Oxide-based Materials and Devices XI
Monday - Thursday 3 - 6 February 2020

Conference Sessions At A Glance

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTO Plenary Session</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Ga2O3: Defects, Doping and Density of States I</td>
</tr>
<tr>
<td>2</td>
<td>Ga2O3: Defects, Doping and Density of States II</td>
</tr>
<tr>
<td>3</td>
<td>Ga2O3: Material Engineering</td>
</tr>
<tr>
<td>4</td>
<td>Ga2O3 for Power Applications</td>
</tr>
<tr>
<td>5</td>
<td>Ga2O3: Applications Driven Material Structuring</td>
</tr>
<tr>
<td>6</td>
<td>ZnGa2O4 Based Devices and Properties</td>
</tr>
<tr>
<td>7</td>
<td>Nanoscale Growth, Properties and Applications</td>
</tr>
<tr>
<td>8</td>
<td>Plasmonics and Photonic Devices</td>
</tr>
<tr>
<td>9</td>
<td>Electronic Devices</td>
</tr>
<tr>
<td>10</td>
<td>Photodetectors and Sensors</td>
</tr>
<tr>
<td>11</td>
<td>Material Properties</td>
</tr>
<tr>
<td>Poster Session</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Thin-Film Growth and Doping</td>
</tr>
<tr>
<td>13</td>
<td>Photovoltaics and Energy Harvesting</td>
</tr>
<tr>
<td>14</td>
<td>Oxide-based Devices</td>
</tr>
</tbody>
</table>

Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 July 2019</td>
<td>Abstract Due</td>
</tr>
<tr>
<td>30 September 2019</td>
<td>Author Notification</td>
</tr>
<tr>
<td>8 January 2020</td>
<td>Manuscript Due Date</td>
</tr>
</tbody>
</table>

Conference Committee

Program Committee continued...
- Norbert H. Nickel, Heinrich-Lié-Gymnash Berlin für Materialien und Technik (Germany)
- Tatsuo Okada, OPERA Ctr. for Organic Photonics and Electronic Devices (Japan)
- Ki-Ohn Yoon, Virginia Commonwealth Univ. (United States)
- Sang-Ju Park, Gwangju Institute of Science and Technology (Korea)
- Marijan Rancic, Northwestern Univ. (United States)
- Federico Rosa, Univ. du Québec (Canada)
- Vincenzo Branchi, Nanovation (France)
- Michael L. Scheible, Air Force Research Lab. (United States)
- Chris G. Van de Walle, Univ. of California, Santa Barbara (United States)
- Runo Yano, Ecole Nationale Supérieure de Chimie de Paris (France)
- Markus R. Wagner, Technische Univ. Berlin (Germany)
- Magnus Willander, Linköping Univ. (Sweden)
- Hideaki Yamamoto, NTT Basic Research Labs. (Japan)

MONDAY 3 FEBRUARY

Session Plen:
OPTO Plenary Session
Zinc oxide for THz quantum-cascade devices (Invited Paper)
Paper 11231-47
Time: 2:00 PM - 2:25 PM
Author(s): Jean-Michel Chauveau, Notwenn Le Biavant, Maxime Hugues, Ctr. de recherche sur l'hétéropélitaxie et ses applications (France); Míq Julien Tamayo-Ariola, Instituto de Sistemas Optoelectrónicos y Microtecnología, Univ. Politécnica de Madrid (Spain); Amaud Jollivet, Ctr. de Ni de Nanotechnologies (France); Borislav Hinkov, Harth Thi Hoang, Technische Univ. Wien (Austria); Bo Meng, ETH Zurich (Switzerland); Denis de recherche sur l'hétéropélitaxie et ses applications (France); Maria Tkhrnycheva, François H. Julien, Ctr. de Nanosciences et de Nanotechnc (France); Gottfried Strasser, Technische Univ. Wien (Austria); Adrián Hierro, Instituto de Sistemas Optoelectrónicos y Microtecnología, Univ. Po Madrid (Spain); Jérome Faist, ETH Zurich (Switzerland)

Quantum Cascade Lasers are very efficient and already commercialized. Now lots of effort are made to shift from IR to THz due to the num applications linked to this wavelength domain. But the operation temperature is still limited to ~200 K in the THz range due to an intrinsic limit material systems used (related to the low LO-phonon energy of III-V compounds). In this presentation we will show that Zinc Oxide could be a candidate for this application thanks to its large LO-phonon energy (72 meV). Nevertheless, the quantum cascade devices represent a firm challenge in terms of design, growth and processing. Establishing a new state-of-the-art for the design, growth and processing of ZnO/ZnM
erosstructures is the main aim of our project funded by the European Commission's HORIZON 2020 ("ZOTERAC" FET-OPEN 6655107), presentation we will review our strategies to tackle these issues to achieve THz emitters.

Direct studies on nonlinear oxide crystals able to generate mid-infrared parametric light (Conference Presentation) (Invited Paper)
Paper 11231-48
Time: 2:25 PM - 2:50 PM
Author(s): Patricia Segonds, Benoît Boulanger, Institut NÉEL (France)

Q-switch using magneto-optical garnet film for holographic application (Invited Paper)
Paper 11231-51
Time: 2:50 PM - 3:15 PM
Author(s): Taichi Goto, Shutoar Nakata, Yuichi Nakamura, Hironaga Uchida, Mitsutaro Insue, Toyohashi Univ. of Technology (Japan)

Multiple roles of oxides interfacing metal plasmonic nanoparticles: a new way to tailor functionality (Invited Paper)
Paper 11231-78
Time: 3:15 PM - 3:40 PM
Author(s): Maria Losurdo, Istituto di Nanotecnologia (Italy); Yael Gulérez Vela, Univ. de Cantabria (Spain); Maria Michela Giangregorio, Istituto Nanotecnologia (Italy); Fernando Moreno, Univ. de Cantabria (Spain); April S. Brown, Duke Univ. (United States)

Coffee Break 3:40 PM - 4:00 PM

Session 11: Material Properties

Wednesday 5 February 2020
4:00 PM - 5:45 PM
Location: Room 70 (Lower Mezzanine South)

Session Chairs: Takeyoshi Onuma, Kogakuin Univ. (Japan); David J. Rogers, Nanovation (France)

DUV cathodoluminescence in rocksalt-structured MgZnO films (Conference Presentation) (Invited Paper)
Paper 11231-52
Time: 4:00 PM - 4:25 PM
Author(s): Takeyoshi Onuma, Mizuki Ono, Kanta Kudo, Kogakuin Univ. (Japan); Kyochi Ishii, Kentaro Kaneko, Shizuo Fujita, Kyoto Univ. (Japan); Honda, Kogakuin Univ. (Japan)

Fast optical activation of insulator-to-metal transition in vanadium dioxide (VO2) phase changed materials
Paper 11231-53
Time: 4:25 PM - 4:40 PM
Author(s): Aurelian Crunteanu-Stanescu, Jean-Christophe Oflangues, Annie Bessaudou, XLM (France)