

		Thursday, May 9	
8:00-8:30		REGISTRATION +	COFFEE
8:30:8:40	VCSEL day opening	Welcome Address by Prof. Dr. Ir. Hugo Thienpont: Vice-rector VUB, Head of Department of Applied Physics and Photonics	
8:40-9:20	VCSELS in short-pulse operation for time-of-flight applications (invited)	Holger Moench ¹ , Stephan Gronenborn ¹ , Xi Gu ² , Ralph Gudde ² , Markus Herper ¹ , Johanna Kolb ¹ , Michael	1 TRUMPF Photonic Components GmbH Aachen, Campus Boulevard 79, 52074 Aachen, Germany; 2 TRUMPF Photonic Components - PHEXEL BV, Kastanjelaan 400, 5616 LZ Eindhoven, The Netherlands; 3 TRUMPF Photonic Components GmbH, Lise-Meitner-Str. 13, 89081 Ulm, Germany
9:20-9:40	High-speed 850-nm VCSEL based optical transmitter and receiver link capable of 56 Gbit/s NRZ and 100 Gbit/s 4-PAM operation	N. Ledentsov Jr. ¹ , M. Agustin ¹ , J. R. Kropp ¹ , N. N. Ledentsov ¹ , L. Chorchos ² , J. P. Turkiewicz ² , C. Kottke ³ , M. Koepf ³ , C. Caspar ³	1. VI Systems GmbH, Hardenbergstr. 7, 10623 Berlin, Germany 2. Warsaw University of Technology, Nowowiejska 15/19, 00-661 Warsaw, Poland 3. Fraunhofer Heinrich Hertz Institute Berlin, Germany
9:40-10:00	Combination of 850nm VCSEL and standard Single-Mode-Fibers: strategy for reduction of modal noise	J.L. Polleux ^(1,2) , J. Nanni ^(3,*) , C. Viana ^(1,2) , G. Tartarini ⁽³⁾	1Université Paris-Est, ESYCOM, ESIEE Paris, France, 2 boulevard Blaise Pascal, Noisy-le-Grand, France; 2ICON-Photonics, 2 bis Rue Alfred Nobel, Champs-sur-Marne, France; 3DEI-University of Bologna, Bologna, Viale del Risorgimento 2, Italy
10:00-10:20	CW operation of a 1.55 μm VCSEL tunable over 20 nm integrating liquid crystals microcells	C. Levallois ¹ , B. Boissard ² , C. Paranthoen ¹ , S. Pes ¹ , T. Camps ² , B. Sadani ² , S. Bouchoule ³ , L. Dupont ⁴ , M. Alouini ¹ , and V. Bardinal ²	1Univ Rennes, INSA Rennes, CNRS, Institut FOTON – UMR 6082, F-35000 Rennes, France 2Univ Toulouse, CNRS, LAAS, 7 Ave Colonel Roche, F-31400 Toulouse, France 3Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Sud, 91360 Marcoussis, France 4IMT Atlantique, Optics Department, 655 Avenue du Technopôle, 29200 Plouzané, France
10:20-10:50	COFFEE BREAK		
10:50-11:10	1.55 μm VCSEL polarization controlled with quantum wells / quantum dashes hybrid active layers.	L. Chaccour ¹ , L. Bramerie ¹ , C. Levallois ¹ , N. Chevalier ¹ , S. Trebaol ¹ , M. Alouini ¹ and C. Paranthoen ¹	1Univ Rennes, INSA Rennes, CNRS, Institut FOTON – UMR 6082, F-35000 Rennes, France

11:10-11:30	Controlling AlGaAs oxidation anisotropy for VCSEL	S. Calvez, G. Lafleur, O. Stepanenko, A. Arnoult, A. Monmayrant, H. Camon, G. Almuneau	LAAS-CNRS, Université de Toulouse, CNRS, 7 avenue du colonel Roche, 31031 Toulouse, France
