

Program of the  
**14th Annual Symposium of the  
IEEE Photonics Benelux Chapter**

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Thursday/Friday, November 5-6, 2009  
Royal Flemish Academy of Belgium for Science and the Arts  
Brussels, Belgium

**Organized by**

Dept. of Applied Physics & Photonics,  
Vrije Universiteit Brussel  
in association with IEEE Photonics Society

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**Supported by**



## Day 1 / Thursday, November 5th 2009

16:30 - 18:00	Foyer	Registration, installation posters
18:00 - 18:15	Roi Baudouin	Welcome by symposium chair Prof. Jan Danckaert (Vrije Universiteit Brussel)
18:15 - 19:00	Roi Baudouin	Invited Lecture: "Nematicons: Spatial Optical Solitons in Nematic Liquid Crystals", Prof. G. Assanto (IEEE Photonics Society distinguished lecturer)
19:00 - 19:45	Roi Baudouin	Invited Lecture: "Towards merged optical metro-access networks", T. Pfeiffer (ALCATEL-Lucent)
19:45 - 22:30		Posters
20:30 - 22:30		Dinner

## Day 2 / Friday November 6th 2009

08:45	Roi Baudouin	Registration open
09:00 - 09:45	Roi Baudouin	Invited Lecture: Micropillar Cavity Lasers in the Cavity Quantum Electrodynamics Regime", Prof. S. Höfling (University of Würzburg, Germany)
09:45 - 10:30		Invited Lecture: "Semiconductor Ring Lasers for all-optical Flip-Flop and signal processing", Prof. Guido Giuliani (University of Pavia, Italy)
10:30 - 10:40		"BEgrid, NLgrid en EGI: almost unlimited computer resources to speed up your research", Rosette Vandenbroucke (BEgrid Coordinator, Belgian EGI Representative)
10:40 - 11:00		Coffee Break
11:00 - 12:20		Parallel sessions
11:00 - 12:20	Roi Baudouin	Parallel session 1a
11:00 - 11:20		"Low-Speckle laser projection using farfield nonmodal laser emission of a semiconductor laser", G. Craggs (Vrije Universiteit Brussel)
11:20 - 11:40		"Al <sub>2</sub> O <sub>3</sub> :Er <sup>3+</sup> as a broad gain medium for 1.53um integrated optics application", J.D.B. Bradley (University of Twente)
11:40 - 12:00		"Quantum Dot Twin Stripe Lasers as Emitter and Receiver in Chaotic Encrypted Communication Systems", J. Pozo (TU Eindhoven)

12:00 - 12:20		"Optical Gradient Dipole Forces for Nanophotonic Devices on a Silicon-on-Insulator Chip", J. Roels (University of Twente)
11:00 - 12:20	Ockeghem	Parallel session 1b
11:00 - 11:20		"All-optical Signal Processing with Standard Edge-emitting Laser Diodes", K. Huybrechts (University of Ghent)
11:20 - 11:40		"Non-dispersive Chirped Fiber Bragg Grating Component for Ultrafast Optical Communications", C. Caucheteur (University of Mons)
11:40 - 12:00		"Optical Wireless Communication using SOI Technology", K. van Acoleyen (University of Ghent)
12:00 - 12:20		"Manipulating Frequency Entangled Photons", L. Orlslager (ULB Brussels)
12:20 - 14:00		Posters
13:00 - 14:00		Walking Lunch
14:00 - 15:20		Parallel sessions
14:00 - 15:20	Roi Baudouin	Parallel session 2a
14:00 - 14:20		"Label-free Enzyme Sensing with Grated Silicon Photonic Wire", L.J. Kauppinen (University of Twente)
14:20 - 14:40		"Refractive Index Sensing with an InGaAsP Photonic Crystal Membrane Cavity by means of Photoluminescence", E.C.I. Ryckebosch (TU Eindhoven)
14:40 - 15:00		"DNA Separation and Fluorescence Monitoring by Integrated Waveguides in an Optofluidic Chip", C. Dongre (University of Twente)
15:00 - 15:20		"Perfect Absorption in Thin NbN Films", E.F.C. Driessen (University of Leiden)
14:00 - 15:20	Ockeghem	Parallel session 2b
14:00 - 14:20		"Tuning SOI Filter Structures with Liquid Crystals", W. De Cort (University of Ghent)
14:20 - 14:40		"Neodymium-Complex-Doped Steady-State Polymer Waveguide Lasers", J. Yang (University of Twente)
14:40 - 15:00		"Deeply Etched DBR Gratings for Photonic Integrated Circuits and Tunable Lasers", B. Docter (TU Eindhoven)
15:00 - 15:20		"Subwavelength Confinement of Light", V. Ginis (Vrije Universiteit Brussel)
15:20 - 15:40		Coffee Break
15:40		Closing Remarks - Poster Award

