ANNEX 1: Publications specific to the IAP project

1 List of publications per partner

1.1 ULB-OptIQ

1.1.1 Books

[OptIQ 142]
I. Bordeu, M. Clerc, R. Lefever, and M. Tlidi,
Finger dynamics in pattern forming systems.
In « Nonlinear Dynamics: Materials, Theory and Experiments », Springer Proceedings in Physics 173, 275-291 (2016)

[OptIQ 143]
N. Slimani, A. Makhoute, M. Tlidi,
Weakly nonlinear analysis and localized structures in nonlinear cavities with metamaterials.
In « Nonlinear Dynamics: Materials, Theory and Experiments »Springer Proceedings in Physics 173, 153-166 (2016)

[OptIQ 151]
Mustapha Tlidi and Marcel Clerc (Eds)
"Nonlinear Dynamics and Photonics: Materials, Theory and Experiments"
Springer Proceeding in Physics Vol. 173 (2016)

[OptIQ-ARO-PRG-PHOT-COBRA 86]
Pascal Kockaert, Philippe Emplit, Simon-Pierre Gorza, Serge Massar (editors)
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter
November 26-27, 2015, Université libre de Bruxelles, Belgium (February 8-9, 2016)
ISBN 978-2-8052-0288-9

[OptIQ – PHOT 148]
M. Tlidi, E. Averlant, A. Vladimirov, A. Pimenov, S. Gurevich, K. Panajotov ,
Localized structures in VCSELs: experiments and delay-induced motion
In « Structural Nonlinear Dynamics and Diagnosis », Springer Proceeding in Physics 168, 417-438 (2015)

[IRCICA-OptIQ 150]
V. Odent, M. Tlidi, M. Clerc, E. Louvergneaux,
Experimental observation of front propagation in Lugiato-Lefever equation in a negative diffractive regime and inhomogeneous kerr cavity
In « Nonlinear Dynamics: Materials, Theory and Experiments »Springer Proceedings in Physics 173, 75-85 (2016)

[LMOPS-PHOT-OptIQ 82]
L. Weicker, L Keuninckx, G Friart, J Danckaert, T Erneux
Multirhythmicity for a Time-Delayed FitzHugh-Nagumo System with Threshold Nonlinearity
In *Control of Self-Organizing Nonlinear Systems*, pp. 337-354, Eds. E. Schöll; S.H.L. Klapp; P. Hövel, Springer International Publishing, 2016

1.1.2 International Journals (with referee system)

[OptIQ 102]
Antonio Acín, Daniel Cavalcanti, Elsa Passaro, Stefano Pironio, and Paul Skrzypczyk
Necessary detection efficiencies for secure quantum key distribution and bound randomness
Phys. Rev. A 93 (2016) 012319

[OptIQ 104]*
N. Aharon, S. Massar, S. Pironio, J. Silman,

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Device-independent bit commitment based on the CHSH inequality
New J. Phys. 18 (2016) 025014

[OptIQ 105]*
Cédric Bamps and Stefano Pironio
Sum-of-squares decompositions for a family of Clauser-Horne-Shimony-Holt-like inequalities and their application to self-testing
Phys. Rev. A 91 (2015) 052111

[OptIQ 106]
François Duport, Anteo Smerieri, Akram Akrout, Marc Haelterman, Serge Massar
Fully analogue photonic reservoir computer
Scientific Reports 6 (2016) 22381

[OptIQ 107]
F. Duport A. Akrout ; A. Smerieri ; M. Haelterman ; S. Massar
Virtualization of a photonic reservoir computer
IEEE JLT Issue: 99 (2016) DOI:10.1109/JLT.2016.2524559

[OptIQ 108]
C. N. Gagatsos, A. I. Karanikas, G. Kordas, and N. J. Cerf,
Entropy generation in Gaussian quantum transformations: applying the replica method to continuous-variable quantum information theory,
npj Quantum Information 2, 15008 (2015).

[OptIQ 109]
A. Hertz, E. Karpov, A. Mandilara, and N. J. Cerf,
Detection of non-Gaussian entangled states with an improved continuous-variable separability criterion,
Phys. Rev. A 93, 032330 (2016).

[OptIQ 110]
Le Phuc Thinh, Gonzalo de la Torre, Jean-Daniel Bancal, Stefano Pironio and Valerio Scarani
Randomness in post-selected events
New J. Phys 18 (2016) 035007

[OptIQ 111]*
Serge Massar, Philippe Spindel, Andrés F. Varon, Christof Wunderlich,
Investigating the emergence of time in stationary states with trapped ions
Phys. Rev. A 92, 030102(R) (2015)

[OptIQ 112]
Serge Massar, Stefano Pironio and Damián Pitalúa-García
Hyperdense coding and superadditivity of classical capacities in hypersphere theories
New J. Phys. 17 (2015) 113002

[OptIQ 113]
Anh-Dung Nguyen, François Duport, Arno Bouwens, Frédérique Vanholsbeeck, Dominique Egrise, Gaetan Van Simaeys, Philippe Emplit, Serge Goldman, and Simon-Pierre Gorza.
3D super-resolved in vitro multiphoton microscopy by saturation of excitation.
Optics Express 23, 22667 (24/08/2015).

[OptIQ 114]
Laurent Olislager, Wakana Kubo, Takuo Tanaka, Simona Ungureanu, Renaud A. L. Vallée, Branko Kolaric, Philippe Emplit, and Serge Massar
Propagation and survival of frequency-bin entangled photons in metallic nanostructures
Nanophotonics 4, pp. 324-331 (2015)

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[OptIQ 115]
M. Tlidi, C. Fernandez-Oto, M. G. Clerc, D. Escaff, and P. Kockaert
Localized plateau beam resulting from strong nonlocal coupling in a cavity filled by metamaterials and liquid-crystal cells
Phys. Rev. A 92, 053838 – (Published 17 November 2015)

[OptIQ 116]
Erik Woodhead and Stefano Pironio
Secrecy in Prepare-and-Measure Clauser-Horne-Shimony-Holt Tests with a Qubit Bound
Phys. Rev. Lett. 115, 150501 (2015)

[OptIQ 117]
Gaetan Friart, Athanasios Gavrielides, and Thomas Emeux,
Analytical stability boundaries of an injected two-polarization semiconductor laser,
Phys. Rev. E 91,042918 (2015)

[OptIQ 119]*
B. Tykalewicz, D. Goulding, S. P. Hegarty, G. Huyet, T. Erneux, B. Kelleher,and E. A. Viktorov
Emergence of resonant mode-locking via delayed feedback in quantum dot semiconductor lasers
Optics Express 24, 4239-4246 (2016)

[OptIQ 120]*
B. Tykalewicz, D. Goulding, S. P. Hegarty, G. Huyet, I. Dubinkin, N. Fedorov, T. Erneux, E. A. Viktorov, and B. Kelleher
Optically induced hysteresis in a two-state quantum dot laser
Opt. Lett.41, 1034-1037 (2016)

[OptIQ 121]
I. Bordeu, M.G. Clerc, R. Lefever, M. Tlidi
From localized spots to the formation of invaginated labyrinthine structures in a Swift–Hohenberg model
Communications in Nonlinear Science and Numerical Simulation 29, 482 (2015)

[OptIQ – EOS 122]
Serena Bolis, Michele Celebrano, Lavinia Ghirardini, Marco Finazzi, Chiara Botta, Jeroen Beeckman, Pascal Kockaert and Tersilla Virgili
Optical gain from polyfluorene keto defects in a liquid crystal mixture
Chemical Communications, 51, 9686-9689, (2015).

[OptIQ – EOS 157]
Serena Bolis, Tersilla Virgili, Sai Kiran Rajendran, Jeroen Beeckman and Pascal Kockaert,
"Soliton-driven injection of amplified spontaneous emission into an optical fiber",
Opt. Lett., 41, 2245-2248, (2016).

[OptIQ – EOS 158]
Lavinia Ghirardini, Tersilla Virgili, Serena Bolis, Jeroen Beeckman, Pascal Kockaert, Marco Finazzi, Michele Celebrano,
"The role of segregation in the polarized emission from polyfluorene embedded in a liquid crystal",
J. Polym. Sci. Part B: Polym. Phys., DOI:10.1002/polb.24069, (2016).

[OptIQ-PRG 123]
Ciret, C., Leo, F., Kuyken, B., Roelkens, G., & Gorza, S.-P
Observation of an optical event horizon in a silicon-on-insulator photonic wire waveguide
Optics express, 24, 114-124 (2016)

ANNEX 1: Publications specific to the IAP project

[OptIQ-PRG 124]
Quentin Vinckier, François Duport, Anteo Smerieri, Kristof Vandoorne, Peter Bienstman, Marc Haelterman, Serge Massar
High performance photonic reservoir computer based on a coherently driven passive cavity
Optica 2, pp. 438-446 (2015)

[OptIQ – PHOT 125]
E. Averlant, M. Tlidi, H. Thienpont, T. Ackemann, K. Panajotov
Vector cavity solitons in broad area Vertical-Cavity Surface-Emitting Lasers
Scientific Reports 6, 20428 (2016)

[OptIQ – PHOT 126]
M. Tlidi, Y. Gandica, G. Sonnino, E. Averlant, and K. Panajotov
Self-Replicating Spots in the Brusselator Model and Extreme Events in the One-Dimensional Case with Delay
Entropy 2016 18, 64 (2016)

[OptIQ-PHOT 149]
G Friart, G Van der Sande, G Verschaffelt, T Erneux
Analytical stability boundaries for quantum cascade lasers subject to optical feedback
Physical Review E 93 (5), 052201 (2016)

[OptIQ-PHOT 152]
R.M. Nguimdo, K. Saleh, A. Coillet, G. Lin, R. Martinenghi, Y.K. Chembo
Phase Noise Performance of Optoelectronic Oscillators Based on Whispering-Gallery Mode Resonators
IEEE J. Quantum Electron., Vol. 51, No. 11, Art.No. 6500308, 2015

[OptIQ-PHOT 153]
R.M. Nguimdo, G. Verschaffelt, J. Danckaert, G. Van der Sande
Reducing the phase sensitivity of laser-based optical reservoir computing systems
Opt. Express, Vol. 24, No. 2, pp. 1238-1252, 2016

[OptIQ-PHOT 154]
RM Nguimdo, G Verschaffelt, J Danckaert, G Van der Sande
Simultaneous computation of two independent tasks using reservoir computing based on a single photonic nonlinear node with optical feedback
Neural Networks and Learning Systems, IEEE Transactions on 26 (12), 3301-3307

