PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 8432

, "Front Matter: Volume 8432," Proc. SPIE 8432, Semiconductor Lasers and Laser Dynamics V, 843201 (30 May 2012); doi: 10.1117/12.979313

SPIE.

Event: SPIE Photonics Europe, 2012, Brussels, Belgium

PROCEEDINGS OF SPIE

Semiconductor Lasers and Laser Dynamics V

**Krassimir Panajotov
Marc Sciamanna
Angel Valle
Rainer Michalzik**
Editors

**16–19 April 2012
Brussels, Belgium**

Sponsored by
SPIE

Cosponsored by
B-PHOT—Brussels Photonics Team (Belgium)
Brussels-Capital Region (Belgium)
FWO—Fonds Wetenschappelijk Onderzoek (Belgium)
ICO—International Commission for Optics
Ville de Bruxelles (Belgium)

Cooperating Organisations
CBO-BCO (Belgium)
EOS—European Optical Society (Germany)
IET—The Institution of Engineering and Technology (United Kingdom)
IOP—Institute of Physics (United Kingdom)
Photonics4Life (Germany)
Photonics@be (Belgium)
Photonics 21 (Germany)
PromOptica (Belgium)

Published by
SPIE

Volume 8432

Proceedings of SPIE, 0277-786X, v. 8432

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Semiconductor Lasers and Laser Dynamics V*, edited by Krassimir Panajotov, Marc Sciamanna, Angel Valle, Rainer Michalzick, Proceedings of SPIE Vol. 8432 (SPIE, Bellingham, WA, 2012) Article CID Number.

ISSN 0277-786X

ISBN 9780819491244

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Copyright © 2012, Society of Photo-Optical Instrumentation Engineers

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/12/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.

Contents

xi Conference Committee

SESSION 1 VCSELS I

- 8432 02 **High-speed VCSELS for energy efficient computer interconnects (Invited Paper)** [8432-01]
P. Moser, P. Wolf, Technische Univ. Berlin (Germany); J. A. Lott, Vertically Integrated Systems GmbH (Germany); G. Larisch, Technische Univ. Berlin (Germany); A. Payusov, Technische Univ. Berlin (Germany) and St. Petersburg Academic Univ. (Russian Federation); A. Mutig, W. Unrau, Technische Univ. Berlin (Germany); N. N. Ledentsov, Vertically Integrated Systems GmbH (Germany); W. Hofmann, Technische Univ. Berlin (Germany); D. Bimberg, Technische Univ. Berlin (Germany) and King Abdulaziz Univ. (Saudi Arabia)
- 8432 03 **New standards in high-speed and tunable long wavelength VCSELS (Invited Paper)** [8432-02]
T. Gruendl, M. Mueller, M.-C. Amann, Technische Univ. Muenchen (Germany)
- 8432 04 **Hybrid integration approach of VCSELS for miniaturized optical deflection of microparticles** [8432-03]
A. Bergmann, N. I. Khan, J. A. Martos Calahorra, D. Wahl, R. Michalzik, Ulm Univ. (Germany)
- 8432 05 **Transverse mode and polarization characteristics of AlGaInP-based VCSELS with integrated multiple oxide apertures** [8432-04]
S. Weidenfeld, H. Niederbracht, M. Eichfelder, M. Jetter, P. Michler, Univ. of Stuttgart (Germany)
- 8432 06 **VCSELS with two-sided beam emission for pressure sensor applications** [8432-05]
B. Fischer, Vienna Univ. of Technology (Austria); A. Strodl, A. Hein, Univ. Ulm (Germany); E. Wintner, Vienna Univ. of Technology (Austria); R. Michalzik, Univ. Ulm (Germany)

SESSION 2 VCSELS II

- 8432 09 **Red AlGaInP-VECSEL emitting at around 665 nm: strain compensation and performance comparison of different epitaxial designs** [8432-73]
T. Schwarzbäck, H. Kahle, M. Jetter, P. Michler, Univ. of Stuttgart (Germany)
- 8432 0A **Three-dimensional simulation of 1300-nm AlGaInAs VCSEL arrays** [8432-08]
T. Czystanowski, M. Dems, M. Wasiak, R. P. Sarzala, Technical Univ. of Lodz (Poland)
- 8432 0B **Polarization mode structure in long-wavelength wafer-fused vertical-cavity surface-emitting lasers (Best Student Paper Award)** [8432-09]
N. Volet, V. Iakovlev, A. Sirbu, Ecole Polytechnique Fédérale de Lausanne (Switzerland); A. Caliman, G. Suruceanu, A. Mereuta, Beam Express S.A. (Switzerland); E. Kapon, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

