, Belgium Nanowires and nanostructures fabrication using template methods. A step forward to real devices combining electrochemical synthesis with lithographic techniques

Stephen W. S. Mekeever, Oklahoma State University, USA Induced Luminescence for Dosimetry: Recent Advances

Qingbo Meng, Chinese Academy of Sciences, China Pressure controlled self-assembly of high quality opals and inverse opals.

Bill Milne and Alex Rhizin, University of Cambridge, UK, Carbon Nanotubes for Photonic Devices

Tanya Monro, University of Adelaide, Australia, New Developments in Soft Glass Microstructured Optical Fibres

Mayasuki Nagami, Nagoya Institute of Technology, Japan, Nonlinear optical emission properties of sol-gel-derived glasses

Hiroyoshi Naito, Osaka Prefecture University, Japan, Characterization of Polymer Light-Emitting Diodes

Maurizio Martino, University of Lecce, Italy, Pulse Laser Deposition of Organic, Inorganic and Biological Materials

Alex Moewes, University of Saskatchewan, Canada Synchrotron characterization of Optical and Electronic Properties of Materials: Recent Advances and Examples

Dirk Poelman, Ghent University, Belgium, Advances in Inorganic Phosphors for Displays and Lighting

Jianrong Qiu, Zhejiang University, China Broadband infrared luminescence and optical amplification of transparent glass-ceramics containing Ni2+-doped nanocrystals.

Mark Reed, Yale University, USA, Plasmonic Waveguides: A New Approach to Sub-Wavelength Optics

John Rowlands and K. Tanioka, University of Toronto, Canada and NHK, Japan, Ultrasensitive HARP Video Tubes, Imaging Devices and Applications

Michael F. Rubner, Massachusetts Institute of Technology Thin film optical coatings from functional nanoparticle multilayers.

Harry Ruda, University of Toronto, Transport and Optical Response of Single Nanowires

Jas Sanghera and Ishwar Aggarwal, Naval Research Laboratory, Washington DC, USA, Infrared Transmitting Glasses, Ceramics and Optical Fibers

Heinz von Seggern, Darmstadt University Mechanism of Long-lasting Photoluminescence Afterglow in CsI:Tl

Setsuhisa Tanabe, Kyoto University, Japan, Glass Ceramic Phosphors for Solid-State Lighting

Keiji Tanaka, Hokkaido University, Japan, Photoinduced Phenomena in Group VIB Glasses

Peter Tanner, City University of Hong Kong, Developments and Applications of Ultraviolet and Vacuum Ultraviolet Luminescence of Lanthanide Ions

Roberto Teghil, University of Basilicata, Italy Femtosecond Pulsed Laser Deposition of Inorganic Electrochromic Materials

Michael Thewalt, Simon Fraser University, Canada, Spectroscopy of Semiconductor Structures: Recent Advances

Peter Thomas, Philipps-University Marburg, Germany, Investigating Disorder in Semiconductor Quantum Structures using Angular Photonic Correlation in Spontaneous Emission

Joe Trodahl and Ben Ruck, Victoria University of Wellington, New Zealand Electronic and Optical Properties of Rare Earth Nitrides

M. Asfar Uddin and Andy Hau-Ping Chan, City University of Hong Kong, Hong Kong
The challenges in the fabrication of Polymer based photonic devices.

Joe Trodahl and Ben Ruck, Victoria University of Wellington, New Zealand

Electronic and Optical Properties of Rare Earth Nitrides

Ashok Vaseashta, Marshall University, Huntington, Nanoscale Materials, Devices and Systems for Energy Generation and Storage

Frank van Veggel, University of Victoria, Canada

Lanthanide (III) - Based photonic materials and their applications

Helge Werman, Norwegian University of Science and Technology, Norway, Semiconductor Quantum-Wires and Nano-Wires For Optoelectronic Applications

Ian White, University of Cambridge, UK

High Speed Quantum Dot Mode Locked Lasers

Michael Winokur, University of Wisconsin, USA, The Role of Nematic Order in Conjugated Polymer Spectroscopy

Mitsuo Yamaga, Gifu University, Japan.

Long-lasting phosphorescence in Ce-doped oxides.