[OptIQ – LMOPS 127]
Thomas Erneux, Lionel Weicker, Larissa Bauer, and Philipp Hövel,
Short-time-delay limit of the self-coupled FitzHugh-Nagumo system
Phys. Rev. E 93, 022208 (2016)

[PRG-OptIQ 411]
Dave, U., Ciret, C., Gorza, S.-P., Combrie, S. S., Rossi, A. D., Raineri, F. F., Roelkens, G., & Kuyken, B
Dispersive-wave-based octave-spanning supercontinuum generation in InGaP membrane waveguides on a silicon substrate
Optics letters, 40, 3584-3587 (2015)

[PRG-OptIQ-IRCICA 553]
François Leo, Stéphane Coen, Pascal Kockaert, Philippe Emplit, Marc Haelterman, Arnaud Mussot, Majid Taki
Impact of third-order dispersion on nonlinear bifurcations in optical resonators
Physics Letters A, Volume 379, Issues 34–35, Pages 1934–1937 (18 September 2015)

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[PHOT-OptIQ 293]
G.S. Sokolovskii, E.A. Viktorov, M. Abusaa, J. Danckaert, V.V. Dudelev, E.D. Kolykhalova, K.K. Soboleva, A.G. Deryagin, I.I. Novikov, M.V. Maximov, A.E. Zhukov, V.M. Ustinov, V.I. Kuchinskii, W. Sibbett, E.U. Rafailov, T. Erneux
Dropout dynamics in pulsed quantum dot lasers due to mode jumping
Appl. Phys. Lett., Vol. 106, No. 26, Art.No. 261103, 2015

[IRCICA-OptIQ 149]*
M. Conforti, A. Mussot, J. Fatome, A. Picozzi, S. Pitois, C. Finot, M. Haelterman, B. Kibler, C. Michel and G. Millot
Turbulent dynamics of an incoherently pumped passive optical fiber cavity: Quasisolitons, dispersive waves, and extreme events
Physical Review A 91, 023823 (2015).

[LMOPS – OptIQ 83]
Lionel Weicker, Thomas Erneux, Delphine Wolfersberger, and Marc Sciamanna
Laser diode nonlinear dynamics from a filtered phase-conjugate optical feedback,
Phys. Rev. E 92, 022906 (2015)

In press 2016 :

[OptIQ 103]
A. Acín, S. Pironio, T. Vértesi, P. Wittek
Optimal randomness certification from one entangled bit
accepted for publication in Physical Review A Rapid Communications. 2016

[OptIQ 118]
D. Abdelkhalek, M. Syllwasschy, N. J. Cerf, J. Fíurašek and R. Schnabel,
Efficient entanglement distillation without quantum memory,
Nature Communications, in press. 2016

[OptIQ 159]
C.Ciret and S.-P. Gorza,
"Scattering of a cross-polarized linear wave by a soliton at an optical event horizon in a birefringent nanophotonic waveguide ",
Opt. Lett. (accepted), 2016

[PRG-OptIQ 457]
B. Kuyken, F. Leo, S. Clemmen, U. Dave, H. Zhao, S. Holzner, T. Ideguchi, X. liu, J. Safioui, M. Yan, S. Coen, W. Green, S. Gorza, T. Hansch, S. Selvaraja, S. Massar, N, Picque, R. Osgood, P. Verheyen, J. Van Campenhout, R. Baets, G. Roelkens,
"Nonlinear optical interactions in silicon waveguides",
Journal of Nanophotonics., 2016

ANNEX 1: Publications specific to the IAP project

1.1.3 Patents

None

1.1.4 Conference contributions (proceedings and abstracts in technical digests)

[OptIQ 128]
P. Antonik, A. Smerieri, F. Duport, M. Haelterman, S. Massar
FPGA implementation of reservoir computing with online learning
24th Belgian-Dutch Conference on Machine Learning, 2015
http://homepage.tudelft.nl/19j49/benelearn/papers/Paper_Antonik.pdf

[OptIQ 129]
P. Antonik, F. Duport, A. Smerieri, M. Hermans, M. Haelterman, and S. Massar
Online training of an opto-electronic reservoir computer
APNNA's 22th International Conference on Neural Information Processing, vol. 9490 of LNCS, pp. 233–240, 2015

[OptIQ 130]
P. Antonik, F. Duport, A. Smerieri, M. Hermans, M. Haelterman, and S. Massar
Improving performance of opto-electronic reservoir computers with online learning
20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, 2015

[OptIQ 131]
P. Antonik, M. Hermans, F. Duport, M. Haelterman, and S. Massar
Towards pattern generation and chaotic series prediction with photonic reservoir computers
SPIE's 2016 Laser Technology and Industrial Laser Conference, vol. 9732, 2016.

[OptIQ 132]*
M. Bauduin, A. Smerieri, S. Massar, F. Horlin,
Equalization of the Non-Linear Satellite Communication Channel with an Echo State Network
Proceedings of IEEE 81st Vehicular Technology Conference (VTC Spring), 2015, pp. 1-5

[OptIQ 133]*
M. Bauduin, S. Massar, F. Horlin
Non-linear satellite channel equalization based on a low complexity Echo State Network
Proceedings of IEEE 50th Conference on Information Sciences and Systems (CISS), 2016

[OptIQ 134]*
M. Bauduin, S. Massar, F. Horlin,
Receiver Design for Non-Linear Satellite Channels: Equalizer Training and Symbol Detection on the Compressed Constellation
accepted for Proceedings of IEEE International Conference on Military Communications and Information Systems (ICMCIS), 2016

[OptIQ 135]
Ciret, C., Gorza, S.-P.
Demonstration of Frequency Conversion at an Optical Event Horizon with Cross Polarized Waves in Birefringent Nanophotonic Waveguides
CLEO: 2016. Optical Society of America (2016) Accepted

[OptIQ 136]
A. Hertz, E. Karpov, A. Mandilara, and N. J. Cerf,
Gaussianity-dependent separability criterion for continuous-variable systems,
In: electronic abstracts of 22d Central European Workshop on Quantum Optics (CEWQO 2015) July 06-10, 2015 Warsaw, Poland.
http://cewqo2015.fuw.edu.pl/abstracts/07Jul_1630_QEntanglement_Hertz.pdf

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[OptIQ 137]
M. G. Jabbour, R. Garcia-Patron, and N. J. Cerf,
Interconversion of pure Gaussian states requiring non-Gaussian operations,
In: electronic abstracts of 22d Central European Workshop on Quantum Optics (CEWQO 2015) July 06-10, 2015 Warsaw, Poland.
http://cewqo2015.fuw.edu.pl/abstracts/07Jul_1700_ConVariables_Jabbour.pdf

[OptIQ 138]
E. Karpov, J. Schäfer, O. Pilyavets, and N. J. Cerf,
Optimal environment for quantum bosonic Gaussian channels,
In: electronic abstracts of 22d Central European Workshop on Quantum Optics (CEWQO 2015) July 06-10, 2015 Warsaw, Poland.
http://cewqo2015.fuw.edu.pl/abstracts/06Jul_1615_QInformation_Karpov.pdf

[OptIQ 139]*
Q. Vinckier, F. Duport, A. Smerieri, M. Haelterman, and S. Massar
Information processing using a photonic reservoir computer based on a coherently driven passive cavity with an analog readout layer
in 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference, (Optical Society of America, 2015), paper CI_5_1 (oral presentation).

[OptIQ 140]*
Q. Vinckier, F. Duport, M. Haelterman, and S. Massar,
Information processing using an autonomous all-photonic reservoir computer based on coherently driven passive cavities
in Frontiers in Optics 2015, OSA Technical Digest (online) (Optical Society of America, 2015), paper FTu3B.6 (oral presentation).

[OptIQ 144]
B. Kelleher; D. Goulding; B. Tykalewicz ; N. Fedorov ; I. Dubinkin ; S. P. Hegarty ; G. Huyet ; T. Erneux ; E. A. Viktorov,
Lasing state hysteresis in a two-state quantum dot laser via optical injection
Proc. SPIE 9742, Physics and Simulation of Optoelectronic Devices XXIV, 97420D (March 4, 2016)

[OptIQ – EOS 145]
Serena Bolis, Michele Celebrano, Lavinia Ghirardini, Marco Finazzi, Chiara Botta, Jeroen Beeckman, Pascal Kockaert and Tersilla Virgili
Anisotropic optical gain from polyfluorene keto defects induced by a liquid crystalline matrix
Optics of Liquid Crystals 2015, 13-18 September 2015, Sopot, Poland

[OptIQ – EOS 146]
Serena Bolis, Olivier Debeir, Jeroen Beeckman and Pascal Kockaert
Amplified spontaneous emission injection into an optical fiber with the aid of a nematicon
20th Annual Symposium of the IEEE Photonics Benelux Chapter, 26-27 November 2015, Bruxelles, Belgium

[OptIQ-PRG 147]*
C. Ciret, F. Leo, B. Kuyken, G. Roelkens, S.P. Gorza ,
"Demonstration of an optical event horizon in a silicon nanophotonic waveguide",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper EF-7.3 TUE, 21-25 June 2015.

[OptIQ-PHOT 156]*
Gaetan Friart; Mulham Khoder; Guy Van der Sande; Guy Verschaffelt & Thomas Erneux

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Ponts de bifurcation dans un laser en anneau soumis `a un feedback optique
Rencontre du non-lineaire 2016 . Vol. 19, Mar 2016

[PRG-OptIQ 524]*
K. Alexander, Y. Hu, M. Pantouvaki, S. Brems, I. Asselberghs, S.-P. Gorza, C. Huyghebaert, J. Van Campenhout, B. Kuyken, D. Van Thourhout ,
"Electrically controllable saturable absorption in hybrid graphene-silicon waveguides",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper STh4H,7, 10 -15 May 2015.

[PRG-OptIQ 525]*
B. Kuyken, R. Van Laer, F. Leo, D. Van Thourhout, R. Baets, G. Roelkens, T. Ideguchi, S. Holzner, M. Yan, T.W. Hansch, S. Coen, P. Verheyen, J. Van Campenhout, S.-P. Gorza, S. Combrie, A. De Rossi, F. Raineri, W.M.J. Green, N. Picque ,
"Nonlinear optics on a silicon platform for broadband light generation and ultrafast information processing",
(Invited paper), The 20th Optoelectronic and Communications Conference (OECC2015), Shanghai, China, pp. paper JThE.22, June 28-July 2, 2015.

