

CONFERENCE 10553

LOCATION: ROOM 206 (SOUTH LEVEL 2)

Monday–Thursday 29 January–1 February 2018 • Proceedings of SPIE Vol. 10553

Novel In-Plane Semiconductor Lasers XVII

Conference Chairs: **Alexey A. Belyanin**, Texas A&M Univ. (USA); **Peter M. Smowton**, Cardiff Univ. (United Kingdom)

Program Committee: **Yasuhiko Arakawa**, The Univ. of Tokyo (Japan); **Mikhail A. Belkin**, The Univ. of Texas at Austin (USA); **Dan Botez**, Univ. of Wisconsin-Madison (USA); **Federico Capasso**, Harvard School of Engineering and Applied Sciences (USA); **Gary A. Evans**, Southern Methodist Univ. (USA); **Michael Kneissl**, Technische Univ. Berlin (Germany); **Luke F. Lester**, Virginia Polytechnic Institute and State Univ. (USA); **Shinji Matsuo**, NTT Photonics Labs. (Japan); **Luke J. Mawst**, Univ. of Wisconsin-Madison (USA); **Jerry R. Meyer**, U.S. Naval Research Lab. (USA); **Roberto Papiella**, Boston Univ. (USA); **Richard V. Penty**, Univ. of Cambridge (United Kingdom); **Johann Peter Reithmaier**, Univ. Kassel (Germany); **Haisheng Rong**, Intel Corp. (USA); **Gary M. Smith**, MIT Lincoln Lab. (USA); **Nelson Tansu**, Lehigh Univ. (USA); **Miriam Serena Vitiello**, Consiglio Nazionale delle Ricerche (Italy); **Qi Jie Wang**, Nanyang Technological Univ. (Singapore)

MONDAY 29 JANUARY

OPTO PLENARY SESSION

LOCATION: ROOM 3009 (WEST LEVEL 3) 8:00 AM TO 10:10 AM

- 8:00 am: **Welcome and Opening Remarks**
Connie J. Chang-Hasnain, Univ. of California, Berkeley (USA); **Graham T. Reed**, Optoelectronics Research Ctr. (United Kingdom)
- 8:00 am: **Presentation of 2018 SPIE Chandra S. Vikram Award in Optical Metrology**
Presented by SPIE President to:
Karl A. Stetson, Karl Stetson Associates (USA)
- 8:05 am: **Presentation of 2018 SPIE Technology Achievement Award**
Presented by SPIE President to: **Paul Daniel Dapkus**, Univ. of Southern California, Los Angeles (USA)
- 8:10 am: **Silicon Photonics: Bigger is Better**
Andrew G. Rickman, Rockley Photonics Ltd. (United Kingdom)
- 8:50 am: **III-nitride nanowire LEDs and diode lasers: monolithic light sources on (001) Si emitting in the 600–1300nm range**
Pallab K. Bhattacharya, Ctr. for Photonics and Multiscale Nanomaterials, Univ. of Michigan (USA)
- 9:30 am: **Photonics beyond the diffraction limit**
Min Gu, Lab. of Artificial-Intelligence Nanophotonics, RMIT Univ. (Australia)

For details see page 12.

Coffee Break. Mon 10:10 am to 10:30 am

SESSION 1

LOCATION: ROOM 206 (SOUTH LEVEL 2) MON 10:30 AM TO 12:20 PM

Developing Laser Materials

Session Chair: **Nelson Tansu**, Lehigh Univ. (USA)

- 10:30 am: **Characterization of (GaIn)As/Ga(AsSb)/(GaIn)As “W”-quantum well lasers at 1.3 μm**, Christian Fuchs, Anja Brüggemann, Maria J. Weseloh, Christian Berger, Christoph Möller, Stefan Reinhard, Philipps-Univ. Marburg (Germany); Jörg Hader, Nonlinear Control Strategies, Inc. (USA) and The Univ. of Arizona (USA); Ada Bäumner, Stephan W. Koch, Philipps-Univ. Marburg (Germany); Jerome V. Moloney, Nonlinear Control Strategies, Inc. (USA) and The Univ. of Arizona (USA) [10553-1]
- 10:50 am: **Toward edge-emitting 1550-nm InGaAsP laser diodes grown on (001) Si and SOI substrates by MOCVD**, Ludovico Megalini, Simone Tommaso Suran Brunelli, Bastien Bonef, Hongwei Zhao, Aidan Taylor, Kunal Mukherjee, James S. Speck, John E. Bowers, Jonathan Klamkin, Univ. of California, Santa Barbara (USA) [10553-2]
- 11:10 am: **GaN-based F-P cavity and micro-cavity laser diodes grown on Si (Invited Paper)**, Qian Sun, Key Lab. of Nano-Devices and Applications, Chinese Academy of Sciences (China) and Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO) CAS (China) [10553-3]

11:40 am: **Cavity design based on scattering for reversibly wavelength tunable nanowire laser**, Minghua Zhuge, Qing Yang II, Zhejiang Univ. (China); Tawfique Hasan, Zongyin Yang, Univ. of Cambridge (United Kingdom); Chenlei Pang, Zhejiang Univ. (China) [10553-4]

12:00 pm: **Laser diodes using InAlGaAs multiple quantum wells intermixed to varying extent**, Yousef Alahmadi, CREOL, The College of Optics and Photonics, Univ. of Central Florida (USA) and King Abdulaziz City for Science and Technology (Saudi Arabia); Patrick L. Likamwa, CREOL, The College of Optics and Photonics, Univ. of Central Florida (USA) [10553-56]