- 8432 OC **Electro-optically modulated coupled-cavity VCSELs: electrical design optimization for high-speed operation** [8432-10]
M. Zujewski, H. Thienpont, Vrije Univ. Brussel (Belgium); K. Panajotov, Vrije Univ. Brussel (Belgium) and Institute of Solid State Physics (Bulgaria)

SESSION 3 QUANTUM DOT LASERS I

- 8432 OG **Quantum dot microlasers with external feedback: a chaotic system close to the quantum limit** [8432-14]
F. Albert, C. Hopfmann, C. Schneider, S. Höfling, L. Worschech, M. Kamp, W. Kinzel, A. Forchel, S. Reitzenstein, Julius-Maximilians-Univ. Würzburg (Germany) I. Kanter, Bar-Ilan Univ. (Israel)
- 8432 OH **Intra-cavity absorber photocurrent characteristics of a quantum dot laser emitting on two emission-states: experiment and simulation** [8432-15]
S. Breuer, Technische Univ. Darmstadt (Germany); M. Rossetti, Politecnico di Torino (Italy); L. Drzewietzki, Technische Univ. Darmstadt (Germany); I. Montrosset, Politecnico di Torino (Italy); M. Hopkinson, Univ. of Sheffield (United Kingdom); W. Elsässer, Technische Univ. Darmstadt (Germany)

SESSION 4 QUANTUM CASCADE LASERS I

- 8432 OI **High performance GaAs/AlGaAs quantum cascade lasers: optimization of electrical and thermal properties (Invited Paper)** [8432-16]
M. Bugajski, K. Kosiel, A. Szerling, P. Karbownik, K. Pierściński, D. Pierścińska, Institute of Electron Technology (Poland); G. Hałdaś, A. Kolek, Rzeszów Univ. of Technology (Poland)
- 8432 OL **Facet reflectivity reduction of quantum cascade lasers by tilted facets** [8432-19]
S. I. Ahn, C. Schwarzer, S. Kalchmair, R. Gansch, D. Ristanic, T. Zederbauer, P. Reiniger, H. Detz, A. M. Andrews, W. Schrenk, G. Strasser, Vienna Univ. of Technology (Austria)
- 8432 OM **Experimental analysis of thermal properties of AlGaAs/GaAs quantum cascade lasers** [8432-20]
K. Pierściński, D. Pierścińska, M. Iwińska, K. Kosiel, A. Szerling, P. Karbownik, M. Bugajski, Institute of Electron Technology (Poland)

SESSION 5 QUANTUM CASCADE LASERS II

- 8432 ON **Room temperature continuous wave interband cascade lasers for gas sensing (Invited Paper)** [8432-21]
S. Höfling, R. Weih, A. Bauer, M. Kamp, A. Forchel, Julius-Maximilians-Univ. Würzburg (Germany)
- 8432 OO **Near-field characteristics of broad area diode lasers during catastrophic optical damage failure** [8432-22]
M. Hempel, J. W. Tomm, Max-Born-Institut (Germany); M. Baeumler, H. Konstanzer, Fraunhofer Institut für Angewandte Festkörperphysik (Germany); J. Mukherjee, Univ. of Surrey (United Kingdom); T. Elsaesser, Max-Born-Institut (Germany)

8432 0Q **Spatial “rocking” for improving the spatial quality of the beam of broad area semiconductor lasers** [8432-24]
M. Radziunas, Weierstrass Institute (Germany); K. Staliunas, Univ. Politècnica de Catalunya (Spain) and Institutio Catalana de Reserca i Estudis Avancats (Spain)

8432 0R **Narrow linewidth discrete mode laser diodes at 1550 nm** [8432-25]
J. O’Carroll, Eblana Photonics Ltd. (Ireland) and Dublin City Univ. (Ireland); R. Phelan, B. Kelly, D. Byrne, Eblana Photonics Ltd. (Ireland); F. Smyth, B. Cardiff, P. M. Anandarajah, L. P. Barry, Dublin City Univ. (Ireland)

