

Novel In-Plane Semiconductor Lasers XIX

Monday - Thursday 3 - 6 February 2020

Conference Sessions At A Glance

SHOW | HIDE

OPTO Plenary Session

- 1: Nitride and Visible Lasers
- 2: Materials Development
- 3: QD and Lasers on Silicon
- 4: Lasers on Silicon
- 5: Material Design for Short Pulse
- 6: Datacom and Telecom
- 7: Photonic Bandgap and Microcavity
- 8: Topological Lasers, Laser Arrays, and Metasurfaces
- 9: QCL Frequency Combs and Mode Locking
- 10: QCL Frequency Combs, Mode Locking, and Spectroscopy Applications

Posters-Wednesday

- 11: High Power/High Brightness
- 12: QCLs: Novel Design and Integration
- 13: Mid-IR Lasers

Important Dates

Abstract Due:
24 July 2019

Author Notification:
30 September 2019

Manuscript Due Date:
8 January 2020

Conference Committee

Conference Chairs

[Alexey A. Belyanin](#), Texas A&M Univ. (United States)
[Peter M. Smowton](#), Cardiff Univ. (United Kingdom)

Program Committee

Yasuhiko Arakawa, The Univ. of Tokyo (Japan)
[Mikhail A. Belkin](#), Walter Schottky Institut (Germany)
[Dan Botez](#), Univ. of Wisconsin-Madison (United States)
[Federico Capasso](#), Harvard John A. Paulson School of Engineering and Applied Sciences (United States)
Gary A. Evans, Southern Methodist Univ. (United States)
[Mariangela Gioannini](#), Politecnico di Torino (Italy)
[Michael Kneissl](#), Technische Univ. Berlin (Germany)
[Sophie Lange](#), Microsoft Research Cambridge (United Kingdom)
Kei-May Lau, Hong Kong Univ. of Science and Technology (Hong Kong, China)
[Luke F. Lester](#), Virginia Polytechnic Institute and State Univ. (United States)
[Shinji Matsuo](#), NTT Device Technology Labs. (Japan)

Program Committee continued...

[Luke J. Mawst](#), Univ. of Wisconsin-Madison (United States)
[Jerry R. Meyer](#), U.S. Naval Research Lab. (United States)
[Roberto Paiella](#), Boston Univ. (United States)
[Katrin Paschke](#), Ferdinand-Braun-Institut (Germany)
[Richard V. Pentyl](#), Univ. of Cambridge (United Kingdom)
Johann Peter Reithmaier, Univ. Kassel (Germany)
[Haisheng Rong](#), Intel Corp. (United States)
[Gary M. Smith](#), MIT Lincoln Lab. (United States)
Nelson Tansu, Lehigh Univ. (United States)
[Miriam S. Vitiello](#), Istituto Nanoscienze (Italy)
[Qi Jie Wang](#), Nanyang Technological Univ. (Singapore)
Wanhua Zheng, Institute of Semiconductors, CAS (China)

MONDAY 3 FEBRUARY

Shc 


Session Plan: OPTO Plenary Session

Topological and supersymmetric laser arrays (Conference Presentation) (Invited Paper)

Paper 11301-35

Time: 10:30 AM - 11:00 AM


Author(s): Mercedeh Khajavikhan, The Univ. of Southern California (United States); Mohammad Hokmabadi, Jae Hyuck Choi, Demetrios Chris CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States)

[Add To My Schedule](#) **Towards the experimental demonstration of topological Haldane lattice in microring laser arrays (Conference Presentation)**

Paper 11301-36

Time: 11:00 AM - 11:20 AM

Author(s): Yuzhou G. Liu, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); Pawel Jung, Warsaw Univ. of (Poland), CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States); Midya Parto, William E. Hayenga, Demetrios Christodoulides, Mercedeh Khajavikhan, CREOL, The College of Optics and Photonics, Univ. of Central Florida (United States)

[Add To My Schedule](#) **Towards electrically pumped topological insulator lasers (Conference Presentation)**

Paper 11301-37

Time: 11:20 AM - 11:40 AM


Author(s): JaeHyuck Choi, William Hayenga, Midya Parto, Yuzhou Liu, Demetrios Christodoulides, Mercedeh Khajavikhan, Univ. of Central Florida (United States)

[Add To My Schedule](#) **Frequency-agile metasurface quantum-cascade lasers (Conference Presentation) (Invited Paper)**

Paper 11301-38

Time: 11:40 AM - 12:10 PM

Author(s): Christopher A. Curwen, Univ. of California, Los Angeles (United States); John L. Reno, Sandia National Labs. (United States); Benja Williams, Univ. of California, Los Angeles (United States)

[Add To My Schedule](#) 

Lunch/Exhibition Break 12:10 PM - 1:40 PM

**Session 9:
QCL Frequency Combs and Mode Locking**

Wednesday 5 February 2020

1:40 PM - 3:20 PM

Location: Room 306 (Level 3 South)


Session Chair: Giacomo Scalari, ETH Zurich (Switzerland)

Ultrafast gain dynamics in quantum cascade lasers: new coherent phenomena and their applications (Conference Presentation) (Key Presentation)

Paper 11301-39

Time: 1:40 PM - 2:20 PM


Author(s): Federico Capasso, Harvard John A. Paulson School of Engineering and Applied Sciences (United States)


[Add To My Schedule](#) **Frequency-comb generation in ring-injection lasers by defect engineering (Invited Paper)**

Paper 11301-40

Time: 2:20 PM - 2:50 PM

Author(s): Marco Piccardo, Harvard Univ. (United States); Benedikt Schwarz, Maximilian Beiser, Technische Univ. Wien (Austria); Dmitry Kazak Univ. (United States); Yongrui Wang, Texas A&M Univ. (United States); Michele Tamagnone, Wei Ting Chen, Alexander Y. Zhu, Harvard Univ. (United States); Alexey Belyanin, Texas A&M Univ. (United States); Federico Capasso, Harvard Univ. (United States)

[Add To My Schedule](#) 

We demonstrate fundamental and harmonic frequency combs in monolithic ring quantum cascade lasers. We show by experiment  and simulating that embedding defects in the waveguide is the key to control comb formation in these cavities.

Understanding frequency-modulated combs (Conference Presentation) (Invited Paper)

Paper 11301-41