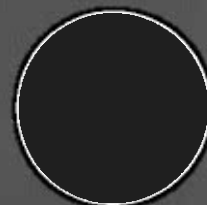


SPIE. PHOTONICS
WEST

CONNECTING MINDS.
ADVANCING LIGHT.



PHOTONICS WEST

TECHNICAL PROGRAM

BIOS

LASE

OPTO

The Moscone Center
San Francisco, California, USA

Conferences + Courses
28 January-2 February 2017

Photonics West Exhibition
31 January-2 February 2017

BIOS Expo
28-29 January 2017

www.spie.org/pw

CONFERENCE 10105

SESSION 4

ROOM: 303 (SOUTH ESPLANADE) MON 10:30 AM TO 12:35 PM

NOTE ROOM CHANGE

Transparent Conducting Oxides

Session Chairs: David C. Look, Wright State Univ. (USA);
Chia Justin, Sunny Technology (China)

10:30 am: **High performance amorphous Zn-Sn-O: Impact of composition, microstructure, and thermal treatments in the optoelectronic properties** (*Invited Paper*), Monica Morales-Masis, Quentin Jeangros, Esteban Rucavado, Federica Landuchi, Aicha Hessler-Wyser, Christophe Ballif, Ecole Polytechnique Fédérale de Lausanne (Switzerland) [10105-1]

10:55 am: **Conformal and doping-tunable conducting oxide coatings for infrared plasmonics** (*Invited Paper*), Justin W. Cleary, Air Force Research Lab. (USA); Ricky Gibson, Evan M. Smith, Shiva Vangala, Air Force Research Lab. (USA) and Wyle Labs. (USA); Isaiah O. Oladeji, SISOM Thin Films, LLC (USA); Farnood Khalilzadeh-Rezaie, Robert E. Peale, Univ. of Central Florida (USA) [10105-2]

11:20 am: **Zn-vacancy related defects in ZnO grown by pulsed laser deposition** (*Invited Paper*), Francis C. Ling, C. Q. Liu, Z. L. Wang, The Univ. of Hong Kong (Hong Kong, China); W. Anwand, Andreas Wagner, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany) [10105-77]

11:45 am: **Doping, co-doping, and defect effects on the plasmonic activity of ZnO-based transparent conductive oxides**, Arrigo Calzolari, Istituto Nanoscienze (Italy); Alice Ruini, Univ. degli Studi di Modena e Reggio Emilia (Italy); Alessandra Catellani, Istituto Nanoscienze (Italy) [10105-3]

12:05 pm: **Model-free determination of optical constants in bulk transparent conductive oxides**, David C. Look, Wright State Univ. (USA) and Air Force Research Lab. (USA) and Wyle Labs. (USA); Buguo Wang, Wright State Univ. (USA) [10105-4]

12:20 pm: **Tailoring the refractive index of ITO thin films by genetic algorithm optimization of the reactive DC-sputtering parameters**, Elnaz Afsharipour, Cyrus Shafai, Univ. of Manitoba (Canada) [10105-5]

Lunch Break Mon 12:35 pm to 1:40 pm

SESSION 5

ROOM: 303 (SOUTH ESPLANADE) MON 1:40 PM TO 3:30 PM

Thin Films and Multilayers for Novel Applications

Session Chairs: Umit Ozgur, Virginia Commonwealth Univ. (USA);
David J. Rogers, Nanovation (France)

1:40 pm: **Quaternary BeMgZnO by MBE and electrical properties of BeMgZnO/ZnO heterostructures** (*Invited Paper*), Umit Ozgur, Vitaliy Avrutin, Virginia Commonwealth Univ. (USA) [10105-6]

2:10 pm: **Exceptional points in anisotropic photonic structures: from non-Hermitian physics to possible device applications** (*Invited Paper*), Marius Grundmann, Steffen Richter, Tom Michalsky, Chris Sturm, Rüdiger Schmidt-Grund, Univ. Leipzig (Germany); Jesús Zúñiga-Pérez, CNRS-CRHEA (France) [10105-7]

2:40 pm: **Oxide-based materials by atomic layer deposition** (*Invited Paper*), Marek Godlewski, Rafał Pietruszka, Jarosław Kaszewski, Bartłomiej S. Witkowski, Sylwia A. Gieraltowska, Łukasz Wachnicki, The Institute of Physics, Polish Academy of Sciences (Poland); Michał Godlewski, Anna Słomska, Zdzisław Gajewski, Warsaw Univ. of Life Sciences SGGW (Poland) ... [10105-8]

3:05 pm: **X-chromism oxides for energy saving** (*Invited Paper*), Aline D. Rougier, Manuel Gaudon, Institut de Chimie de la Matière Condensée de Bordeaux (France) [10105-9]

Coffee Break Mon 3:30 pm to 4:00 pm

SESSION 6

ROOM: 303 (SOUTH ESPLANADE) MON 4:00 PM TO 5:40 PM

Oxides for the IR: Plasmonics and Intersubband Transitions I

Session Chairs: Adrián Hierro, Univ. Politécnica de Madrid (Spain);
Ferechteh H. Teherani, Nanovation (France)