11:30-11:50	Mapping of mechanical strain by DOP of oxide-confined GaAs based VCSEL operating at 850 nm	Merwan Mokhtari ^{1,2} , Philippe Pagnod-Rossiaux ¹ , Francois Laruelle ¹ , Jean-Pierre Landesman ² , Christophe Levallois ³ , and Daniel T. Cassidy ⁴	1. 3SP Technologies S.A.S, Route de Villejust, F-91625 Nozay Cedex, France, 2. Univ Rennes, CNRS, IPR (Institut de Physique de Rennes) - UMR 6251, F-35000 Rennes, France, 3. Univ Rennes, INSA Rennes, CNRS, Institut FOTON - UMR 6082, F-35000 Rennes, France, 4. McMaster University, Department of Engineering Physics, 1280 Main Street West, Hamilton, Ontario, L8S 4L7, Canada
11:50-12:10	Oxide island buried in DBR layers – optical and electrical properties of ARROW VCSEL	Maciej Dems, MartaWieckowska	Institute of Physics, Lodz University of Technology, ul. Wólczańska 219, 90-924 Łódź, Poland
12:10-13:30	LUNCH		
13:30-13:50	Transparent metallic contacts for vertical current injection	Tomasz Czystanowski, Weronika Głowadzka, Adam Sokół, Michał Wasiak	Institute of Physics, Lodz University of Technology, Łódź, Poland
13:50-14:10	Integrated Surface Gratings for High Defined Birefringence in VCSELS	Tobias Pusch ¹ , Pierluigi Debernardi ² , Markus Lindemann ³ , Nils C. Gerhardt ³ , Martin R. Hofmann ³ , Rainer Michalzik ¹	1. Ulm University, Functional Nanosystems, Albert-Einstein-Allee 45, 89081 Ulm, Germany, 2. Consiglio Nazionale delle Ricerche (CNR), IEIIT, 10129 Turin, Italy, 3. Ruhr-University Bochum, Photonics and Terahertz Technology, 44780 Bochum, Germany
14:10-14:30	High modal birefringence in VCSELS induced by surface gratings	Pierluigi Debernardi, ¹ Alberto Tibaldi ^{1,2} , Tobias Pusch ³ and Rainer Michalzik ³	1. Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni, Consiglio Nazionale delle ricerche c/o Poli-tecnico di Torino, Corso Duca degli Abruzzi 24, 10129, Torino (TO), Italy; 2. Dipartimento di Elettronica e Telecomunicazioni, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129, Torino (TO), Italy; 3. Ulm University, Functional Nanosystems, Albert-Einstein-Allee 45, 89081 Ulm, Germany

14:30-14:50	Numerical modelling of modulation response in VCSELs	Michał Wasiak ¹ , Patrycja Spiewak ¹ , Nasibeh Haghighi ² , Emilia Pruszyńska-Karbownik ¹ , Marcin GebSKI ^{1,2} , James A. Lott ² , and Robert P. Sarzała ¹	1Institute of Physics, Lodz University of Technology, Łódź, Poland; 2Institute of Solid State Physics and Center of Nanophotonics, Technical University of Berlin, Berlin, Germany
14:50-15:10	A Large-Signal VCSEL Verilog-A Model for 25Gbaud Datacom	Yaohui Chen ¹ , Liron Gantz ²	1 Mellanox Technologies Ltd., Ledreborg Alle 130B, 4000, Roskilde, Denmark; 2 Mellanox Technologies Ltd., Hakidma 26, Yokneam, 2069200, Israel