SESSION 6 SEMICONDUCTOR LASERS

8432 0T **Laterally-coupled high power GaSb distributed feedback lasers fabricated by nanoimprint lithography at 2 μ m wavelength** [8432-27]
K. Haring, J. Paajaste, R. Koskinen, S. Suomalainen, J. Viheriälä, A. Laakso, T. Niemi, M. Guina, Tampere Univ. of Technology (Finland)

8432 0V **Narrow linewidth 1120 nm GaInAs/GaAs VECSEL for cooling Mg⁺ ions** [8432-29]
S. Ranta, T. Leinonen, M. Tavast, Tampere Univ. of Technology (Finland); R. Epstein, Areté Associates (United States); M. Guina, Tampere Univ. of Technology (Finland)

8432 0W **Frequency doubled AlGaInP-VECSEL with high output power at 331 nm and a large wavelength tuning range in the UV** [8432-30]
T. Schwarzbäck, H. Kahle, M. Jetter, P. Michler, Univ. of Stuttgart (Germany)

SESSION 7 MODE-LOCKING

8432 0Y **Passively mode-locked 1 GHz MOPA system generating sub-500-fs pulses after external compression** [8432-32]
T. Ulm, F. Harth, Photonik-Zentrum Kaiserslautern e.V. (Germany); A. Klehr, G. Erbert, Ferdinand-Braun-Institut (Germany); J. L’huillier, Photonik-Zentrum Kaiserslautern e.V. (Germany)

8432 10 **Conversion between optical ASK and optical FSK using nonlinear dynamics of semiconductor lasers** [8432-34]
S.-K. Hwang, National Cheng Kung Univ. (Taiwan); S.-C. Chan, City Univ. of Hong Kong (Hong Kong, China); S.-L. Lin, C.-H. Chu, Y.-H. Hung, National Cheng Kung Univ. (Taiwan)

SESSION 8 TIME DELAY SYSTEMS

8432 12 **Theoretical analysis of a multi-stripe laser array with external off-axis feedback** [8432-36]
A. Pimenov, Weierstrass Institute (Germany); G. Kozyreff, Univ. Libre de Bruxelles (Belgium); V. Z. Tronciu, Weierstrass Institute (Germany) and Technical Univ. of Moldova (Moldova); A. G. Vladimirov, Weierstrass Institute (Germany)

8432 13 **Low-frequency fluctuations in a laser diode with phase-conjugate feedback** [8432-37]
A. Karsaklian Dal Bosco, D. Wolfersberger, M. Sciamanna, Supélec (France)

- 8432 14 **Photonic single nonlinear-delay dynamical node for information processing** [8432-38]
S. Ortín, CSIC-Univ. de Cantabria (Spain); D. San-Martín, Predictia Intelligent Data Solutions (Spain); L. Pesquera, J. M. Gutiérrez, CSIC-Univ. de Cantabria (Spain)
- 8432 15 **Dynamical properties of two delay-coupled lasers: on spectra, correlations, and synchronisation** [8432-39]
O. D'Huys, Univ. Würzburg (Germany) and Vrije Univ. Brussel (Belgium); L. Lean, Vrije Univ. Brussel (Belgium); R. Vicente, Max-Planck Institut for Brain Research (Germany) and Frankfurt Institute for Advanced Studies (Germany); J. Danckaert, Vrije Univ. Brussel (Belgium); I. Fischer, Instituto de Física Interdisciplinar y Sistemas Complejos, Univ. de les Illes Balears-CSIC (Spain)

SESSION 9 NANOLASER AND OPTICAL INJECTION

- 8432 19 **Mapping transients in the nonlinear dynamics of an optically injected VCSEL** [8432-43]
J. P. Toomey, D. M. Kane, Macquarie Univ. (Australia); K. Schires, Univ. of Essex (United Kingdom); C. Nichkawde, Macquarie Univ. (Australia); A. Hurtado, I. D. Henning, M. J. Adams, Univ. of Essex (United Kingdom)

