



Welcome to ISLC 2021 - 27th International Semiconductor Laser Conference

It is a great pleasure to welcome you to the 27th International Semiconductor Laser Conference (ISLC), which will take place in Potsdam. Potsdam is one of Germany's most beautiful cities and only a short distance away from the capital Berlin. It has played a key role in German, European and world history, which is visible throughout the city.

The ISLC has more than 50 years of tradition, attended by a highly international audience and with locations cycling between the Americas, Asia/Australia and Europe/Mid-East/Africa regions every two years. Since its founding, many new and ground-breaking semiconductor devices have been first presented at this prestigious conference.

We warmly encourage you to attend ISLC 2021 and to submit your most recent research results. We also wish you an enjoyable stay in the beautiful historical city of Potsdam.

The ISLC 2021 will be held as a hybrid event in Potsdam, Germany from October 10 to 14, 2021. This makes the ISLC one of the very first in-person international laser conferences since the COVID-19 outbreak. People interested in the conference who cannot travel to the event are welcome to participate online.



General Chair

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ISLC 2021 is organized by the Ferdinand-Braun-Institut and supported by the IEEE Photonics Society with a technical sponsorship.

Timeline:

Registration:

PROGRAM

Sunday, October 10, 2021

Time in CET – Central European Time (UTC +1)

- 12:00-13:00 **Welcome lunch**
- 13:00-15:00 **Workshop SuP1: Current and future of photo detection technology (Presider: Nobu Nishiyama)**
- 13:00-13:15 **Current and perspective on "classic" photodiodes for telecommunications applications**
Masahiro Nada | NTT research lab, Japan
- 13:15-13:30 **Highly efficient InP-based waveguide photodetectors for optical communication systems**
Hideki Yagi | Sumitomo Electric Industries, Ltd., Japan
- 13:30-13:45 **High performance Ge photodetector with Franz-Keldysh effect on Si-photonics platform for data communication**
Junichi Fujikata | Tokushima University, Japan
- 13:45-14:00 **Miniaturizing atomic systems for timing and sensing applications**
Markus Krutzik | Ferdinand-Braun-Institut gGmbH, Germany
- 14:00-14:15 **CMOS-based SWIR 2D/3D sensing with GeSi technology**
Erik Chen | CEO Artilux Inc, Taiwan
- 14:15-14:30 **On-chip spectroscopy with a single tunable photodetector**
Fengnian Xia | Yale University, USA
- 14:30-15:00 **Panel discussions**
- 15:00-15:30 **Coffee break**
- 15:30-17:45 **Workshop SuP2: Automotive LiDAR: status and technology demands (Presider: David Schleuning)**

- 11:30-11:45 **Over 1 Watt THz QCLs with high doping concentration and variable Al composition in active structure**
Tsung-Tse Lin | RIKEN Center for Advanced Photonics (RAP), Japan
- 11:45-12:00 **Lateral far-field characteristics of interband cascade laser frequency combs**
Lukasz A. Sterczewski | California Institute of Technology, USA
- 12:00-12:15 **Design, fabrication and characterisation of monolithic, optically-coupled, multi-section mid-IR quantum cascade lasers**
Kamil Pierściński | Institute of Microelectronics and Photonics, Poland
- 12:15-12:45 *Invited Talk:*
Frequency comb generation with inter-band cascade lasers
Benedikt Schwarz | TU Wien, Austria
- 12:45-13:45 **Lunch break**
- 13:45-15:00 **Session TuP1: Plenary 3 (Presiders: Paul Crump and Akihiko Kasukawa)**
- 13:45-14:15 *Legend Talk: (sadly withdrawn)*
30 years of breakthroughs in the applications of III-V light sources
Günther Tränkle | Ferdinand-Braun-Institut gGmbH, Germany
- 14:15-15:00 *Plenary Talk:*
Micro- and nano-scale semiconductor lasers
Toshihiko Baba | Yokohama National University, Japan
- 15:00-15:30 **Coffee break**
- 15:30-17:45 **Session TuP2: High Power 1 (Presider: Berthold Schmidt)**
- 15:30-15:45 **Highly asymmetric epitaxial designs for increased power and efficiency in kW-class GaAs-based diode laser bars**
Md. Jarez Miah | Ferdinand-Braun-Institut gGmbH, Germany
- 15:45-16:00 **Origin of the longitudinal current crowding effect in high power diode lasers**
Paul O. Leisher | Freedom Photonics LCC, USA
- 16:00-16:15 **Efficiency optimization of high-power GaAs lasers by balancing confinement and threshold**
Anisuzzaman Boni | Ferdinand-Braun-Institut gGmbH, Germany
- 16:15-16:30 **Investigations on operational reliability of 808 nm QCW laser diode half-bars for space-borne applications**
Karl Häusler | Ferdinand-Braun-Institut gGmbH, Germany
- 16:30- **The impact of longitudinal spatial hole burning on the carrier density profile in high-power lasers**