[PHOT-OptIQ 320]
E.A. Viktorov, T. Erneux, M. Abusaa, J. Danckaert, V.V. Dudelev, E.D. Kolykhalova, K.K. Soboleva, A.G. Deryagin, I.I. Novikov, M.V. Maximov
Two state QD laser turn on: slow passage effects
Proc. CLEO/Europe-EQEC 2015, Paper CBP22, 2015

[PHOT-OptIQ 351]
Mulham Khoder; Gaetan Friart; Jan Danckaert; Thomas Erneux; Guy Van der Sande & Guy Verschaffelt
Effect of Filtered Optical Feedback on The Dynamics of Semiconductor Ring Lasers
Proceeding of the 20th annual Symposium of the IEEE photonics society Benelux 2015 . Brussels Belgium: IEEE Benelux, Vol. 20, p. 147-150, Feb 2016

[PHOT-OptIQ 352]
Mulham Khoder; Gaetan Friart; Jan Danckaert; Thomas Erneux; Guy Van der Sande; Guy Verschaffelt
Dynamics of semiconductor microring lasers subject to on-chip filtered optical feedback
Proc. SPIE. 9892, Semiconductor Lasers and Laser Dynamics VII, 98921J. (April 28, 2016) doi: 10.1117/12.2225627

In press 2016 :

[OptIQ 141]*
Q. Vinckier, A. Bouwens, M. Haelterman, and S. Massar
Autonomous all-photonic processor based on reservoir computing paradigm
, accepted for CLEO: 2016, OSA Technical Digest (online) (Optical Society of America, 2016) (oral presentation).

1.1.5 PhD theses

[OptIQ 150]
Anh Dung Nguyen

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Amélioration de la resolution spatiale en microscopie multiphotonique par saturation de la fluorescence
2015

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1.2 UGent-EOS

1.2.1 Books

None

1.2.2 International Journals (with referee system)

[EOS 70]
Brans, Toon, Filip Strubbe, Caspar Schreuer, Kristiaan Neyts, and Filip Beunis. 2015.
Optical Tweezing Electrophoresis of Single Biotinylated Colloidal Particles for Avidin Concentration Measurement.
Journal of Applied Physics 117 (21).

[EOS 72]
Brans, Toon, Filip Strubbe, Caspar Schreuer, Stijn Vandewiele, Kristiaan Neyts, and Filip Beunis. 2015.
Joule Heating Monitoring in a Microfluidic Channel by Observing the Brownian Motion of an Optically Trapped Microsphere.
Electrophoresis 36 (17): 2102–2109.

[EOS 73]
Callens, Michiel, Daisuke Yokoyama, and Kristiaan Neyts. 2015.
Anisotropic Materials in OLEDs for High Outcoupling Efficiency.
Optics Express 23 (16): 21128–21148.

[EOS 90]
De Visschere, Patrick, Wouter Woestenborghs, and Kristiaan Neyts. 2015.
Space-charge Limited Surface Currents Between Two Semi-infinite Planar Electrodes Embedded in a Uniform Dielectric Medium.
Organic Electronics 16: 212–220.

[EOS 92]*
Karvar, Masoumeh, Filip Strubbe, Filip Beunis, Roger Kemp, Nathan Smith, Mark Goulding, and Kristiaan Neyts. 2015.
Charging Dynamics of Aerosol OT Inverse Micelles.
Langmuir 31 (40): 10939–10945.

[EOS 93]*
Mantashyan, Paytsar, Rafael Drampyan, Jeroen Beeckman, Oliver Willekens, and Kristiaan Neyts. 2015.
Optical Induction of Bessel-like Lattices in Methyl-red Doped Liquid Crystal Cells.
Optics Communications 338: 467–472.

[EOS 94]
Mohammadimasoudi, Mohammad, Jungsoon Shin, Keechang Lee, Kristiaan Neyts, and Jeroen Beeckman. 2015.
Microsecond-range Optical Shutter for Unpolarized Light with Chiral Nematic Liquid Crystal.
Aip Advances 5 (4).

[EOS 95]
Nys, Inge, Jeroen Beeckman, and Kristiaan Neyts. 2015.
Switchable 3D Liquid Crystal Grating Generated by Periodic Photo-alignment on Both Substrates.
Soft Matter 11 (39): 7802–7808.

[EOS 96]

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Prasad, M., F. Beunis, K. Neyts and F. Strubbe,
Switching of charged inverse micelles in non-polar liquids,
Journal of Colloid and Interface Science 458 (2015) 39

[EOS 97]
Vergucht, E., T. Brans, F. Beunis, J. Garrevoet, S. Bauters, M. De Rijcke, D. Deruytter, C. Janssen, C. Riekel, M. Burghammer and L. Vincze,
Methodological challenges of optical tweezers-based X-ray fluorescence imaging of biological model organisms at synchrotron facilities,
Journal of Synchrotron Radiation 22, (2015) 1096

[EOS-PRG 98]
John George, Philippe Smet, Jonas Botterman, Vitaliy Bliznuk, Wouter Woestenborghs, Dries Van Thourhout, Kristiaan Neyts, and Jeroen Beeckman. 2015.
Lanthanide-assisted Deposition of Strongly Electro-optic PZT Thin Films on Silicon: Toward Integrated Active Nanophotonic Devices.
Acs Applied Materials & Interfaces 7 (24): 13350–13359.

[OptIQ – EOS 122]
Serena Bolis, Michele Celebrano, Lavinia Ghirardini, Marco Finazzi, Chiara Botta, Jeroen Beeckman, Pascal Kockaert and Tersilla Virgili
Optical gain from polyfluorene keto defects in a liquid crystal mixture
Chemical Communications, 51, 9686-9689, (2015).

[OptIQ – EOS 157]
Serena Bolis, Tersilla Virgili, Sai Kiran Rajendran, Jeroen Beeckman and Pascal Kockaert,
"Soliton-driven injection of amplified spontaneous emission into an optical fiber",
Opt. Lett., 41, 2245-2248, (2016).

[OptIQ – EOS 158]
Lavinia Ghirardini, Tersilla Virgili, Serena Bolis, Jeroen Beeckman, Pascal Kockaert, Marco Finazzi, Michele Celebrano,
"The role of segregation in the polarized emission from polyfluorene embedded in a liquid crystal",
J. Polym. Sci. Part B: Polym. Phys., DOI:10.1002/polb.24069, (2016).

[FCN-EOS 152]
Aubert, Tangi, Ljiljana Paangetic, Mohammad Mohammadimasoudi, Kristiaan Neyts, Jeroen Beeckman, Christian Clasen, and Zeger Hens. 2015.
Large-scale and Electroswitchable Polarized Emission from Semiconductor Nanorods Aligned in Polymeric Nanofibers.
Acs Photonics 2 (5): 583–588.

[PRG-EOS 443]
T. Van Vaerenbergh, M. Fiers, J. Dambre, P. Bienstman,
"Efficient simulation of optical nonlinear cavity circuits",
Optical and Quantum Electronics, ISSN 0306-8919 , Vol. 47, Nr. 6, pp. 1474-1476, 25 January 2015.

[PRG-EOS 444]*
Y. Xing, T. Ako, J.P. George, D. Korn, H. Yu, P. Verheyen, M. Pantouvaki, G. Lepage, P. Absil, A. Ruocco, C. Koss, J. Leuthold, K. Neyts, J. Beeckman, W. Bogaerts,
"Digitally controlled phase shifter using an SOI slot waveguide with liquid crystal infiltration",
IEEE Photonics Technology Letters, ISSN 1041-1135, Vol. 27, Nr. 12, pp. 1269-1272, 15 June 2015.

[PRG-EOS 445]

ANNEX 1: Publications specific to the IAP project

M. Hermans, J. Dambre, P. Bienstman,
"Optoelectronic systems trained with backpropagation through time",
IEEE Transactions on Neural Networks and Learning Systems, ISSN 2162-237X, Vol. 26, Nr. 7, pp. 1545-1550, July 2015.

[PRG-EOS 446]*
M. Hermans, M. C. Soriano, J. Dambre, P. Bienstman, I. Fischer,
"Photonic delay systems as machine learning implementations ",
Journal of Machine Learning Research, ISSN 1533-7928, Vol. 16, pp. 2081-2097, 10 October 2015.

[PRG-EOS 447]
B. Schneider, J. Dambre, P. Bienstman,
"Fast particle characterization using digital holography and neural networks",
Applied Optics, ISSN 1559-128X, Vol. 55, Nr. 1, pp. 133-139, 1 January 2016.

[PHOT-EOS 294]
C. Belmonte, L. Frasunkiewicz, T. Czyszanowski, H. Thienpont, J. Beeckman, K. Neyts, K. Panajotov
Optimization of electrically tunable VCSEL with intracavity nematic liquid crystal
Opt. Express, Vol. 23, No. 12, pp. 15706-15715, 2015

In press 2016 :

[PRG-EOS 458]
B. Schneider, J. Dambre, P. Bienstman,
"Using digital masks to enhance the bandwidth tolerance and improve performance in on-chip reservoir computing systems",
IEEE Transactions on Neural Networks and Learning Systems.

1.2.3 Patents

[EOS 99]
BEECKMAN JEROEN, NEYTS KRISTIAAN, GEORGE JOHN
PREFERENTIALLY ORIENTED PEROVSKITE-RELATED THIN FILM
US2015298161 (A1)

[EOS 100]
Mohammad Mohammadimasoudi, Jeroen Beeckman, Kristiaan Neyts
Planar Aligned Nanords and Liquid Crystal Assemblies
Submitted 2015

1.2.4 Conference contributions (proceedings and abstracts in technical digests)

[EOS 101]
Brans, Toon, Stijn Vandewiele, Filip Strubbe, Caspar Schreuer, Kristiaan Neyts, and Filip Beunis. 2015.
Optical Trapping Electrophoresis as a Label-free Biosensor
In 15th Conference of the International Association of Colloid and Interface Scientists, Book of Abstracts.

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[EOS 102]
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Anisotropy in OLEDs.
In Optics + Photonics, Proceedings. SPIE.

[EOS 103]*
Mohammadimasoudi, Mohammad, Jeroen Beeckman, and Kristiaan Neyts. 2015.
Thin Film Polarized Liquid Crystal Backlight
In SID Symposium Digest of Technical Papers, 38–38.