SECTIONS

Optical properties of materials
  General
  Crystals
  Polycrystalline bulk and film
  Amorphous and organics
  Nanostructures, including photonic crystals
Quantum Dots
Quantum Wires
II-VI and Related Semiconductors Including Alloys
III-V and Related Semiconductors Including Alloys
Oxide Semiconductors
Silicon Photonics
a-Si:H, a-SiN:H, a-SiC:H, a-SeGe:H
Nonoxide Glasses and Chalcogenide Glasses
ZBLAN and Oxyfluoride Glasses
Excitonic Processes
Luminescence, Phosphors and Applications
Photoinduced Effects and Applications
Photoconductivity and Photogeneration
Nonlinear Optical Effects and Applications
Electro-Optic Effects and Applications
Semiconductors for Optoelectronics (including wide bandgap materials) for applications in lasers, photodetectors, waveguides, modulators etc.
Light Emitting Devices (including organics)
Photonic and Optoelectronic Materials and Devices
Quantum Wells, Quantum Wires, Quantum Dots, Nanophotonics and Nano-Optoelectronics
Optical Storage
Photovoltaics (materials and devices, and their properties)
Waveguides and Fibers
Integrated Photonics
Experimental Techniques
Photorefectance
Photonic Bandgap Materials and Nonlinear Photonic bandgap materials
Defect Spectroscopy
 Femtosecond Spectroscopy
Optical Fibers and Fiber Sensors
Plasmons and Surface Plasmons
Selected Topics (e.g. Photocatalysis in Materials, Materials for Energy Conversion etc)

VENUE

The venue for the symposium is the Queen Mary London University Mile End campus. It is served by two underground (Metro) stations: Mile End on the Central Line, and Stepney Green on Hammersmith & City and District Lines
International Conference on Optical and Optoelectronic Properties of Materials and Applications 2006

ICOOPMA 2006


ICOOPMA06
Darwin, Australia
15 - 22 July 2006

Workshop 13 - 14 July 2006

International Conference on Optical, Optoelectronic and Photonic Materials and Applications 2006

An international conference on optical, optoelectronic and electro-optic properties of all classes of materials and material systems, and their applications
CONFERENCE CHAIR for 2006
Jai Singh, Charles Darwin University, Australia

LOCAL ORGANIZING COMMITTEE
Jai Singh, Chair, Charles Darwin University
Michael Gal, University of New South Wales
John Dobson, Griffith University
M.P. Das, Australian National University, Canberra
Subhash Chandra, DBIRD, NT Government, Darwin
Prem Panicker, DPIFM, NT Government
Howard Pullen, Charles Darwin University
Prathapan Sabaratnum, Charles Darwin University

INTERNATIONAL ORGANIZING COMMITTEE
Jai Singh, Cochair, Charles Darwin University, Australia
Safa Kasap, Cochair, University of Saskatchewan, Canada
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki, Tokyo Institute of Polytechnics, Japan
Aaron Peled, HAIT, Israel
Michael Gal, University of New South Wales, Australia
Tomas Wagner, Pardubice University, Czech Republic
Andy Edgar, Victoria University, New Zealand
Harry Ruda, University of Toronto, Canada
Andrei Sazonov, University of Waterloo, Canada
Asim Ray, Queen Mary University of London, UK
Ashok Vaseashta, Marshall University, USA
Paul Stradins, NREL, Colorado, USA
Patrick McNally, Dublin City University, Ireland.

INTERNATIONAL PROGRAM COMMITTEE
Safa Kasap (Chair) University of Saskatchewan, Canada
Jai Singh, Charles Darwin University, Australia
Harry Ruda, University of Toronto, Canada
Michael Gal, University of New South Wales, Australia
Andy Edgar, Victoria University, New Zealand
Sadao Adachi, Gunma University, Japan
Aaron Peled, HAIT, Israel
Koichi Shimakawa, Gifu University, Japan
Takeshi Aoki, Tokyo Polytechnic University, Japan
Tigran Galstian, Laval University, Canada
Nasser Peyghambarian, Optical Sciences Center Arizona, USA
Raman Kashyap, Ecole Polytechnique, Canada
Frank Hegmann, University of Alberta, Canada
Ray Decorby, University of Alberta, Canada
Michael Schreiber, Chemnitz, Germany
Keiji Tanaka, Sapporo University, Japan
Piotr Petelenz, Cracow University, Poland
Robert Glosser, University of Texas, Dallas, USA
Mark Kuzyk, Washington State University, USA
Tomas Wagner, Pardubice University, Czech Republic
Chris Haugen, TR Labs, Edmonton, Canada
Asim Ray, Queen Mary University of London, UK
Younus Messaddeq, UNESP, Brazil
Armando Luches, Lecce University, Italy