15:10-15:40	COFFEE BREAK		
15:40-16:00	Ultrafast Spin-VCSELs and optical data communication	Markus Lindemann ¹ , Gaofeng Xu ² , Tobias Pusch ³ , Rainer Michalzik ³ , Martin R. Hofmann ¹ , Igor Žutić ² and Nils C. Gerhardt ¹	1. Photonics and Terahertz Technology, Ruhr-Universität Bochum, Bochum, Germany; 2. Department of Physics, University at Buffalo, Buffalo (NY), USA; 3. Institute of Functional Nanosystems, Ulm University, Ulm, Germany
16:00-16:20	Monolithic high contrast gratings as highly reflective mirrors for VCSELs – optimization, fabrication, and power reflectance measurements	Magdalena Marciniak ^{1,2} , Artur Broda ³ , Michał Wasiak ² , Maciej Dems ² , Jan Muszalski ³ , Marcin Gębski ^{1,2} , James A. Lott ¹ , and Tomasz Czyszanowski ²	1 Center of Nanophotonics, Technische Universität Berlin, Berlin, Germany; 2 Institute of Physics, Lodz University of Technology, Łódź, Poland; 3 Institute of Electron Technology, Warsaw, Poland
16:20-16:40	Electrically-injected MHCG VCSELs	Marcin GebSKI ^{1,2} , James A. Lott ² , and Tomasz Czyszanowski ¹	1Institute of Physics, Lodz University of Technology, 219 Wolczanska str., 90-924 Lodz, Poland; 2Technical University Berlin, Institute of Solid State Physics, Center of Nanophotonics
16:40-17:00	Integrating SiP and long wavelength VCSEL technologies to realize a 100 Tb/s programmable link architecture for scalable and agile Metro Networks.	Christian Neumeyr (presenter, 1), Giovanni Delrosso (2), Oded Raz (3), Giorgio Parladori (4), Michela Svaluto (5), Pierpaolo Boffi (6)	1 - Vertilas GmbH, Germany; 2 - VTT Technical Research Center, Finland; 3 - Eindhoven University of Technology (TU/e), The Netherlands; 4 – SM Optics, Italy; 5 - Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain; 6 – Politecnico di Milano, Italy
17:00-17:20	25-35 Gbps error-free data transmission for medium to high power 980 nm VCSELs	Sarah Cwalina ¹ , Nasibeh Haghighi ¹ , Philip Moser ¹ , and James A. Lott ¹	1. Technische Universität Berlin, Institute of Solid State Physics, Hardenberg-Straße 36, 10623 Berlin, Federal Republic of Germany
19:00	CONFERENCE DINNER		

		Friday, May 10	
8:30-9:10	Frequency combs in VECSELS and applications (invited)	Ursula Keller	ETH Zurich, Switzerland
9:10-9:30	Gain-switching VCSEL-based optical frequency combs expansion under arbitrary polarized optical injection	A. Quirce ¹ , C. de Dios ² , A. Valle ³ , and P. Acedo ²	¹ Vrije Universiteit Brussel, Brussels Photonics B-PHOT, Pleinlaan 2, 1050 Brussels, Belgium; ² University Carlos III, Avenida de la Universidad, 20, 28911, Leganés, Madrid, Spain; ³ Instituto de Física de Cantabria (CSIC-University of Cantabria), Avda. Los Castros s/n, 39005, Santander, Spain.