[EOS 104]
Mohammadimasoudi, Mohammad, Kristiaan Neyts, and Jeroen Beeckman. 2015.
Thin Film Polarizer and Color Filter Based on Photo-polymerizable Nematic Liquid Crystal.
In Proceedings of SPIE, ed. Liang-Chy Chien, Harry J. Coles, Hirotsugu Kikuchi, and Ivan I. Smalyukh. Vol. 9384. SPIE.

[EOS 105]
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Polarization Independent Microsecond Electro-optic Switch.
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[EOS 106]
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[EOS 107]*
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One- and Two-dimensional Liquid Crystal Structures for Lasing Applications.
In SPIE Optics + Photonics, Proceedings.

[EOS 108]
Vandewiele, Stijn, Mathieu Balcaen, Toon Brans, Filip Beunis, Paul Van Der Meeren, and Kristiaan Neyts. 2015.
Optical Tweezers: a Tool for the Stability Investigation of Double Emulsions.
In Optical Trapping Applications 2015. The Optical Society (OSA).

[EOS 109]
Willekens, Oliver, John Puthenparampil George, Kristiaan Neyts, and Jeroen Beeckman. 2015.
PZT-based Transmissive Liquid Crystal Lens Approach.
In SID Symposium Digest of Technical Papers, 46:7–7. Ghent, Belgium.

[EOS 110]
Willekens, Oliver, Kristiaan Neyts, and Jeroen Beeckman. 2016.
Liquid Crystal Devices with Continuous Phase Variation Based on High-permittivity Thin Films
In SPIE Proceedings; Volume 9769; Emerging Liquid Crystal Technologies XI; Electro-Optical Processes, ed. Liang-Chy Chien, Dick J. Broer, Hirotsugu Kikuchi, and Nelson V. Tabiryan, 9769:97690P–1–97690P–7.

[EOS-ARO 111]
Beeckman, Jeroen, Thomas Ako, Yi Xie, Aimi Abass, and Kristiaan Neyts. 2015.
Tuning of Nanophotonic and Nanoplasmonic Components with Liquid Crystals.

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[EOS-PHOT 112]
Cuypers, Dieter, Xiaobing Shang, Jelle De Smet, Joshi Pankaj, Jeroen Beeckman, Kristiaan Neyts, Oliver Willekens, Michael Vervaeke, Hugo Thienpont, and Herbert De Smet. 2015.
Liquid Crystal Beam Steering Components for Display Applications
In 15th International Meeting on Information Display, Abstracts, 246–246. KIDS, SID.

[EOS-PHOT 113]
Shang, Xiaobing, Jelle De Smet, Pankaj Joshi, Dieter Cuypers, Jin Yi Tan, Oliver Willekens, Jeroen Beeckman, Kristiaan Neyts, Tigran Baghdasaryan, Michael Vervaeke, Hugo Thienpont, and Herbert De Smet. 2015.
Switchable Liquid Crystal Devices for Efficient Light Steering.
In SID Symposium Digest of Technical Papers, 46:16–16. Ghent, Belgium: Society for Information Display.

[OptIQ – EOS 145]
Serena Bolis, Michele Celebrano, Lavinia Ghirardini, Marco Finazzi, Chiara Botta, Jeroen Beeckman, Pascal Kockaert and Tersilla Virgili
Anisotropic optical gain from polyfluorene keto defects induced by a liquid crystalline matrix
Optics of Liquid Crystals 2015, 13-18 September 2015, Sopot, Poland

[OptIQ – EOS 146]
Serena Bolis, Olivier Debeir, Jeroen Beeckman and Pascal Kockaert
Amplified spontaneous emission injection into an optical fiber with the aid of a nematicon
20th Annual Symposium of the IEEE Photonics Benelux Chapter, 26-27 November 2015, Bruxelles, Belgium

[FCN-EOS 190]
Aubert, Tangi, Ljiljana Palangetic, Mohammad Mohammadimasoudi, Kristiaan Neyts, Jeroen Beeckman, Christian Clasen, and Zeger Hens. 2015.
Large–scale and Electroswitchable Polarized Emission from Semiconductor Nanorods Aligned in Polymeric Nanofibers.
In SID Symposium Digest of Technical Papers, 12–12.

[PRG – EOS 526]*
K. Vandoorne, P. Mechet, M. Fiers, T. Van Vaerenbergh, B. Schneider, A. Kutumba, D. Verstraeten, B. Schrauwen, J. Dambre, P. Bienstman ,
"Photonic reservoir computing: a brain-inspired paradigm for information processing",
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[PRG-EOS 527]
A. Katumba, P. Bienstman, J. Dambre ,
"Photonic reservoir computing approaches to nanoscale computation",
Proceedings of the Second Annual Conference on Nanoscale Computing and communication NANOCOM'15), ISBN 978-1-4503-3674-1, Boston, USA, pp. article nr 23, 21-22 September 2015.

[PHOT-EOS 319]
Panajotov, Krassimir, Yi Xie, Jeroen Beeckman, Kristiaan Neyts, M Dems, Carlos Belmonte, and Hugo Thienpont. 2015.
"Hybrid VCSEL: Liquid Crystal Systems." In Proceedings of SPIE, ed. C Lei and KD Choquette.
Vol. 9381. Spie.

1.2.5 PhD theses

ANNEX 1: Publications specific to the IAP project

[EOS 114]
Toon Brans
Optical trapping electrophoresis for label-free biodetection

[EOS 115]
Mohammad Mohammadimasoudi
Anisotropic films for optical applications based on liquid crystal and nanorods

[EOS-PRG 116]
Thomas Ako
Silicon on Insulator Photonic Components with a liquid crystal upper cladding

ANNEX 1: Publications specific to the IAP project

1.3 UGent-FCN

1.3.1 Books

None

1.3.2 International Journals (with referee system)

[FCN 134]
De Nolf, K.; Capek, R. K.; Abe, S.; Sluydts, M.; Jang, Y. J.; Martins, J. C.; Cottenier, S.; Lifshitz, E.; Hens, Z.,
Controlling the Size of Hot Injection Made Nanocrystals by Manipulating the Diffusion coefficient of the Solute.
Journal of the American Chemical Society 2015, 137, 2495-2505.

[FCN 135]
De Roo, J.; Justo, Y.; De Keukeleere, K.; Van den Broeck, F.; Martins, J. C.; Van Driessche, I.; Hens, Z.,
Carboxylic-Acid-Passivated Metal Oxide Nanocrystals: Ligand Exchange Characteristics of a New Binding Motif.
Angewandte Chemie International Edition 2015, 54, 6488-6491.

[FCN 136]
Hens, Z.,
Economical routes to colloidal nanocrystals.
Science 2015, 348, 1211-1212.

[FCN 137]
Kovalenko, M. V.; Manna, L.; Cabot, A.; Hens, Z.; Talapin, D. V.; Kagan, C. R.; Klimov, V. I.; Rogach, A. L.; Reiss, P.; Milliron, D. J.; Guyot-Sionnnest, P.; Konstantatos, G.; Parak, W. J.; Hyeon, T.; Korgel, B. A.; Murray, C. B.; Heiss, W.,
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Acs Nano 2015, 9, 1012-1057.

[FCN 138]
Siebers, B.; Biadala, L.; Yakovlev, D. R.; Rodina, A. V.; Aubert, T.; Hens, Z.; Bayer, M.,
Exciton spin dynamics and photoluminescence polarization of CdSe/CdS dot-in-rod nanocrystals in high magnetic fields
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[FCN 139]
Soenen, S. J.; Abe, S.; Manshian, B. B.; Aubert, T.; Hens, Z.; De Smedt, S. C.; Braeckmans, K.,
The Effect of Intracellular Degradation on Cytotoxicity and Cell Labeling Efficacy of Inorganic Ligand-Stabilized Colloidal CdSe/CdS Quantum Dots
Journal of Biomedical Nanotechnology 2015, 11, 631-643.

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Tessier, M. D.; Dupont, D.; De Nolf, K.; De Roo, J.; Hens, Z.,
Economic and Size-Tunable Synthesis of InP/ZnE (E = S, Se) Colloidal Quantum Dots.
Chemistry of Materials 2015, 27, 4893-4898.

[FCN 141]
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Journal of Materials Chemistry A 2015, 3, 20579-20585.

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[FCN 142]
Debierre, V.; Goessens, I.; Brainis, E.; Durt, T.,
Fermi's golden rule beyond the Zeno regime.
Physical Review A 2015, 92.

[FCN 143]
Sluydts, M.; De Nolf, K.; Van Speybroeck, V.; Cottenier, S.; Hens, Z.,
Ligand Addition Energies and the Stoichiometry of Colloidal Nanocrystals.
ACS Nano 2016, 10, 1462,1474.

[FCN 144]
Biadala, L.; Siebers, B.; Beyazit, Y.; Tessier, M. D.; Dupont, D.; Hens, Z.; Yakovlev, D. R.; Bayer, M.,
Band-Edge Exciton Fine Structure and Recombination Dynamics in InP/ZnS Colloidal Nanocrystals.
ACS Nano 2016, 10, 3356-3364.

[FCN 145]
De Roo, J.; Coucke, S.; Rijckaert, H.; De Keukeleere, K.; Sinnaeve, D.; Hens, Z.; Martins, J. C.; Van Driessche, I.,
Amino Acid-Based Stabilization of Oxide Nanocrystals in Polar Media: From Insight in Ligand Exchange to Solution H-1 NMR Probing of Short-Chained Adsorbates.
Langmuir 2016, 32, 1962-1970.

[FCN 146]
De Roo, J.; Ibáñez, M.; Geiregat, P.; Nedelcu, G.; Walravens, W.; Maes, J.; Martins, J. C.; Van Driessche, I.; Kovalenko, M. V.; Hens, Z.,
Highly Dynamic Ligand Binding and Light Absorption Coefficient of Cesium Lead Bromide Perovskite Nanocrystals.
ACS Nano 2016, DOI 10.1021/acsnano.5b06295.

[FCN 147]
De Roo, J.; Van Driessche, I.; Martins, J. C.; Hens, Z.,
Colloidal metal oxide nanocrystal catalysis by sustained chemically driven ligand displacement.
Nat Mater 2016, advance online publication, doi: 10.1038/nmat4554.

[FCN 148]
Geiregat, P.; Allan, G.; Hens, Z.; Delerue, C.,
Single-exciton optical gain in semiconductor nanocrystals: Positive role of electron-phonon coupling.
Physical Review B 2016, 93.