SESSION 10 SEMICONDUCTOR LASERS AND OPTICAL INJECTION

- 8432 1B **Deterministic and stochastic dynamics of linear polarizations emitted by single-mode VCSELs subject to orthogonal optical injection** [8432-45]
P. Pérez, A. Quirce, CSIC-Univ. de Cantabria (Spain) and Univ. de Cantabria (Spain); A. Valle, L. Pesquera, CSIC-Univ. de Cantabria (Spain)
- 8432 1C **Polarization switching of transverse modes in VCSELs subject to two-frequency orthogonal optical injection** [8432-46]
A. Quirce, CSIC-Univ. de Cantabria (Spain) and Univ. de Cantabria (Spain); A. Valle, CSIC-Univ. de Cantabria (Spain); H. Lin, Y. Zhang, D. W. Pierce, Bates College (United States)
- 8432 1D **Delay induces motion of multipeak localized structures in cavity semiconductors** [8432-47]
E. Averlant, Univ. Libre de Bruxelles (Belgium) and Vrije Univ. Brussel (Belgium); M. Tlidi, Univ. Libre de Bruxelles (Belgium); A. G. Vladimirov, Weierstrass Institute for Applied Analysis and Stochastics (Germany); H. Thienpont, Vrije Univ. Brussel (Belgium); K. Panajotov, Vrije Univ. Brussel (Belgium) and Institute of Solid State Physics (Bulgaria)
- 8432 1E **Dynamics accompanying polarization switching in vertical-cavity surface-emitting lasers** [8432-48]
M. Virte, Supélec (France) and Vrije Univ. Brussel (Belgium); K. Panajotov, Vrije Univ. Brussel (Belgium) and Institute of Solid State Physics. (Bulgaria); M. Sciamanna, Supélec (France)

SESSION 11 SEMICONDUCTOR LASERS

- 8432 1F **High performance identical layer InGaAlAs-MQW 1300nm electroabsorption-modulated DFB-lasers for 4x25Gbit/s** [8432-80]
H. Klein, C. Bornholdt, G. Przyrembel, A. Sigmund, W.-D. Molzow, M. Moehle, Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institute (Germany)

- 8432 1G **True photonic band-gap in vertical-cavity surface-emitting lasers** [8432-50]
M. Dems, Technical Univ. of Lodz (Poland); K. Panajotov, Vrije Univ. Brussel (Belgium) and Institute of Solid State Physics (Bulgaria)
- 8432 1H **Simulation of 1550-nm diamond VECSEL with high contrast grating** [8432-51]
J. Walczak, T. Czystanowski, M. Dems, R. P. Sarzala, A. Sokol, M. Wasiak, Technical Univ. of Lodz (Poland); V. Iakovlev, Ecole Polytechnique Fédérale de Lausanne (Switzerland)
- 8432 1I **Semiconductor ring lasers as optical neurons** [8432-52]
W. Coomans, L. Gelens, L. Mashal, S. Beri, G. Van der Sande, J. Danckaert, G. Verschaffelt, Vrije Univ. Brussel (Belgium)

SESSION 12 QUANTUM DOT LASERS II

- 8432 1J **Many-body effects and self-contained phase dynamics in an optically injected quantum-dot laser** [8432-53]
B. Lingnau, K. Lüdge, Technische Univ. Berlin (Germany); W. W. Chow, Sandia National Labs. (United States); E. Schöll, Technische Univ. Berlin (Germany)
- 8432 1L **Simultaneous multi-state stimulated emission in quantum dot lasers: experiment and analytical approach** [8432-55]
V. V. Korenev, St. Petersburg Academic Univ. (Russian Federation); A. V. Savelyev, St. Petersburg Academic Univ. (Russian Federation) and St. Petersburg State Polytechnical Univ. (Russian Federation); A. E. Zhukov, St. Petersburg Academic Univ. (Russian Federation) and St. Petersburg State Polytechnical Univ. (Russian Federation) and Ioffe Physico-Technical Institute (Russian Federation); A. V. Omelchenko, St. Petersburg Academic Univ. (Russian Federation) and St. Petersburg State Polytechnical Univ. (Russian Federation); M. V. Maximov, St. Petersburg Academic Univ. (Russian Federation) and Ioffe Physico-Technical Institute (Russian Federation); Y. M. Shernyakov, Ioffe Physico-Technical Institute (Russian Federation)