Hideo Hosono, Tokyo Institute of Technology, Japan

SCOPE
Optical and optoelectronic properties of a wide range of materials and materials systems, such as single crystals, polycrystalline bulk and film samples, amorphous materials, organics, polymers, photonic crystals and nanostructures, quantum wells, wires and dots
- Excitonic processes
- Luminescence, Phosphors and Applications
- Photoinduced effects
- Electro-optic properties and applications
- Nonlinear optical properties and applications
- Materials for optoelectronics and photonics
- Nano-optoelectronics and Nanophotonics
- Photoconductivity
- Optically induced processes
- Optical fibers
- Materials for optical storage
- Materials for photovoltaics
- Photogeneration, quantum efficiency
- Experimental techniques
- Optoelectronic and photonic devices
- Applications of materials in photonics and optoelectronics

PROCEEDINGS
Editors: Jai Singh (Australia), K. Shimakawa (Japan), T. Aoki (Japan), Harry Ruda (Canada)

Presented papers will be refereed and will be published in a special issue of the
Journal of Materials Science: Materials in Electronics

CONFERENCE SPONSOR
Springer
Boston USA and Heidelberg Germany

Charles Darwin University
Darwin, Australia
PLENARY LECTURES

Springer Plenary Lecture I

Hideo Hosono, Tokyo Institute of Technology, Japan, Novel Type Oxide Semiconductors

Springer Plenary Lecture II

Robert Glosser, University of Texas at Dallas, Perspectives on Experimental Techniques in the Optical Characterization of Materials

INVITED SPEAKERS

Vik Dalal, Iowa State University, USA Optoelectronic Properties of Nanocrystalline Si for Photovoltaic Applications

Martin Green, University of New South Wales, Australia, Thin Film Materials for Photovoltaics

C. Jagadish and H. Tan, Australian National University, Australia, Quantum Dots and Nanowires for Optoelectronic Device Applications

Mark G. Kuzyk, Washington State University, USA, Nonlinear-Optical and Photomechanical Properties of Polymer Fibers

Takayoshi Kobayashi, University of Tokyo, Japan Ultrafast Processes in Bio and Synthetic Polymers

Klaus H. Ploog, Paul Drude Institute for Solid State Electronics, Berlin Germany, GaN Quantum Dots and Quantum Wires With Novel Optoelectronic Properties

Sergei Baranovski, Philippus University Marburg, Germany, The Effect of Disorder on Optical Excitations in Semiconductor Quantum Structures

Nobuya Mori, Osaka University, Japan, Carrier Dynamics in Semiconductors Measured with a Free-Electron Laser

Heinz von Seggern, Technische Universitat Darmstadt, Germany, Progress in Phosphors: From Fundamentals to Applications

Sándor Kugler, Budapest Univ. of Technology, Hungary, Modeling of Photoinduced Changes in Glasses: a-Se

Keiji Tanaka, Hokkaido University, Japan, Optical Nonlinearity in Photonic Glasses

Peter Hess, Universität Heidelberg, Germany, Real-Time Detection of Optical Properties: Ultrathin Sicon-Oxide Films

Peter Thomas and Peter Bozsoki, Philipps Marburg University, Germany, Microscopic Modeling of Photoluminescence of Strongly Disordered Semiconductors

Jørn M. Hvam, Technical University of Denmark, Copenhagen, Denmark, Advances in Nanophotonics

C.T. Chan, Hong Kong University of Science and Technology, Hong Kong, Some Subtle Optical Properties of Negative Refractive Index Materials

Joseph Salzman, Boris Meyler and Shai Zamir, Technion, Israel, White Light Emitting Diodes - From Material Science to a Technological Revolution

Kenkichi Tanioka, NHK, Japan, The HARP: The Ultra Sensitive TV Pickup Tube from Conception to Recent Developments

Yongchun Zhong and Kam Sing Wong, and D.C. Look, The Hong Kong University of Science and Technology, Hong Kong, and Wright State University, Ohio, USA, Surface and Bulk Exciton Recombination Dynamics in GaN Freestanding Film via One- and Two-Photon Excitation

Frank Hegmann and David Cooke, University of Alberta, Canada, Ultrafast Carrier Dynamics and Terahertz Conductivity in Nanocrystalline Silicon

Junji Tominaga and Alex Kolobov, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan, Phase-Change Optical Memories: Past, Present, Future

Andrea Ferrari, A.G. Rozhin and Bill Milne, University of Cambridge, England, Carbon Nanotubes for Photonic Devices

Zhenghong Lu, University of Toronto, Canada, Superluminescent Organic Light-emitting diodes

Jacque Lucas, Universite de Rennes, France, Chalcogen Based Glasses For Infrared Applications