[FCN 149]
Goftman, V. V.; Aubert, T.; Vande Ginste, D.; Van Deun, R.; Beloglazova, N. V.; Hens, Z.; De Saeger, S.; Goryacheva, I. Y.,
Synthesis, modification, bioconjugation of silica coated fluorescent quantum dots and their application for mycotoxin detection.
Biosensors & Bioelectronics 2016, 79, 476-481.

[FCN 150]
Maes, J.; Dierick, R.; Capon, B.; Detavernier, C.; Hens, Z.,
Se-containing inks for the formation of CuInSe2 films without gas-phase selenization.
Solar Energy Materials and Solar Cells 2016, 145, 126-133.

[FCN 151]

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Speranskaya, E. S.; Sevrin, C.; De Saeger, S.; Hens, Z.; Goryacheva, I. Y.; Grandfils, C.,
Synthesis of Hydrophilic CuInS2/ZnS Quantum Dots with Different Polymeric Shells and Study of Their Cytotoxicity and Hemocompatibility.
ACS Applied Materials & Interfaces 2016, 8, 7613-7622.

[FCN-EOS 152]
Aubert, T.; Palangetic, L.; Mohammadimasoudi, M.; Neyts, K.; Beeckman, J.; Clasen, C.; Hens, Z.,
Large-Scale and Electroswitchable Polarized Emission from Semiconductor Nanorods Aligned in Polymeric Nanofibers.
ACS Photonics 2015, 2, 583-588.

[FCN-PRG 153]
Bisschop, S.; Guille, A.; Van Thourhout, D.; Hens, Z.; Brainis, E.,
Broadband enhancement of single photon emission and polarization dependent coupling in silicon nitride waveguides.
Opt. Express 2015, 23, 13713-13724.

[FCN-PRG 154]
Geiregat, P.; Delerue, C.; Justo, Y.; Aerts, M.; Spoor, F.; Van Thourhout, D.; Siebbeles, L. D. A.; Allan, G.; Houtepen, A. J.; Hens, Z.,
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Acs Nano 2015, 9, 778-788.

[FCN-PRG 155]
Geiregat, P.; Houtepen, A. J.; Van Thourhout, D.; Hens, Z.,
All-Optical Wavelength Conversion by Picosecond Burst Absorption in Colloidal PbS Quantum Dots
Acs Nano 2016, 10, 1265-1272.

[PRG-FCN 414]*
Subramanian, A. Z.; Ryckeboer, E.; Dhakal, A.; Peyskens, F.; Malik, A.; Kuyken, B.; Zhao, H.; Pathak, S.; Ruocco, A.; De Groote, A.; Wuytens, P.; Martens, D.; Leo, F.; Xie, W.; Dave, U. D.; Muneeb, M.; Van Dorpe, P.; Van Campenhout, J.; Bogaerts, W.; Bienstman, P.; Le Thomas, N.; Van Thourhout, D.; Hens, Z.; Roelkens, G.; Baets, R.,
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[Invited]. Photonics Research 2015, 3, B47-B59.

[PRG-FCN 448]
Xie, W.; Zhu, Y.; Aubert, T.; Verstuyft, S.; Hens, Z.; Van Thourhout, D.,
Low-loss silicon nitride waveguide hybridly integrated with colloidal quantum dots.
Optics Express 2015, 23, 12152-12160

[PRG-FCN 449]*
Zhao, H. L.; Kuyken, B.; Clemmen, S.; Leo, F.; Subramanian, A.; Dhakal, A.; Helin, P.; Severi, S.; Brainis, E.; Roelkens, G.; Baets, R.,
Visible-to-near-infrared octave spanning supercontinuum generation in a silicon nitride waveguide.
Optics Letters 2015, 40, 2177-2180.

[PRG-FCN 450]*
Clemmen, S.; Hermans, A.; Solano, E.; Dendooven, J.; Koskinen, K.; Kauranen, M.; Brainis, E.; Detavernier, C.; Baets, R.,
Atomic layer deposited second-order nonlinear optical metamaterial for back-end integration with CMOS-compatible nanophotonic circuitry.
Optics Letters 2015, 40, 5371-5374.

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[PRG-FCN 451]
Xie, W. Q.; Gomes, R.; Aubert, T.; Bisschop, S.; Zhu, Y. P.; Hens, Z.; Brainis, E.; Van Thourhout, D.,
Nanoscale and Single-Dot Patterning of Colloidal Quantum Dots.
Nano Letters 2015, 15, 7481-7487.

[PRG-FCN 452]
Xie, W. Q.; Zhu, Y. P.; Aubert, T.; Hens, Z.; Brainis, E.; Van Thourhout, D.,
Fabrication and characterization of on-chip silicon nitride microdisk integrated with colloidal quantum dots.
Optics Express 2016, 24, A114-A122.

1.3.3 Patents

None

1.3.4 Conference contributions (proceedings and abstracts in technical digests)

[FCN 156]
Mickael Didier Tessier, Dorian Dupont, Jonathan De Roo, Kim De Nolf, Zeger Hens.
Easy, Efficient and Low-Cost Method to Synthesize and to Size-Tune InP Nanocrystals with Low-Dispersity
In: MRS Spring Meeting 2015, San Francisco, 2015-04-06. Materials Research Society.

[FCN 157]
Zeger Hens, Kim De Nolf, Sofie Abe, Michael Sluydts, Stefaan Cottenier, Efrat Lifshitz, Richard Capek.
Controlling the Size of Hot-Injection Made Nanocrystals at Full Chemical Yield and Constant Reaction Rate,
In: MRS Spring Meeting 2015, San Francisco, 2015-04-06. Materials Research Society.

[FCN 158]
Jonathan De Roo, Freya Van den Broeck, Yolanda Justo, Katrien De Keukeleere, José Martins, Isabel Van Driessche and Zeger Hens.
The surface chemistry of metal oxide nanocrystals, how protons change the game.
MRS spring meeting, San Francisco (USA) 2015, April 6-10 (presentation)

[FCN 159]
Jorick Maes, Ruben Dierick, Boris Capon, Christophe Detavernier, Zeger Hens,
Se-Containing inks for the formation of CuInSe2 films without gas-phase selenization,
E-MRS Spring meeting, Lille, May 11-18, 2015 (presentation).

[FCN 160]
Dorian Dupont, Mickaël Didier Tessier, Kim De Nolf, Jonathan De Roo, Zeger Hens,
Economic Synthesis and Size-Tuning of InP/ZnS and InP/ZnSe Colloidal QDs,
2015 E-MRS Spring Meeting, Lille (France), May 11-15 (presentation)

[FCN 161]
Zeger Hens,
Colloidal nanocrystal surfaces, ligand addition energy and the composition of zero-charge,
FQDots2015, Santiago de Compostela, September 6-8, 2015

[FCN 162]
Willem Walravens, Zeger Hens,
Long-Range Nanocrystal Superlattices by Control over Surface Reactions,

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International Conference on Fundamental Processes in Semiconductor Nanocrystals, Santiago de Compostela, September 6-8, 2015

[FCN 163]
Laxmi Kishore Sagar, Pieter Geiregat, Willem Walravens and Zeger Hens,
Synthesis of novel HgSe/CdS and HgSe/CdSe core-shell nanocrystals by C-ALD approach in the infra-red, FQDots15,
Fundamental Processes in Semiconductor Nanocrystals, Santiago de Compostela, Spain, September 06-08, 2015 (poster).

[FCN 164]
Kim De Nolf, Jacek J. Jasieniak, José C. Martins, Zeger Hens,
Influence of Ligand Shape and Steric Hindrance on the Composition of the Nanocrystal Ligand Shell
YBMRS, Blankenberge (Belgium), November 30 - December1, 2015

[FCN 165]
Kim De Nolf, Mickael Tessier, Dorian Dupont, Jonathan De Roo, Davy Sinnaeve, Pieter Surmont, José C. Martins, Zeger Hens,
Unravelling the Synthesis Mechanism of Colloidal InP Nanocrystals – an NMR Study of Precursor Evolution,
YBMRS, Blankenberge (Belgium), November 30 - December1, 2015

[FCN 166]
E. Drijvers, J. De Roo, J. Maes, J.C. Martins and Z. Hens,
The Temperature Dependence of L-type Promoted Z-type Ligand Displacement on Oleate-Terminated Semiconductor Nanocrystals Observed Through NMR,
Young Belgium Magnetic Resonance Scientist (YBMRS), Blankenberge (Belgium), 30th November – 1st December, 2015 (Presentation)

[FCN 167]
Renu Tomar, Mickael Tessier and Zeger Hens,
Study of copper doping in Indium based semiconductor nanocrystals,
Chemistry Conference for Young Scientists 2016, March 16-18 (poster).

[FCN 168]
Willem Walravens, Emile Drijvers, Jonathan De Roo, Zeger Hens,
Long-range nanocrystal superlattices by control over surface reactions,
ChemCYS, Blankenberge, March 16-18 (presentation)

[FCN 169]
Dorian Dupont, Mickaël Didier Tessier, Kim De Nolf, Zeger Hens,
Economic Synthesis of Size-Tunable Indium Phosphide Quantum Dots: Towards White Light-Emitting Device,
ChemCYS 2016, Blankenberge (Belgium), March 16-18 (presentation)

[FCN 170]
E. Drijvers, J. De Roo, J. Maes, J.C. Martins and Z. Hens,
The Temperature Dependence of L-type Promoted Z-type Ligand Displacement on Oleate-Terminated Semiconductor Nanocrystals Observed Through NMR,
ChemCYS, Blankenberg (Belgium), March 16-18, 2016 (Presentation)

[FCN 171]
Igor Nakonechnyi, Yolanda Justo, Jacek Jasieniak, Tangi Aubert, Zeger Hens,
The Reaction Mechanism of Seeded Growth Flash Methods for the Formation of Core/Shell Quantum Dots,
MRS Spring Meeting, Phoenix (United-States), March 28 - April 1, 2016 (poster)

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[FCN 172]
Kim De Nolf, Jacek J. Jasieniak, José C. Martins, Zeger Hens,
Influence of Ligand Shape and Steric Hindrance on the Composition of the Nanocrystal Ligand Shell,
MRS Spring Meeting, Phoenix (United-States), March 28- April 2, 2016

[FCN 173]
Michael Sluydts, Kim De Nolf, Veronique Van Speybroeck, Stefaan Cottenier, Zeger Hens,
Ligand Addition Energies and the Stoichiometry of Colloidal Nanocrystals,
MRS Spring Meeting, Phoenix (United-States), March 28- April 2, 2016

[FCN 174]
Mickaël Didier Tessier, Kim De Nolf, Jonathan De Roo, Dorian Dupont, Zeger Hens,
Reaction Chemistry in Innovative Indium Phosphide Quantum Dots Synthesis,
2016 MRS Spring Meeting, Phoenix (USA), March 28-April 1 (poster)

[FCN 175]
Dorian Dupont, Mickaël Didier Tessier, Kim De Nolf, Zeger Hens,
Shell and Surface Engineering of Indium Phosphide-Based Quantum Dots: Towards White Light-Emitting Device,
2016 MRS Spring Meeting, Phoenix (USA), March 28-April 1 (presentation)

[FCN 176]
E. Drijvers, J. De Roo, J. Maes, J.C. Martins and Z. Hens,
The surprising thermodynamics of L-type Promoted Z-type Ligand Displacement,
NaNaX7, Marburg (Germany), April 4-8, 2016 (Poster)

[FCN 177]
Laxmi Kishore Sagar, Pieter Geiregat, Willem Walravens and Zeger Hens,
Colloidal Atomic Layer Deposition- A Versatile Method to Synthesize Core-Shell Nanocrystals in the Infrared,
NaNaX 7 -Nanoscience with Nanocrystals, Marburg, Germany, April 04-08, 2016 (presentation).

