High-Power Diode Laser Technology XIX (LA105)

Conference Chair: Mark S. Zediker, NUBURU, Inc. (USA)

Program Committee: Friedrich G. Bachmann, FriBa LaserNet Consulting (Germany); Stefan W. Heinemann, TRUMPF Photonics, Inc. (USA); Volker Krause, Laserline GmbH (Germany); Robert Martinsen, nLIGHT Corp. (USA); Erik P. Zucker, Erik Zucker Consulting (USA)

The High-Power Diode Laser Technology conference provides a forum to introduce the latest advancements in brightness and power scaling of semiconductor laser devices and packages. Innovations in laser architectures based on multi-emitter bars, single emitters, and multi-chip arrays are invited. Technologies of special interest include developments in beam combining (coherent, spatial, spectral, and polarization), wavelength stabilization, high-brightness fiber coupling, high-power semiconductor device design, device-level and package-level reliability, failure mode analysis, high-efficiency operation, high-temperature operation, plus recent progress in power scaling of short wavelength devices.

Papers are solicited on a wide range of topics related to high-power diode laser technology:

**HIGH-POWER VISIBLE LASER DIODES FOR:**
- industrial materials processing, 3D printing, welding, cutting, brazing
- cinema and other display applications
- automotive light sources and other lighting applications
- automotive lidar headlights
- medical therapeutic and bioinstrumentation applications
- novel pumping applications
- reliability testing, modeling, expected lifetime assessments, and failure analysis.

**HIGH-POWER INFRARED LASER DIODES FOR:**
- industrial materials processing; 3D printing, welding, cutting, cladding, brazing
- autonomous vehicle LIDAR and other applications for navigation, collision avoidance, and general 3D sensing illumination
- pump sources for fiber lasers, solid-state lasers, and alkali lasers
- surgical, aesthetic, and other medical applications
- large-scale pump arrays for fusion energy systems and high-energy physics research.

ADVANCES IN HIGH-POWER LASER DIODE DEVICES AND HIGH-BRIGHTNESS INTEGRATION
- low-SWaP (Size, Weight, and Power consumption) diode lasers for defense applications
- novel material systems for high-density packaging and thermal management
- high-brightness beam combination architectures and fiber coupling schemes, including coherent beam combining
- spectral control with on-chip gratings or external cavities
- beam shaping and homogenization technologies
- near- and far-field beam profile control
- device modeling and multi-physics simulation
- high-efficiency epitaxy and low-loss optical coupling
- reliability testing, modeling, expected lifetime assessments, and failure analysis.

**ABSTRACT REQUIREMENTS**

Contributions are accepted based on a peer reviewing process. Contributions to this conference must include the following two separate abstracts:

- 100-word text abstract (for online program)
- 250-word text abstract (for abstract digest).

www.spie.org/la105call

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Follow these instructions to develop a successful abstract and accompanying manuscript for the conference and for publication in the Proceedings of SPIE in the SPIE Digital Library.

How to submit an abstract

1. Browse the conference program and select the conference(s) that most closely matches the topics of the research you wish to present. Important: each abstract may be submitted to one conference only.
2. Click “Submit an Abstract” from within the conference you’ve chosen, and you’ll be prompted to sign in to your spie.org account to complete the submission wizard.

3. If your submission is related to an application track, indicate the appropriate track when prompted during the submission process.

What you will need to submit

A completed electronic submission should include the following:

- Title
- Author(s) information
- 250-word abstract for technical review
- 100-word summary for the program
- Keywords used in search for your paper (optional)
- Your decision on publishing your presentation recording to the SPIE Digital Library (slide capture and audio)
- Check the individual conference Call for Papers for additional requirements (for example, some conferences require 2- to 3-page extended summary for technical review, or have instructions for competing for awards)

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

Important dates

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<td>Abstracts Submission Deadline</td>
<td>15 July 2020</td>
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<td>Acceptance Notification Sent to Contact Author</td>
<td>21 September 2020</td>
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<td>Manuscripts Due (Conferences OE506, and OE801-OE803 Only)</td>
<td>9 December 2020</td>
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<td>Manuscripts Due (All Conferences EXCEPT OE506, and OE801-OE803)</td>
<td>5 January 2021</td>
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Submission agreement

Presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:

- Register and pay the author registration fee
- Attend the meeting
- Present at the scheduled time
- Publish their manuscript in the SPIE Digital Library
- 6-page manuscript minimum for LASE and OPTO; 4-page minimum for BIOS; 20-page maximum
- Obtain funding for registration fees, travel, and accommodations, independent of SPIE, through their sponsoring organizations
- Ensure that all clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor in the USA, allow at least 60 days for clearance.

Review and program placement

To ensure a high-quality conference, all submissions will be assessed by the Conference Chair/Editor for technical merit and suitability of content.

- Conference Chairs/Editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations.
- Final placement in an oral or poster session is subject to Chairs’ discretion.

Publication of Proceedings in the SPIE Digital Library

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- More publication information available on the SPIE Digital Library.

Contact information

For questions about submitting an abstract, or the meeting, contact the Conference Program Coordinator.