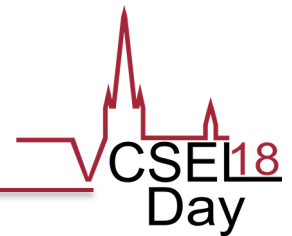


11th European VCSEL Day 2018

Ulm University, Institute of Optoelectronics



Venue: Lecture Hall 45.1 (blue), Albert-Einstein-Allee 45, 89081 Ulm

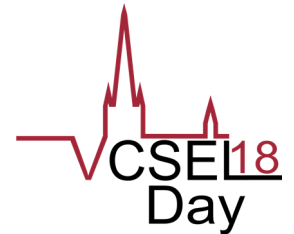
Thursday, April 12

- 08:30 Registration & Coffee
- 09:00 Welcome Address by Prof. Dr. Michael Weber
(President of Ulm University)
- 09:15 Workshop Introduction, Rainer Michalzik
- 09:30 **Session 1** – Physics & Imaging Market & Poster Teaser
- 10:40 **Poster Session** & Coffee Break
- 11:40 **Session 2** – Sensing & Simulations
- 13:00 Lunch Break
- 14:20 **Session 3** – Device Concepts & Designs
- 15:40 Coffee Break
- 16:10 **Session 4** – Spin & Polarization
- 17:10 First-Day Closing
- 19:00 Dinner sponsored by Philips Photonics
Hacker-Pschorr Ulm, Sterngasse 17, 89073 Ulm

Friday, April 13

- 09:00 Coffee
- 09:30 **Session 5** – Datacom & Fabrication
- 10:50 Coffee Break
- 11:20 **Session 6** – Fabrication & Grating Devices
- 12:40 Workshop Closing, Rainer Michalzik
- 13:00 Farewell Lunch

Thursday, April 12



Session 1 – Physics & Imaging Market & Poster Teaser

09:30 – 10:40 Chair: R. Michalzik (*Ulm University*)

Å. Haglund (*Chalmers University of Technology*) et al.: Should we strive to follow Nature's checklist on how to claim lasing?

G.L. Lippi (*Université Côte d'Azur*) et al.: Exploiting the threshold region of very small VCSELs

P. Boulay et al. (*Yole Développement*): VCSEL for sensing / imaging: the next big thing in the laser diode industry?

Poster Teaser

Poster Session

10:40 – 11:40

E. Semenova (*DTU Fotonik*) et al.: Tunable MEMS VCSEL on silicon substrate (P1)

B. Boissard (*LAAS-CNRS*) et al.: Wafer-scale fabrication of liquid-crystal micro-cells for integration in 1.55 μm tunable photonic devices (P2)

J.L. Polleux (*ESIEE Paris*) et al.: A low-cost and collective 3D-polymer structure for passive optical coupling of low-dimensions and high-speed VCSEL (P3)

C. Eng (*Cardiff University*) et al.: Scale up of lateral oxidation process for 6inch VCSEL wafer manufacturing (P4)

L. Grieger et al. (*MalvernPanalytical B.V.*): X-Ray diffraction on multilayer structures (P5)

M. Więckowska (*Lodz University of Technology*) et al.: ARROW VCSEL with oxide island – simulation and properties (P6)

P. Śpiewak et al. (*Lodz University of Technology*): Impact of the resonator length of nitride VCSELs on their threshold parameters (P7)

M. Belkin (*Moscow State Technological University*): Long-wavelength DFB vs VCSEL comparison for fiber-optic delivery of reference RF signals (P8)

M. Stadler et al. (*University of Stuttgart*): Towards QW- and QD-VCSELs emitting at 633 nm (P9)

Session 2 – Sensing & Simulations

11:40 – 13:00 Chair: D. Birkedal (*Alight Technologies*)

J. Roth et al. (*PMD Technologies AG*): VCSELs for time-of-flight applications – challenges and developments

M. Miller et al. (*Philips Photonics GmbH*): VCSELs in short-pulse operation for time-of-flight applications

T. Hoehne (*Zuse Institute Berlin*) et al.: Numerical computation of optical resonances in VCSELs using quasi-normal and constant-flux mode approaches

P. Debernardi (*IEIT CNR Torino*) et al.: Relevant ingredients in carrier transport simulation of VCSELs

Session 3 – Device Concepts & Designs

14:20 – 15:40 Chair: V. Bardinal (*LAAS-CNRS*)

P. Gerlach et al. (*Philips Photonics GmbH*): VCSELs with integrated photodiode

N. Haghighi (*TU Berlin*) et al.: 980 nm VCSELs for free-space communication and sensing

I. Reis et al. (*University of Stuttgart*): Towards laser emission around 630 nm via a vertical-cavity surface-emitting laser based on InP quantum dot layers

S. Bader (*Ulm University*) et al.: Operating optically current-confined VCSELs with an external laser beam

Session 4 – Spin & Polarization

16:10 – 17:10 Chair: J.A. Lott (*TU Berlin*)

M. Lindemann (*Ruhr-Universität Bochum*) et al.: Spin-VCSELs: opportunities and challenges

T. Pusch (*Ulm University*) et al.: Thermally induced birefringence tuning of VCSELs

M. Mokhtari (*3SP Technologies S.A.S.*) et al.: DOP characterization of oxide-confined GaAs based VCSEL operating at 850 nm

Friday, April 13

Session 5 – Datacom & Fabrication

09:30 – 10:50 Chair: K.J. Ebeling (*Ulm University*)

N. Ledentsov Jr. et al. (*VI Systems GmbH*): High speed VCSEL data transmission with high order modulation formats

A. Grabowski et al. (*Chalmers University of Technology*): Large-signal circuit model for datacom VCSELs

S. Baclet et al. (*Oxford Instruments Plasma Technology*): Advanced endpoint control techniques for VCSEL mesa manufacture

M. Zorn (*JENOPTIK Diode Lab GmbH*) et al.: Metrology for MOVPE processes – latest progress for enabling high-yield VCSEL manufacturing

Session 6 – Fabrication & Grating Devices

11:20 – 12:40 Chair: A. Larsson (*Chalmers University of Technology*)

J. Spiegelman et al. (*RASIRC*): Alternative method for aperture oxidation

T. Czystanowski et al. (*Lodz University of Technology*): Parity-time symmetry in coupled cavity VCSELs

A. Tibaldi (*IEIT CNR Torino*) et al.: Ultrabroadband operation of high-contrast grating reflectors: the generalized Fabry-Pérot approach

M. Marciniak (*Lodz University of Technology*) et al.: GaN-silver monolithic subwavelength grating as contact-mirror for nitride VCSELs