[FCN 178]
Jonathan De Roo, Maria Ibáñez, Pieter Geiregat, Georgian Nedelcu, Willem Walravens, Jorick Maes, José C. Martins, Isabel Van Driessche, Maksym V. Kovalenko, Zeger Hens,
Highly Dynamic Ligand Binding and Light Absorption Coefficient of Cesium Lead Bromide Perovskite Nanocrystals, NaNaX 7 - Nanoscience with Nanocrystals, Marburg, April 4-8, 2016 (poster)

[FCN 179]
Jonathan De Roo, Isabel Van Driessche, José Martins, Zeger Hens.
Colloidal metal oxide nanocrystal catalysis by sustained chemically driven ligand displacement.
Nanax7, Marburg (Germany), 2016, April 4-8 (presentation).

[FCN 180]
Mickaël D. Tessier, Kim De Nolf, Jonathan De Roo, Dorian Dupont, Zeger Hens,
Innovative Synthesis of Colloidal Indium Phosphide Quantum Dots,
2016 Nanax 7, Marburg (Germany), April 4-8 (poster)

[FCN 181]
E. Drijvers, Z. Hens and T. Aubert,
The "flash" synthesis: a versatile route for multi-shell quantum dots and rods,
E-MRS, Lille (France), May 2-6, 2016 (Presentation)

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[FCN 182]
Willem Walravens, Emile Drijvers, Jonathan De Roo, Zeger Hens,
Controlled formation of epitaxially connected nanocrystal superlattices: an important step towards opto-electronic devices,
E-MRS, Lille, May 2-6 (presentation)

[FCN 183]
Mickaël D. Tessier, Kim De Nolf, Jonathan De Roo, Dorian Dupont, Zeger Hens,
Reaction Chemistry in Innovative Indium Phosphide Quantum Dots Synthesis,
2016 E-MRS Spring Meeting, Lille (France), May 2-6 (poster)

[FCN 184]
Mickaël D. Tessier, Dorian Dupont, Kim De Nolf, Zeger Hens,
Shell and Surface Engineering of Indium Phosphide-Based Quantum Dots: Towards White Light-Emitting Device,
2016 E-MRS Spring Meeting, Lille (France), May 2-6 (presentation)

[FCN-PRG 186]
Geiregat, P., Delerue, C., Justo Zarraquiños, Y., Aerts, M., Spoor, F., Van Thourhout, D., Siebbeles, L.D.A., Allan, G., Houtepen, A. & Hens, Z. (2015).
A Phonon Scattering Bottleneck for Carrier Cooling in Lead-Chalcogenide Nanocrystals.
In: MRS Spring Meeting 2015, San Francisco, 2015-04-06. Materials Research Society.

[FCN-PRG 187]
Geiregat, P., Houtepen, A., Grozema, F., Van Thourhout, D. & Hens, Z. (2015).
Picosecond all-optical wavelength conversion using hot carrier intraband absorption in colloidal PbS nanocrystals.
In: MRS Spring Meeting, San Francisco, 2007-04-06. Materials Research Society (MRS).

[FCN-PRG 188]
Geiregat, P., Delerue, C., Justo Zarraquiños, Y., Aerts, M., Spoor, F., Van Thourhout, D., Siebbeles, L., Allan, G., Houtepen, A. & Hens, Z. (2015).
A phonon scattering bottleneck for carrier cooling in lead-chalcogenide nanocrystals.
In: E-MRS 2015 Spring meeting, Lille, France, 2015-05-11. European Materials Research Society (E-MRS).

[FCN-PRG 195]*
P. Geiregat, A. Houtepen, D. Van Thourhout, Z. Hens ,
"Low power all-optical wavelength conversion with terahertz refresh rates using colloidal nanocrystals",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper EG-P.13 MON, 21-25 June 2015.

[FCN-PRG 189]
Bisschop, S., Ciers, J., Guille, A., Geiregat, P., Brainis, E., Hens, Z. & Van Thourhout, D. (2015).
Subwavelength nanopatch SiN/Au nanocavities with colloidal nanocrystals.
In: European Quantum Electronics Conference 2015, Munchen, 2015-06-21. Optical Society of America. EG_P_13-.

[FCN-PRG 196]
M. Kolarczik, B. Herzog, C. Ulbrich, Y. Kaptan, U. Woggon, M. Owschimikow, A. Sign, X. Li, Y. Zhu, D. Van Thourhout, P. Geiregat, Z. Hens,
"*Biexciton-mediated modulation response of colloidal quantum dots deposited on a silicon nitride waveguide at high laser excitation rate*",
CLEO 2016, San Jose, USA, 5-10 June 2016.

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[FCN-EOS 190]
T. Aubert, L. Palangetic, M. Mohammadimasoudi, K. Neyts, J. Beeckman, C. Clasen, Z. Hens,
Large scale and electro-switchable polarized emission from semiconductor nanorods aligned in polymeric nanofibers,
EuroDisplay 2015, Ghent, September 21-23, 2015 (presentation)

[PRG-FCN 460]*
H. Zhao, B. Kuyken, F. Leo, S. Clemmen, E. Brainis, G. Roelkens, R. Baets ,
"Visible-to-near-infrared octave spanning supercontinuum generation in a partially underetched silicon nitride waveguide",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper SF2D.6, 10 -15 May 2015.

In press 2016 :

[FCN-PRG 185]
Brainis, E., Bisschop, S., Geiregat, P., Hens, H., Van Thourhout, D. (2016)
Fabrication and characterization of SiNx/Au nanopatch Cavities with colloidal nanocrystals.
Accepted for presentation CLEO 2016

1.3.5 PhD theses

[FCN 191]
Jonathan De Roo
Surface chemistry of metal oxide nanocrystals
2016. Promoter; Zeger Hens (FCN)

[FCN 192]
Sofie Abé
Colloidal Quantum Dots from Reaction Chemistry to Light Emitting Devices
(2016), Promoter: Zeger Hens (FCN)

[FCN 193]
Stijn Flamee
Formation of Earth abundant CZTS Absorber Layer for Thin Film Photovoltaics, a Nanocrystal Approach
(2016), Promoter: Zeger Hens (FCN)

[FCN 194]
Ruben Dierick
Precursors for the solution-based formation of CuInSe2 absorber layers, synthesis and transformation behavior
(2015), Promoter: Zeger Hens (FCN)

ANNEX 1: Publications specific to the IAP project

1.4. UGent-PRG

1.4.1 Books

[PRG 321]
G. Morthier, G. Roelkens, D. Van Thourhout,
"III-V compact lasers integrated on silicon Compact semiconductor lasers",
Book chapter in Compact semiconductor lasers (Wiley), 074/02/2015

[OptIQ-ARO-PRG-PHOT-COBRA 86]
Pascal Kockaert, Philippe Emplit, Simon-Pierre Gorza, Serge Massar (editors)
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter
November 26-27, 2015, Université libre de Bruxelles, Belgium (February 8-9, 2016)
ISBN 978-2-8052-0288-9

1.4.2 International Journals (with referee system)

[PRG 411]*
G. Morthier, T. Spuesens, P. Mechet, G. Roelkens, D. Van Thourhout,
"InP microdisk lasers integrated on Si for optical interconnects",
IEEE Journal on selected topics in quantum electronics, ISSN 1077-260X, Vol. 21, Nr. 6, pp. 1500610, November/December 2015.

[PRG 412]*
R. Wang, S. Sprengel, M. Muneeb, G. Boehm, R. Baets, M.-C. Amann, G. Roelkens,
"2 µm wavelength range InP-based type-II quantum well photodiodes heterogeneously integrated on silicon photonic integrated circuits",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 20, pp. 26834-26841, 5 October 2015.

[PRG 413]*
H. Chen, J. Verbist, P. Verheyen, P. De Heyn, G. Lepage, J. De Coster, P. Absil, B. Moeneclaey, X. Yin, J. Bauwelinck, J. Van Campenhout, G. Roelkens,
"25-Gb/s 1310-nm optical receiver based on a sub-5-V waveguide-coupled germanium avalanche photodiode",
IEEE Photonics Journal, ISSN 1943-0655, Vol. 7, Nr. 4, pp. 7902909 (9 pages), August 2015.

[PRG 415]*
X. Fu, J. Cheng, Q. Huang, Y. Hu, W. Xie, M. Tassaert, J. Verbist, K. Ma, J. Zhang, K. Chen, C. Zhang, Y. Shi, J. Bauwelinck, G. Roelkens, L. Liu, S. He,
"5 x 20 Gb/s heterogeneously integrated III-V on silicon electro-absorption modulator array with arrayed waveguide grating multiplexer",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 14, pp. 18686-18693, 10 July 2015.

[PRG 416]*
S. Dwivedi, A. Ruocco, M. Vanslembrouck, T. Spuesens, P. Bienstman, P. Dumon, T. Van Vaerenbergh, W. Bogaerts,
"Experimental extraction of effective refractive index and thermo-optic coefficients of silicon-on-insulator waveguides using interferometers",
Journal of Lightwave Technology, ISSN 0733-8724, Vol. 33, Nr. 21, pp. 4471-4477, 1 November 2015.