Lunch Break Mon 12:20 pm to 1:50 pm

SESSION 2

LOCATION: ROOM 206 (SOUTH LEVEL 2) MON 1:50 PM TO 3:30 PM

Nitrides/Visible Emitting Lasers

Session Chair: **Michael Kneissl**, Technische Univ. Berlin (Germany)

- 1:50 pm: **Defect evolution during catastrophic optical damage in 450-nm emitting InGaN/GaN diode lasers (Invited Paper)**, Jens W. Tomm, Robert Kernke, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany); Andreas Löffler, Bernhard Stojetz, Alfred Lell, OSRAM Opto Semiconductors GmbH (Germany) [10553-5]
- 2:20 pm: **Band anticrossing model in dilute-Anion III-nitrides**, Justin Goodrich, Damir Borovac, Lehigh Univ. (USA); Chee-Keong Tan, Clarkson Univ. (USA); Nelson Tansu, Lehigh Univ. (USA) [10553-6]
- 2:40 pm: **10th-order laterally coupled GaN-based DFB laser diodes with v-shaped surface gratings (Invited Paper)**, Ji Hye Kang, Ferdinand-Braun-Institut (Germany) and Leibniz-Institut für Höchstfrequenztechnik (Germany); Hans Wenzel, Veit Hoffmann, Erik Freier, Ferdinand-Braun-Institut (Germany); Luca Sulmoni, Technische Univ. Berlin (Germany); Wilfred John, Sven Einfeldt, Ferdinand-Braun-Institut (Germany); Tim Wernicke, Michael Kneissl, Technische Univ. Berlin (Germany) [10553-7]
- 3:10 pm: **Characteristics of dilute-As InGaNAs quantum wells for laser active regions**, Wei Sun, Damir Borovac, Lehigh Univ. (USA); Chee-Keong Tan, Clarkson Univ. (USA); Nelson Tansu, Lehigh Univ. (USA) [10553-8]
- Coffee Break. Mon 3:30 pm to 4:00 pm

SESSION 3

LOCATION: ROOM 206 (SOUTH LEVEL 2) MON 4:00 PM TO 5:00 PM

Antimonide-based Mid-IR Lasers

Session Chair: **Leon Shterengas**, Stony Brook Univ. (USA)

- 4:00 pm: **New GasB-based single-mode diode lasers in the NIR and MIR spectral regime for sensor applications**, Tobias Milde, Sacher Lasertechnik GmbH (Germany); Morten Hoppe, Technische Hochschule Mittelhessen (Germany); Alvaro Jimenez, Hervé Tatenguern, Martin Honsberg, Sacher Lasertechnik GmbH (Germany); James O’Gorman, Sensor Photonics GmbH (Germany); Wolfgang Schade, Technische Univ. Clausthal (Germany); Joachim R. Sacher, Sacher Lasertechnik GmbH (Germany) [10553-9]
- 4:20 pm: **Reliability of GaSb-based laser for space applications**, Mathieu Fradet, Ryan Briggs, Clifford F. Frez, Siamak Forouhar, Jet Propulsion Lab. (USA) [10553-10]
- 4:40 pm: **Mid-infrared laser based on bound states in the continuum**, David E. Zelmon, Air Force Research Lab. (USA) [10553-11]

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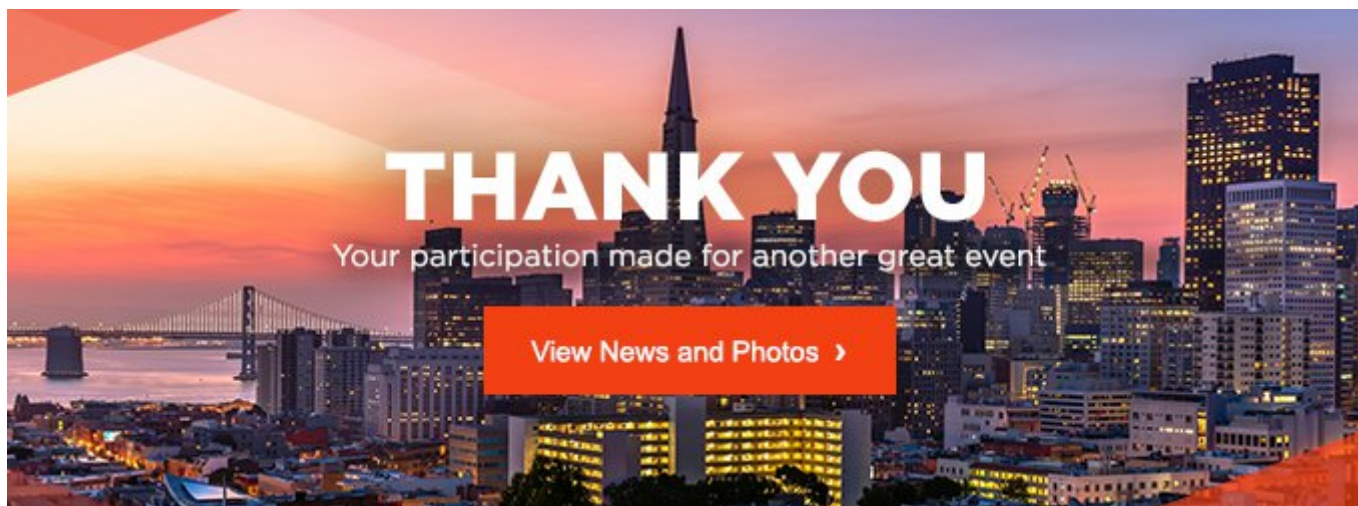
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