POSTER SESSION

- 8432 1M **Theoretical study about the gain in indirect bandgap semiconductor acousto-optical cavities with simultaneous photon and phonon confinement** [8432-57]
J. M. Escalante Fernandez, A. Martínez, Univ. Politècnica de València (Spain)
- 8432 1P **Self-consistent simulation of mid-IR quantum cascade lasers based on rate equation approach** [8432-61]
P. Karbownik, M. Bugajski, Institute of Electron Technology (Poland)
- 8432 1Q **Nonlinear dynamics in directly modulated semiconductor ring lasers** [8432-62]
S. T. Kingni, Univ. of Yaoundé I (Cameroon) and Vrije Univ. Brussel (Belgium); G. Van der Sande, L. Gelens, J. Danckaert, Vrije Univ. Brussel (Belgium)
- 8432 1R **Experimental and numerical study of square wave oscillations due to asymmetric optical feedback in semiconductor ring lasers** [8432-63]
L. Mashal, G. Van der Sande, L. Gelens, S. Beri, Vrije Univ. Brussel (Belgium); T. Erneux, Univ. Libre de Bruxelles (Belgium); J. Danckaert, G. Verschaffelt, Vrije Univ. Brussel (Belgium)

- 8432 1S **Electrical and optical characterisation of mid-IR GaAs/AlGaAs quantum cascade lasers** [8432-64]
D. Pierścińska, K. Pierściński, M. Iwińska, K. Kosiel, A. Szerling, P. Karbownik, M. Bugajski, Institute of Electron Technology (Poland)
- 8432 1T **Low timing jitter 40 Gb/s all-optical clock recovery based on an amplified feedback laser diode** [8432-65]
C. Chen, J. Qiu, L. Zhao, Institute of Semiconductors (China); J. Wu, Beijing Univ. of Posts and Telecommunications (China); C. Lou, Tsinghua Univ. (China); W. Wang, Institute of Semiconductors (China)
- 8432 1U **Interaction between laser beams FP and DFB laser diodes** [8432-66]
V. Vasinek, J. Latal, P. Koudelka, P. Siska, J. Vitasek, K. Witas, Technical Univ. of Ostrava (Czech Republic)
- 8432 1V **Optical injection locking of polarization modes and spatial modes in single-aperture VCSELs and VCSEL arrays emitting at 1.3 μm** [8432-67]
E. Lamothe, C. Long, Ecole Polytechnique Fédérale de Lausanne (Switzerland); A. Mereuta, A. Caliman, Beam Express S.A. (Switzerland); A. Sirbu, V. Iakovlev, Ecole Polytechnique Fédérale de Lausanne (Switzerland); G. Suruceanu, Beam Express S.A. (Switzerland); E. Kapon, Ecole Polytechnique Fédérale de Lausanne (Switzerland)
- 8432 1X **850nm VCSEL with a liquid crystal overlay** [8432-69]
V. M. Nair, Vrije Univ. Brussel (Belgium); K. Panajotov, Vrije Univ. Brussel (Belgium) and Institute of Solid State Physics (Bulgaria); M. Petrov, Institute of Solid State Physics (Bulgaria); H. Thienpont, Vrije Univ. Brussel (Belgium); Y. Xie, J. Beeckman, K. Neyts, Ghent Univ. (Belgium)
- 8432 1Y **Extended synchronization resulting from resonant phase and intensity dynamics in a dual-polarization laser** [8432-70]
J. Thévenin, M. Romanelli, M. Brunel, M. Vallet, Institut de Physique de Rennes, CNRS, Univ. de Rennes 1 (France); T. Erneux, Univ. Libre de Bruxelles (Belgium)
- 8432 1Z **Discrete mode laser diodes for FTTH/PON applications up to 10 Gbit/s** [8432-71]
J. O'Carroll, Eblana Photonics Ltd. (Ireland) and Dublin City Univ. (Ireland); R. Phelan, B. Kelly, D. Byrne, Eblana Photonics Ltd. (Ireland); S. Latkowski, P. M. Anandarajah, L. P. Barry, Dublin City Univ. (Ireland)
- 8432 22 **Improving beam quality in broad area semiconductor amplifiers** [8432-76]
R. Herrero, M. Botey, N. P. Kumar, K. Staliunas, Univ. Politècnica de Catalunya (Spain)
- 8432 25 **Carrier escape from ground state and non-zero resonance frequency at low bias powers for semiconductor quantum-dot lasers** [8432-79]
C. Wang, Univ. Européenne de Bretagne, INSA, CNRS FOTON (France); F. Grillot, Univ. Européenne de Bretagne, INSA, CNRS FOTON (France) and Telecom Paristech, Ecole Nationale Supérieure des Télécommunications, CNRS LTCI (France); J. Even, Univ. Européenne de Bretagne, INSA, CNRS FOTON (France)