[PRG 417]*
G. Roelkens, A. Abassi, P. Cardile, U. Dave, A. De Groote, Y. De Koninck, S. Dhoore, X. Fu, A. Gassenq, N. Hattasan, Q. Huang, S. Kumari, S. Keyvaninia, B. Kuyken, L. Li, P. Mechet, M. Muneeb, D. Sanchez, H. Shao, T. Spuesens, A. Subramanian, S. Uvin, M. Tassaert, K. van Gasse, J. Verbist, R. Wang, Z. Wang, J. Zhang, J. Van Campenhout, X. Yin, J. Bauwelinck, G. Morthier, R. Baets, D. Van Thourhout,

ANNEX 1: Publications specific to the IAP project

"III-V-on-silicon photonic devices for optical communication and sensing",
Photonics 2015, ISSN 2304-6732, Vol. 3, pp. 970-1004, 18 September 2015.

[PRG 418]
A. Abbasi, J. Verbist, J. Van Kerrebrouck, F. Lelarge, G.-H. Duan, X. Yin, J. Bauwelinck, G. Roelkens, G. Morthier,
"28 Gb/s direct modulation heterogeneously integrated C-band InP/SOI DFB laser",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 20, pp. 26479-25485, 5 October 2015.

[PRG 419]*
A. Dhakal, A. Razi, F. Peyskens, A. Subramanian, S. Clemmen, N. Le Thomas, R. Baets,
"Efficiency of evanescent excitation and collection of spontaneous raman scattering near high index contrast channel waveguides",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 21, pp. 27391-27404, 19 October 2015.

[PRG 420]*
P. Wuytens, A. Subramanian, W. De Vos, A. Skirtach, R. Baets,
"Gold nanodome-patterned microchips for intracellular surface-enhanced raman spectroscopy",
Analyst, ISSN 0003-2654, pp. 8 pages, 23 September 2015.

[PRG 421]*
K.S. Kaur, A.Z. Subramanian, P. Cardile, R. Verplancke, J. Van Kerrebrouck, S. Spiga, R. Meyer, J. Bauwelinck, R. Baets, G. Van Steenberge,
"Flip-chip assembly of VCSELs to silicon grating couplers via laser fabricated SU8 prisms",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 22, pp. 28264-28270, 2 November 2015.

[PRG 422]*
J.S. del Rio, T. Steylaerts, O.Y.F. Henry, P. Bienstman, T. Stakenborg, W. Van Roy, C.K. O'Sullivan,
"Real-time and label-free ring-resonator monitoring of solid-phase re-combinase polymerase amplification",
Biosensors and Bioelectronics, ISSN 0956-5663, Vol. 73, pp. 130-137, 28 May 2015.

[PRG 423]*
R. Van Laer, A. Bazin, B. Kuyken, R. Baets, D. Van Thourhout,
"Net on-chip brillouin gain based on suspended silicon nanowires",
New Journal of Physics, ISSN 1367-2630, Vol. 17, pp. 1-10, 3 November 2015.

[PRG 424]*
Z. Wang, B. Tian, M. Pantouvaki, W. Guo, P. Absil, J. Van Campenhout, C. Merckling, D. Van Thourhout,
"Room-temperature InP distributed feedback laser array directly grown on silicon",
Nature Photonics, ISSN 1749-4885, pp. 1-7, 26 October 2015.

[PRG 425]*
E. P. Haglund, S. Kumari, P. Westbergh, J.S. Gustavsson, G. Roelkens, R. Baets, A. Larsson,
"Silicon-integrated short-wavelength hybrid-cavity VCSEL",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 6, pp. 33634-33640, 21 December 2015.

[PRG 426]
A. Trita, E. Voet, J. Vermeiren, D. Delbeke, P. Dumon, S. Pathak, D. Van Thourhout,
"Simultaneous interrogation of multiple fiber bragg grating sensors using an arrayed waveguide grating filter fabricated in SOI platform",
IEEE Photonics Journal, ISSN 1943-0655, Vol. 7, Nr. 6, pp. 7802611 (11 pages), December 2015.

[PRG 427]*

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A. P. Hope, T. G. Nguygen, A. Mitchell, W. Bogaerts,
"Quantitative analysis of TM lateral leakage in foundry fabricated silicon rib wabeguides",
IEEE Photonics Technology Letters, ISSN 1041-1135, Vol. 28, Nr. 4, pp. 493-496, 15 February 2015.

[PRG 428]*
F. Peyskens, A. Dhakal, P. Van Dorpe, N. Le Thomas, R. Baets,
"Surface enhanced raman spectroscopy using a single mode nanophotonic-plasmonic platform",
ACS Photonics, ISSN 2330-4022, Vol. 3, Nr. 1, pp. 102-108, 9 December 2015.

[PRG 429]*
S. Ashwyn, M. Pantouvaki, S. Gupta, H. Tao Chen, P. Verheyn, G. Lepage, G. Roelkens, K. Saraswat, D. Van Thourhout, P. Absil, J. Van Campenhout,
"56 Gb/s germaniun waveguide electro-absorption modulator",
Journal of Lightwave technology, ISSN 07336-8724, Vol. 34, Nr. 2, pp. 419-424, 15 January 2016.

[PRG 430]*
Y. Shimura, S. A. Srinivasan, R. Loo,
"Design requirements for group-IV laser based on fully strained Ge1-xSnx embedded in partially relaxed si1-y-zGeySnz buffer layers",
ECS Journal of Solid State Science and Technology, ISSN 2162-8769, Vol. 5, Nr. 5, pp. Q140-Q143, 17 March 2016.

[PRG 431]*
E. P. Haglund , S. Kumari, P. Westbergh, J. Gustavsson, R. Baets, G. Roelkens, A. Larsson,
"20-Gb/s modulation of silicon-integrated short-wave hybrid-cavity VCSELs",
IEEE Photonics Technology Letters, ISSN 1041-1135, Vol. 28, Nr. 8, pp. 856-859, 15 April 2016.

[PRG 432]*
S. Uvin, S. Keyvaninia, F. Lelarge, G.H. Duan, B. Kuyken, G. Roelkens,
"Narrow line width frequency comb source based on an injection-locked III-V-on-silicon mode-locked laser",
Optics Express, ISSN 1094-1087, Vol. 24, Nr. 5, pp. 5277-5286, 7 March 2016.

[PRG 434]*
C. Wolff, R. Van Laer, M.J. Steel, B.J. Eggleton, C.G. Poulton,
"Brillouin resonance broadening due to structural variations in nanoscale waveguides",
New Journal of Physics, ISSN 1367-2630, Vol. 18, Nr. 2, pp. 025006 (16 pages), 4 February 2016.

[PRG 435]*
Y. Xing, D. Spina, A. Li, T. Dhaene, W. Bogaerts,
"Stochastic collocation for device-level variability analysis in integrated photonics",
Photonics research, ISSN 2327-9125, Vol. 4, Nr. 2, pp. 93-100, 22 March 2016.

[PRG 436]
A. Abbasi, C. Spatharakis, G. Kanakis, N. Sequeira Andre, H. Louchet, A, Katumba, J. Verbist, H. Avramopoulos, P. Bienstman, X. Yin, J. Bauwelinck, G. Roelkens, G. Morthier,
"High speed direct modulation of a heterogeneously integrated InP/SOI DFB laser",
Journal of Lightwave Technology, ISSN 0733-8724, Vol. 34, Nr. 8, pp. 1683-1687, 15 April 2016.

[PRG 438]*

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K. Chen, Q. Huang, J. Zhang, J. Cheng, X. Fu, C. Zhang, K. Ma, Y. Shi, D. Van Thourhout, G. Roelkens, L. Liu, S. He,
"Wavelength-mulitplexed duplex tranceiver based on III-V/Si hybrid integration for off-chip and on-chip optical interconnects",
IEEE Photonics Journal, ISSN 1943-0655, Vol. 8, Nr. 1, pp. 7900910 (10 pages), February 2016.

[PRG 439]*
J.W. Hoste, P. Soetaert, P. Bienstman,
"Improving the detection limit of conformational analysis by utilizing a dual polarization vernier cascade",
Optics Express, ISSN 1094-1087, Vol. 24, Nr. 1, pp. 67-81, 4 January 2016.

[PRG 440]*
C. Koos, J. Leuthold, W. Freude , M. Kohl, L.R. Dalton, W. Bogaerts, A.-L. Giesecke, M. Lauermann, A. Melikyan, S. Koeber, S. Wolf, C. Weimann, S. Muehlbrandt, K. Koehnle, J. Pfeifle, W. Hartmann, Y. Kutuvantavida, S. Ummethala, R. Palmer, D. Korn, L. Alloatti, P.C. Schindler, D. L. Elder, T. Wahlbrink, J. Bolten,
"Silicon-organic hybrid (SOH) and plasmonic-organic hybrid (POH) integration",
Journal of Ligthwave Technology, ISSN 0733-8724, Vol. 34, Nr. 2, pp. 256-268, 15 January 2016.

[PRG-OptIQ 441]
U. Dave, C. Ciret, S.-P. Gorza, S. Combrie, A. De Rossi, F. Raineri, G. Roelkens, B. Kuyken,
"Dispersive-wave-based octave-spanning supercontinuum generation in InGaP membrane waveguide on a silicon substrate",
Optics Letters, ISSN 0146-9592, Vol. 40, Nr. 15, pp. 3584-3587, 1 August 2015.

[PRG-OptIQ-IRCICA 553]
François Leo, Stéphane Coen, Pascal Kockaert, Philippe Emplit, Marc Haelterman, Arnaud Mussot, Majid Taki
Impact of third-order dispersion on nonlinear bifurcations in optical resonators
Physics Letters A, Volume 379, Issues 34–35, Pages 1934–1937 (18 September 2015)

[PRG-EOS 443]
T. Van Vaerenbergh, M. Fiers, J. Dambre, P. Bienstman,
"Efficient simulation of optical nonlinear cavity circuits",
Optical and Quantum Electronics, ISSN 0306-8919 , Vol. 47, Nr. 6, pp. 1474-1476, 25 January 2015.

[PRG-EOS 444]*
Y. Xing, T. Ako, J.P. George, D. Korn, H. Yu, P. Verheyen, M. Pantouvaki, G. Lepage, P. Absil, A. Ruocco, C. Koss, J. Leuthold, K. Neyts, J. Beeckman, W. Bogaerts,
"Digitally controlled phase shifter using an SOI slot waveguide with liquid crystal infiltration",
IEEE Photonics Technology Letters, ISSN 1041-1135, Vol. 27, Nr. 12, pp. 1269-1272, 15 June 2015.