Posters:

P1	A. Elhawil	VUB	Left-handed metamaterial at D-band using single circular split-ring resonators
P2	G. Ravet	Mons	OTDR technique for the characterization of supercontinuum generation along optical Fibers
P3	R. Kumar	UGent	Simple and accurate measurements to characterize microdisk lasers for all-optical Flip-Flop operation
P4	H. Shen	UGent	Absorption enhancement in organic solar cells by metallic nanoparticles
P5	N. Sotiropoulos	Eindhoven	Multi-level modulation formats for optical access networks
P6	T. Denis	UTwente	A single beam photonic free-electron laser
P7	Y. Li	UGent	Miniaturized laser Doppler velocimeters (LDVs) integrated on silicon-on-insulator (SOI)
P8	M.A. Dündar	Eindhoven	Liquid crystal tuning of InGaAsP photonic crystal membrane type nanocavities
P9	N. Ismail	UTwente	Efficiency comparison between integrated optical waveguide probes and conventional fiber probes in the detection of backscattered light
P10	S. Rudra	UGent	Grating light valves: a SiGe based approach towards monolithic integration of MOEMS
P11	M. Verbist	UGent	Focused ion beam etching of thin diamond layers
P12	S. Islam	VUB	Metamaterial application in active millimeter wave imaging
P13	R. Zhang	TUe	Sub-micrometer active-passive integration for InP-based membranes on silicon
P14	Y. Shi	TUe	Performance evaluation of multi-band OFDM systems for short-haul optical communications
P15	M. Fiers	UGent	Dynamics of coupled cavities for optical reservoir computing
P16	S. Aravazhi	UTwente	Improved-index-contrast KY(WO <sub>4</sub> ) <sub>2</sub> :Gd, Lu, Yb epitaxial waveguides suitable for highly efficient waveguide lasing
P17	S.K. Selvaraja	UGent	Amorphous silicon: material for photonic-photonic and electronic-photonic integration.
P18	S. Keyvaninia	UGent	Engineering the heterogeneously integrated III-V/SOI tunable laser
P19	W. Coomans	VUB	Optical injection in semiconductor ring lasers
P20	H. Wang	TUe	InAs quantum dot number and size control on truncated InP pyramids grown by selective area metal organic vapor phase epitaxy
P21	K. van Dalfsen	UTwente	Neodymium-doped Al <sub>2</sub> O <sub>3</sub> channel waveguide amplifiers
P22	N.A. Yebo	UGent	Integrated optical gas sensors on silicon-on-insulator platform

P23	D.A.I. Marpaung	UTwente	Analysis of gain, noise figure and dynamic range of an analog photonic link employing a low-biased mach-zehnder modulator
P24	M.R.H. Khan	UTwente	Phase noise analysis of an RF local oscillator signal generated by optical heterodyning of two DFB lasers
P25	A. Masood	UGent	Photonics-CMOS 3D integration: copper through-silicon-via approach
P26	B.W. Tilma	TUe	Observation and modeling of long-wavelength InAs/InP(100) quantum dot amplifier small signal gain spectra
P27	S.R. Zanbergen	Leiden	Strong edge effect in photonic graphene
P28	B.W. Tilma	TUe	Characterization of integrated electro-optically tunable cascaded filters for tunable laser purposes
P29	L. Gelens	VUB	Theoretical and experimental investigation of excitability in semiconductor ring lasers
P30	I.V. Ermakov	VUB	Simulations of fast switching between longitudinal modes of semiconductor laser cavity induced by on-chip filtered optical feedback
P31	E. Brainis	ULB	Simultaneous excitation of N single colloidal quantum dots
P32	R. Stabile	TUe	Loss mechanisms in dielectric optical micro-bends
P33	E.H. Bernhardt	UTwente	Designing an Integrated Al <sub>2</sub> O <sub>3</sub> :Er <sup>3+</sup> Distributed Feedback Laser
P34	T. Van den Hauwe	VUB	Systematic noise analysis of CAPD based time-of-flight cameras
P35	E. Brainis	ULB	Photon wave function description of space-time entanglement in quantum imaging
P36	J. Zhao	TUe	Integrated multi-wavelength lasers: a design study
P37	F. Sun	UTwente	Comparison of SiON layers doped with phosphorous and boron for integrated optics applications
P38	K.Q. Le	UGent	Modeling the optical properties of metallic nanoparticles
P39	M.J.H. Marell	TUe	Metal coated DBR/DFB lasers
P40	S. Bette	Mons	Use of chirped fiber Bragg gratings for transverse strain sensing purposes
P41	M.S. Tahvili	TUe	Operating regime and stability of mode-locking in 10GHz quantum dot laser diodes around 1.5μm