- 8432 26   **Self-mixing in VCSELs for multi-parametric sensing applications: theory and experiment**
[8432-81]
L. Columbo, Istituto di Fotonica e Nanotecnologie, CNR, Univ. degli Studi di Bari (Italy) and
Univ. degli Studi dell'Insubria (Italy); F. De Lucia, M. Brambilla, M. Dabbicco, G. Scamarcio,
Istituto di Fotonica e Nanotecnologie, CNR, Univ. degli Studi di Bari (Italy)

Author Index

Conference Committee

Symposium Chairs

Francis Berghmans, Vrije Universiteit Brussel (Belgium)
Ronan Burgess, European Commission (Belgium)
Jürgen Popp, Institut für Photonische Technologien e.V. (Germany)
Peter Hartmann, SCHOTT AG (Germany)

Honorary Symposium Chair

Hugo Thienpont, Vrije Universiteit Brussel (Belgium)

Conference Chairs

Krassimir Panajotov, Vrije Universiteit Brussel (Belgium)
Marc Sciamanna, Supélec (France)
Angel Valle, Universidad de Cantabria (Spain)
Rainer Michalzik, Universität Ulm (Germany)

Programme Committee

Sylvain Barbay, Centre National de la Recherche Scientifique (France)
Dieter Bimberg, Technische Universität Berlin (Germany)
Weng W. Chow, Sandia National Laboratories (United States)
Kent D. Choquette, University of Illinois at Urbana-Champaign (United States)
Wolfgang E. Elsaesser, Technische Universität Darmstadt (Germany)
Anders Larsson, Chalmers University of Technology (Sweden)
Jesper Moerk, Technical University of Denmark (Denmark)
Jerome V. Moloney, College of Optical Sciences, The University of Arizona (United States)
Wlodzimierz Nakwaski, Technical University of Lodz (Poland)
K. Alan Shore, Bangor University (United Kingdom)
Anne C. Tropper, University of Southampton (United Kingdom)
Atsushi Uchida, Saitama University (Japan)
Joachim Wagner, Fraunhofer-Institut für Angewandte Festkörperphysik (Germany)
Sebastian Wieczorek, The University of Exeter (United Kingdom)

Session Chairs

- 1 VCSELS I
Krassimir Panajotov, Vrije Universiteit Brussel (Belgium)
- 2 VCSELS II
Rainer Michalzik, Universität Ulm (Germany)
- 3 Quantum Dot Lasers I
Philip Moser, Technische Universität Berlin (Germany)
- 4 Quantum Cascade Lasers I
Sven Höfling, Julius-Maximilians-Universität Würzburg (Germany)
- 5 Quantum Cascade Lasers II
Maciej Bugajski, Institute of Electron Technology (Poland)
- 6 Semiconductor Lasers
Weng W. Chow, Sandia National Laboratories (United States)
- 7 Mode-Locking
Stefan Breuer, Technische Universität Darmstadt (Germany)
- 8 Time Delay Systems
Angel Valle, Universidad de Cantabria (Spain)
- 9 Nanolaser and Optical Injection
Marc Sciamanna, Supélec (France)
- 10 Semiconductor Lasers and Optical Injection
Sylvain Barbay, Centre National de la Recherche Scientifique (France)
- 11 Semiconductor Lasers
Andrei G. Vladimirov, Weierstrass-Institut für Angewandte Analysis und Stochastik (Germany)
- 12 Quantum Dot Lasers II
Krassimir Panajotov, Vrije Universiteit Brussel (Belgium)