9:30-9:50	Vertical AlGaIn-microcavity with two dielectric distributed Bragg reflectors emitting at 330 nm	Filip Hjort ¹ , Johannes Enslin ² , Michael A. Bergmann ¹ , Munise Cobet ² , Johan Gustavsson ¹ , Tim Wernicke ² , Michael Kneissl ² , and Åsa Haglund ¹	¹ Chalmers University of Technology, Department of Microtechnology and Nanoscience, 41296 Gothenburg, Sweden ² Technische Universität Berlin, Institute of Solid State Physics, 10623 Berlin, Germany
9:50-10:10	1300 nm dilute nitride VCSELS	Marcin Gębski ^{1,2} , Dariya Dontsova ¹ , Kalyan Nunna ³ , Robert Yanka ³ , Andrew Johnson ⁴ , Rodney Pelzel ⁵ , and James A. Lott ¹	¹ Technische Universität Berlin, Institute of Solid State Physics, Sekr. EW 5-5, Hardenbergstraße 36, D-10623 Berlin, Germany; ² Institute of Physics, Lodz University of Technology, 219 Wolczanska str., 90-924 Lodz, Poland; ³ IQE NC, Gallimore Dairy Road, Greensboro, NC 27409, USA; ⁴ IQE plc, Pascal Close, Saint Mellons, Cardiff, CF3 0LW, UK; ⁵ IQE PA, 119 Technology Drive, Bethlehem, PA 18015, USA
10:10- 10:30	COFFEE BREAK		
10:30-10:50	29GHz-bandwidth monolithically integrated EAM-VCSEL	Ludovic Marigo-Lombart ^{1,*} , Christophe Viallon ¹ , Alexandre Rumeau ¹ , Alexandre Arnoult ¹ , Stéphane Calvez ¹ , Antoine Monmayrant ¹ , Olivier Gauthier-Lafaye ¹ , Hugo Thienpont ² , Krassimir Panajotov ² , Guilhem Almuneau ¹	¹ . LAAS-CNRS, Université de Toulouse, CNRS, 31031 Toulouse, France; ² . Department of Applied Physics and Photonics, B-Phot, Vrije Universiteit Brussel (VUB), Pleinlaan 2, B-1050 Brussels, Belgium

10:50-11:10	Dynamics of High-Performance VCSELS	Wissam Hamad and Werner H. E. Hofmann	Technische Universität Berlin, Institute of Solid State Physics and Center of Nanophotonics, Hardenbergstr. 36, 10623 Berlin, Germany
11:10-11:30	Triple and Septuple VCSEL arrays versus single VCSELS	Nasibeh Haghighi ¹ , Sarah Cwalina ¹ , Philip Moser ¹ , Martin Zorn ² , and James A. Lott ¹	1. Technische Universität Berlin, Institute of Solid State Physics, Hardenberg-Straße 36, 10623 Berlin, Federal Republic of Germany; 2. JENOPTIK Optical Systems GmbH, Max-Planck-Straße 2, 12489 Berlin, Federal Republic of Germany
11:30-11:50	6.5 mW single mode and polarization stable 850-nm VCSEL for silicon photonics integration	Johan Gustavsson ¹ , Erik Haglund ² , Mehdi Jahed ¹ , Anders Larsson ¹ , Jeroen Goyvaerts ³ , Roel Baets ³ , Gunther Roelkens ³ , Marc Rensing ⁴ , and Peter O'Brien ⁴	1Photonics Laboratory, Chalmers University of Technology, SE-41296 Gothenburg, Sweden; 2OptiGOT AB, SE-41133 Gothenburg, Sweden; 3Photonics Research; 4Tyndall National Institute, Cork, Ireland Group, Ghent University-IMEC, Technologiepark-Zwijnaarde 15, 9052 Ghent, Belgium;
11:50-12:10	Photonic network and machine learning using VCSEL polarization dynamics	Marc Sciamanna, Chi-Hak Uy, Jérémy Vatin, Damien Rontani	Chaire Photonique, CentraleSupélec (Université Paris-Saclay) and Université de Lorraine, France
12:10-12:30	850 nm VCSELS with single top, double top, and opposing single top and bottom oxide apertures	Niels Heermeier ¹ , Marcin Gębski ^{1,2} , Nasibeh Haghighi ¹ , Philip Moser ¹ , Ping-Show Wong ³ , Majid Riazat ³ , James A. Lott ¹	1Technische Universität Berlin, Institute of Solid State Physics, Sekr. EW 5-5, Hardenbergstraße 36, D-10623 Berlin, Germany 2Institute of Physics, Lodz University of Technology, 219 Wolczanska str., 90-924 Lodz, Poland 3OEpic Semiconductors Inc., 1231 Bordeaux Ave, Sunnyvale, CA 94089, USA
12:30-12:50	AFTER 20 YEARS, THE VCSEL BUSINESS HAS FOUND ITS KILLER APPLICATION – AND IS LIKELY TO EXPLODE	Pierrick BOULAY	Yole Development, France
12:50	VCSEL day Closing		
12:50	VCSEL day farewell lunch		