4:00 pm: **Non-polar ZnO/(Zn,Mg)O heterostructures for intersubband devices: novel applications with an old material system?** (*Invited Paper*), Jean-Michel Chauveau, Maxime Hugues, Nolwenn Le Biavan, Denis Lefebvre, Ctr. de Recherche sur l'Hétéro-Epitaxie et ses Applications (France); Miguel Montes Bajo, Julien Tamayo-Arriola, Adrián Hierro, Univ. Politécnica de Madrid (Spain); Patrick Quach, Arnaud Jollivet, Nathalie Isac, Adel Bousseksou, Maria Tchernycheva, François H. Julien, Univ. Paris-Sud 11 (France); Borislav Hinkov, Gottfried Strasser, Technische Univ. Wien (Austria); Romain Peretti, Giacomo Scaleri, Jérôme Faist, ETH Zürich (Switzerland) [10105-11]

4:25 pm: **Mid-IR intersubband absorption in m-plane ZnO/ZnMgO MQWs** (*Invited Paper*), Miguel Montes Bajo, Julien Tamayo-Arriola, Jose María M. Ulloa, Univ. Politécnica de Madrid (Spain); Arnaud Jollivet, Nathalie Isac, Adel Bousseksou, Maria Tchernycheva, François H. Julien, Univ. Paris-Sud 11 (France); Romain Peretti, Jérôme Faist, ETH Zürich (Switzerland); Nolwenn Le Biavan, Maxime Hugues, Jean-Michel Chauveau, Ctr. de Recherche sur l'Hétéro-Epitaxie et ses Applications (France); Adrian Hierro, Univ. Politécnica de Madrid (Spain) [10105-12]

4:50 pm: **Phononic properties of oxide superlattices and multi-quantum-well heterostructures** (*Invited Paper*), Markus R. Wagner, Juan Sebastian Reparaz, Gordon Callsen, Felix Nippert, Thomas Kure, Axel Hoffmann, Technische Univ. Berlin (Germany); Maxime Hugues, Monique Taysseire, Benjamin Damilano, Jean-Michel Chauveau, Ctr. de Recherche sur l'Hétéro-Epitaxie et ses Applications (France) [10105-13]

5:15 pm: **Precise control of plasmonic resonance wavelengths from 1.0 to 3.7 microns in Zn_{0.97}Ga_{0.03}O** (*Invited Paper*), David C. Look, Wright State Univ. (USA); Kevin D. Leedy, Air Force Research Lab. (USA); Gordon J. Grzybowski, Wyle Labs. (USA); Bruce B. Claffin, Air Force Research Lab. (USA) ... [10105-14]

TUESDAY 31 JANUARY

SESSION 7

ROOM: 303 (SOUTH ESPLANADE) TUE 8:30 AM TO 10:10 AM

Oxide-based Photonics I

Session Chairs: Magnus Willander, Linköping Univ. (Sweden);
Vinod Eric Sandana, Nanovation (France)

8:30 am: **Mechanisms of the persistent luminescence in Cr³⁺:ZnGa₂O₄ transparent glass-ceramics** (*Invited Paper*), Bruno Viana, Victor Cataing, Morgane Pellerin, Atul Sontakke, Laurent Bient, Didier Gourier, Alberto Jose, Mathieu Allix, Ecole Nationale Supérieure de Chimie de Paris (France) [10105-15]

8:55 am: **Blue light emission from ZnO-graphene hybrid quantum dot**, Won Kook Choi, Korea Institute of Science and Technology (Korea, Republic of); Hong Hee Kim, Korea Institute of Science and Technology (Korea, Republic of) and Yonsei Univ. (Korea, Republic of); Cheolmin Park, Yonsei Univ. (Korea, Republic of); Do Kyung Hwang, Yeonju Lee, Korea Institute of Science and Technology (Korea, Republic of) [10105-16]

9:10 am: **Optical and defect properties of CaSc₂O₄:Ce³⁺ phosphor with and without Mg²⁺ charge compensation**, Suchinder K. Sharma, Chalmers Univ. of Technology (Sweden); Marco Bettinelli, Univ. degli Studi di Verona (Italy) and Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (Italy); Nathan George, The Materials Research Lab., Univ. of California, Santa Barbara (USA); Irene Carrasco, Univ. degli Studi di Verona (Italy) and Consorzio Interuniversitario Nazionale per la Scienza e Tecnologia dei Materiali (Italy); Ram Seshadri, The Materials Research Lab., Univ. of California, Santa Barbara (USA); Maths Karlsson, Chalmers Univ. of Technology (Sweden) ... [10105-17]

9:25 am: **Afterglow luminescence in sol-gel/Pechini grown oxide materials: persistence or phosphorescence process?**, Atul Sontakke, Alban Ferrier, Bruno Viana, Ecole Nationale Supérieure de Chimie de Paris (France) [10105-18]

9:40 am: **Visualization of plasmon-enhanced photocarrier generation in ZnO/Ag nanogratings**, Minji Gwon, Ahum Sohn, Yuna Cho, Dong-Wook Kim, Ewha Womans Univ. (Korea, Republic of) [10105-21]

9:55 am: **Growth orientations and crystal structures of ZnO nanoneedles using Ag nanoparticles as catalyst in vapor-liquid-solid growth**, Yu-Feng Yao, Chi-Ming Weng, Shaobo Yang, Huang-Hui Lin, Chen-Yao Chao, Hao-Tsung Chen, Yean-Woei Klang, Chih-Chung Yang, National Taiwan Univ. (Taiwan) [10105-22]

Coffee Break Tue 10:10 am to 10:40 am