

2019 IEEE High Power Diode Lasers and Systems Conference (HPD 2019)

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9 – 10 October 2019**



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Programme

Wednesday 9th October 2019

9:00 Registration opens

10:00 PHOTONEX EUROPE Exhibition opens

12:30 Arrival tea and coffee

12:55 Introduction to meeting

SESSION 1 LIGHT DETECTION AND RANGING (LIDAR)

13:00 **The requirements on pulsed laser diodes for use in atmospheric LIDAR.** 3
Stéphane Victori, *Cimel Electronique (France)*

13:20 **High pulse power wavelength stabilized 905 nm laser bars for automotive LIDAR.** 7
Hans Wenzel, *Ferdinand-Braun-Institute (Germany)*

13:40 **High-power 1.5 μm laser diodes for LIDAR applications.** 9
Jukka Viheriälä, *Tampere University of Technology (Finland)*

14:00 - 14:30 Refreshment break in the exhibition hall

SESSION 2 LIMITS TO RELIABILITY AND EXTENSION TO NOVEL WAVELENGTHS

14:30 **Microscopic degradation and failure processes in high-power diode lasers.** 13
Juan Jiménez, *University of Valladolid (Spain)*

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Tawee Tanbun-Ek, *Coherent Inc. (USA)*

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Eugene Avrutin, *University of York (UK)*

Frequency stabilization of multimode diode lasers with fiber Bragg gratings. 21
Sarah Klein, *Fraunhofer Institute for Laser Technology ILT (Germany)*

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Gaëlle Lucas-Leclin, *Laboratoire Charles Fabry, Institut d'Optique Graduate School (France)*

Measurement of facet optical absorption in high power diode lasers using thermoreflectance. 25
Aman Kumar Jha, *University of Michigan (USA)*

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Martin Adams, *Fraunhofer Institute for Laser Technology ILT (Germany)*

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Anissa Zeghuzi, *Ferdinand-Braun-Institute (Germany)*

High luminous flux laser lighting using single-crystal Ce:YAG phosphor. 31
Anastasiia Krasnoshchoka, *Technical University of Denmark (Denmark)*

Compact module for high power coherent beam combining of tapered amplifiers. 33
Gaëlle Lucas-Leclin, *Laboratoire Charles Fabry, Institut d'Optique Graduate School (France)*

Thermal boundary resistance between GaAs and p-side metal as limit to high power diode lasers. 35
Juliane Rieprich, *Ferdinand-Braun-Institute (Germany)*

16:10 **Poster session**
17:05 *Networking*
18:45 *Conference Dinner at the Jaguar Lounge, Ricoh Arena (meal served at 19:15)*

Thursday 9th October 2019

09:00 *Arrival tea and coffee*
09:35 *Welcome back*

SESSION 3 EFFICIENCY, BRIGHTNESS, POWER

09:40 **KEYNOTE ADDRESS: The impact of carrier recombination and loss processes on high efficiency and high power lasers.** **39**
Stephen Sweeney, University of Surrey (UK)

10:20 **Simulation of the slow axis beam properties of broad area lasers and its use in the development of high-brightness sources.** **41**
Carlo Holly, TRUMPF Photonics Inc. (USA)

10:40 **Applications of thermoreflectance imaging to high power diode laser diagnostics.** **43**
Kevin Pipe, University of Michigan (USA)

11:00 - 11:30 Refreshment break in the exhibition hall

SESSION 4 PHOTONIC INTEGRATION FOR HIGH POWER APPLICATIONS AND POST DEADLINE SESSION

11:30 **High power single mode photonic integration.** **47**
Gordon Morrison, Freedom Photonics LLC (USA)

11:50 **High power horizontal cavity surface-emitting InGaN superluminescent diode.** **49**
Juan Morales, Tyndall National Institute (Ireland)

12:10 **Approaches for higher power in GaAs-based broad area diode lasers.** **51**
Seval Arslan, Ferdinand-Braun-Institute (Germany)

12:30 **Concluding comments**

12:35 *Lunchtime break and visit to exhibition (Exhibition and event closes at 16:00)*