Richard Blaikie, University of Canterbury and MacDiarmid Institute, New Zealand, Near-Field Imaging Through Plasmonic and Negative-Index Materials

Furong Zhu, Institute of Materials Research and Engineering, Singapore, Towards Novel Flexible Display-Design and Fabrication of OLEDs on Plastic Substrates

Miloslav Frumar, University of Pardubice, Czech Republic, Phase Change Memory Materials, Composition, Structure and Properties

Rodrigo Martins and Elvira Fortunato, The New University of Lisbon and Uninova, Portugal, Transport Properties in Single and Multicomponent n-Type Oxide Semiconductors

I.C. Khoo, Pennsylvania State University, USA, Tunable Low Loss Negative Index Liquid-Crystal-Cladded Optical Frequency Selective Structures

Peter Tanner, City University of Hong Kong, Developments and Applications of Ultraviolet and Vacuum Ultraviolet Luminescence of Lanthanide Ions
Animesh Jha, University of Leeds, England, *Rare-Earth Doped Glass Waveguides for Visible, Near-IR and Mid-IR Lasers and Amplifiers*

Setsuhisa Tanabe, Kyoto University, Japan, *Development of Glass Materials for Broad Band Amplifiers in Wavelength-Division-Multiplexing*

M. Henini, University of Nottingham, England, *Self-Organised Quantum Dots for Advanced Applications in Optoelectronics*

Hiroyoshi Naito, Osaka Prefecture University, Japan, *Impedance Spectroscopy for Polymer Light-Emitting Diodes*

Chao Zhang, University of Wollongong, Australia, *Photon Absorption and Collective Excitations in Spintronic Systems Tuned by Spin-Orbit Interaction*

Nobuyoshi Koshiba, Tokyo University of Agriculture & Technology, Japan, *Luminescence in Porous Silicon*

Christoph Boehme, University of Utah, USA, *Ultra-Sensitive Defect Spectroscopy with Coherent, Pulsed Optically and Electrically Detected Magnetic Resonance Techniques*

Stefan Zukotynski, S. Costea and Nazir Kherani, University of Toronto, Canada, *Metastable Defect Creation in Trinitiated Hydrogenated Amorphous Silicon and the Staebler-Wronski Effect*

Jong Heo, Pohang University of Science and Technology, Korea, *Novel nano-structured glasses containing semiconductor quantum dots*

Noboru Yamada, Matsushita Electric Industrial Co Ltd., Japan, *Optical Data Storage: Technology and Recent Advances*

Pierre Ruterana, SIFCOM, UMR, France, *Er-Doped GaN by Ion Implantation*

Stephen Sweeney and Alfred Adams, University of Surrey, England, *Thermally Stable 1.3 - 1.6μm Semiconductor Lasers: Physics and Materials Challenges*

Victor Tikhomirov and Angela Seddon, University of Nottingham, England, *Rare Earth Doped Ultra-Transparent, Oxyfluoride Nano-Glass-Ceramics for Active Applications*

**REGISTRATION**

**ICOOPMA-2006 Conference**

**16 July – 20 July, 2005**

Regular conference activity from Monday (17 July), to Thursday afternoon (20 July). Reception on Sunday (16 July). Registration starts on Sunday (16 July) and runs through the conference. Light lunch provided.

**Conference Registration Fees**

Very rough conversion rates are:

- AS1 = US$ 0.73 = Eu 0.62 = GBP 0.41 = JY 86
- Full AS 575 Before May 15, 2006
- Student AS 325 Before May 15, 2006
- Full AS 675 After May 15, 2005
- Student AS 385 After May 15, 2006

Coffee breaks and light lunch included. AS120 for banquet and AS90 for the sunset BBQ

**Venue**

The venue for the symposium is the Mal Nairn Auditorium of the Charles Darwin University. There is a regular bus service to the conference.
There are many good and reasonably priced hotels near the university. There is a regular bus service between downtown Darwin and the university.

Student accommodation will also be available at a very reasonable rate.

Tourist information for NT, maps, and hotels in Darwin can be found at:
http://www.northernterritory.com

North Flinders International House
(University Residence on Campus, walking distance)
A$55/night. Clean room with air conditioning, refrigerator, and ensuite bathroom shared with one neighbor only.

Other hotels from A$88 to $165 (with Cullen Bay view)
See website for details: http://icoopma2006.cdu.edu.au/


How to get there

International: International flights can connect from Singapore, Cairns, Brisbane or Sydney.

Routes to Darwin

Conference Principal Sponsors

Supporting Sponsors

www.ozoptics.com

www.perkinelmer.com

www.wiley.com