[PRG-EOS 445]
M. Hermans, J. Dambre, P. Bienstman,
"Optoelectronic systems trained with backpropagation through time",
IEEE Transactions on Neural Networks and Learning Systems, ISSN 2162-237X, Vol. 26, Nr. 7, pp. 1545-1550, July 2015.

[PRG-EOS 446]*
M. Hermans, M. C. Soriano, J. Dambre, P. Bienstman, I. Fischer,
"Photonic delay systems as machine learning implementations ",

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Journal of Machine Learning Research, ISSN 1533-7928, Vol. 16, pp. 2081-2097, 10 October 2015.

[PRG-EOS 447]
B. Schneider, J. Dambre, P. Bienstman,
"Fast particle characterization using digital holography and neural networks",
Applied Optics, ISSN 1559-128X, Vol. 55, Nr. 1, pp. 133-139, 1 January 2016.

[PRG-FCN 414]*
A. Subramanian, E. Ryckeboer, A. Dhakal, F. Peyskens, A. Malik, B. Kuyken, H. Zhao, S. Pathak, A. Ruocco, A. De Groote, P. Wuytens, D. Martens, F. Leo, W. Xie, U. Dave, M. Muneeb, P. Van Dorpe, J. Van Campenhout, W. Bogaerts, P. Bienstman, N. Le Thomas, D. Van Thourhout, Z. Hens, G. Roelkens, R. Baets,
"Silicon and silicon nitride photonic circuits for spectroscopic sensing on-a-chip ",
(invited paper), Photonics research, ISSN 2327-9125, Vol. 3, Nr. 5, pp. B47-B59, October 1, 2015.

[PRG-FCN 448]
W. Xie, Y. Zhu, T. Aubert, S. Verstuyft, Z. Hens, D. Van Thourhout,
"Low-loss silicon nitride waveguide hybridly integrated with colloidal quantum dots",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 9, pp. 12152-12160, 29 April 2015.

[PRG-FCN 449]*
H. Zhao, B. Kuyken, S. Clemmen, F. Leo, A. Subramanian, A. Dhakal, P. Helin, S. Severi, E. Brainis, G. Roelkens, R. Baets,
"Visible-to-near-infrared octave spanning supercontinuum generation in a partially underetched silicon nitride waveguide",
Optics Letters, ISSN 0146-9592, Vol. 40, Nr. 10, pp. 2177-2180, 15 May 2015.

[PRG-FCN 450]*
S. Clemmen, A. Hermans, E. Solano, J. Dendooven, K. Koskinen, M. Kauranen, E. Brainis, C. Detavernier, R. Baets,
"Atomic layer deposited second-order nonlinear optical metamaterial for back-end integration with CMOS-compatible nanophotonic circuitry",
Optics Letters, ISSN 0146-9592, Vol. 40, Nr. 22, pp. 5371-5374, 15 November 2015.

[PRG-FCN 451]
W. Xie, R. Gomes, T. Aubert, S. Bisschop, Y. Zhu, Z. Hens, E. Brainis, D. Van Thourhout,
"Nanoscale and single-dot patterning of colloidal quantum dots",
Nano Letters, ISSN 1530-6984 , Vol. 15, pp. 7481-7487, 12 October 2015.

[PRG-FCN 452]
W. Xie, Y. Zhu, T. Aubert, Z. Hens, E. Brainis, D. Van Thourhout,
"Fabrication and characterization of on-chip silicon nitride microdisk integrated with colloidal quantum dots",
Optics Express, ISSN 1094-1087, Vol. 24, Nr. 2, pp. A114-A122, 8 December 2015.

[PRG –COBRA 433]*
H. Chen, P. Verheyen, P. De Heyn, G. Lepage, J. De Coster, S. Balakrishnan, P. Absil, W. Yao, L. Shen, G. Roelkens, J. Van Campenhout,
" -1 V bias 67 GHz bandwidth si-contacted germanium waveguide p-i-n photodetector for optical links at 56 Gbps and beyond",
Optics Express, ISSN 1094-1087, Vol. 24, Nr. 5, pp. 4622-4631, 7 March 2016.

[PRG –COBRA 437]*
J. Zhang, J. Verbist, B. Moeneclaey, J. Van Weerdenburg, R. Van Uden, H. Chen, J. Van Campenhout, C. Okonkwo, X. Yin, J. Bauwelinck, G. Roelkens,

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"Compact low-power-consumption 28-Gbaud QPSK/16-QAM integrated silicon photonic/electronic coherent receiver ",
IEEE Photonics Journal, ISSN 1943-0655, Vol. 8, Nr. 1, pp. 7100110 (10 pages), February 2016.

[PRG-COBRA 453]*
S. Keyvaninia, S. Uvin, M. Tassaert, Z. Wang, X. Fu, S. Latkowski, J. Marien, L. Thomassen, F. Lelarge, G. Duan, G. Lepage, P. Verheyen, J. Van Campenhout, E. Bente, G. Roelkens,
"III-V-on-silicon anti-colliding pulse-type mode-locked laser",
Optics Letters, ISSN 0146-9592, Vol. 40, Nr. 13, pp. 3057-3060, 1 July 2015.

[PRG-IRCICA 454]*
B. Kuyken, F. Leo, A. Mussot, A. Kudlinski, G. Roelkens,
"A two-stage photonic crystal fiber/silicon photonic wire short-wave infrared wavelength converter/amplifier based on a 1064 nm pump source",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 10, pp. 13025-13031, 8 May 2015.

[OptIQ-PRG 123]
C. Ciret, F. Leo, B. Kuyken, G. Roelkens, S.P. Gorza,
"Observation of an optical event horizon in a silicon-on-insulator photonic wire waveguide",
Optics Express, ISSN 1094-1087, Vol. 24, Nr. 1, pp. 114-124, 5 January 2016.

[OptIQ-PRG 124]
Q. Vinckier, F. Dupont, A. Smerieri, K. Vandoorne, P. Bienstman, M. Haelterman, S. Massar,
"High-performance photonic reservoir computer based on a coherently driven passive cavity",
Optica, ISSN 2334-2536, Vol. 2, Nr. 5, pp. 438-446, May 2015.

[FCN-PRG 153]
S. Bisschop, A. Guille, D. Van Thourhout, Z. Hens, E. Brainis,
"Broadband enhancement of single photon emission and polarization dependent coupling in silicon nitride waveguides",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 11, pp. 13713-13724, 1 June 2015.

[FCN-PRG 154]
Geiregat, P.; Delerue, C.; Justo, Y.; Aerts, M.; Spoor, F.; Van Thourhout, D.; Siebbeles, L. D. A.; Allan, G.; Houtepen, A. J.; Hens, Z.,
A Phonon Scattering Bottleneck for Carrier Cooling in Lead Chalcogenide Nanocrystals
Acs Nano 2015, 9, 778-788.

[FCN-PRG 155]
Geiregat, P.; Houtepen, A. J.; Van Thourhout, D.; Hens, Z.,
All-Optical Wavelength Conversion by Picosecond Burst Absorption in Colloidal PbS Quantum Dots
Acs Nano 2016, 10, 1265-1272.

[EOS-PRG 98]
J.P. Georges, P.F. Smet, J. Botterman, V. Bliznuk, W. Woestenborghs, D. Van Thourhout, K. Neyts, J. Beeckman,
"Lanthanide-assisted deposition of strongly electro-optic PZT thin films on silicon: towards integrated active nanophotonic devices",
ACS Applied Materials & Interfaces, ISSN 1944-8244, Vol. 7, pp. 13350-13359, 4 June 2015.

[PHOT-PRG 275]
D. De Coster, H. Ottevaere, M. Vervaeke, J. Van Erps, M. Callewaert, P. Wuytens, S.H. Simpson, S. Hanna, W. De Malsche, H. Thienpont
Mass-manufacturable polymer microfluidic device for dual fiber optical trapping
Opt. Express, Vol. 23, No. 24, pp. 30991-31009, 2015

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[COBRA-PRG 30]*
L. Shen, P.J. Veldhoven, Y. Jiao, V. Dolores-Calzadilla, J.J.G.M. van der Tol, G. Roelkens, M.K. Smit,
"Ohmic contacts with ultra-low optical loss on heavily doped n-type InGaAs and InGaAsP for InP-based photonic membranes",
IEEE Photonics Journal, ISSN 1943-0655, Vol. 8, Nr. 1, pp. 4500210 (10 pages), February 2016.

[COBRA-PRG 35]
L. Shen, Y. Jiao, W. Yao, Z. Cao, J.P. van Engelen, G. Roelkens, G. Roelkens, M. K. Smit, and J. J. G. M. van der Tol
"High-bandwidth uni-traveling carrier waveguide photodetector on an InP-membrane-on-silicon platform",
Optics Express 24, 8290-8301 (2016)

In press 2016 :

[PRG 455]
A. Li, T. Van Vaerenbergh, P. De Heyn, P. Bienstman, W. Bogaerts,
"Backscattering in Silicon Microring Resonators: A Quantitative Analysis",
Laser&Photonics reviews.

[PRG 456]
R. Wang, M. Muneeb, S. Sprengel, G. Boehm, A. Malik, R. Baets, M.-C. Aman, G. Roelkens,
"III-V-on-silicon 2-µm-wavelength-range wavelength demultiplexers",
Optics Express.

[PRG-OptIQ 457]
B. Kuyken, F. Leo, S. Clemmen, U. Dave, H. Zhao, S. Holzner, T. Ideguchi, X. liu, J. Safioui, M. Yan, S. Coen, W. Green, S. Gorza, T. Hansch, S. Selvaraja, S. Massar, N, Picque, R. Osgood, P. Verheyen, J. Van Campenhout, R. Baets, G. Roelkens,
"Nonlinear optical interactions in silicon waveguides",
Journal of Nanophotonics.

[PRG-EOS 458]
B. Schneider, J. Dambre, P. Bienstman,
"Using digital masks to enhance the bandwidth tolerance and improve performance in on-chip reservoir computing systems",
IEEE Transactions on Neural Networks and Learning Systems.

[PRG-COBRA 459]
M. Muneeb, A. Vasiliev, A. Ruocco, A. Malik, H. Chen, M. Nedeljkovic, J.S. Penades, L. Cerutti, J.B. Rodriguez, G. Mashanovich, M. Smit, E. Tournie, G. Roelkens,
III-V-on-silicon integrated micro-spectrometer for the 3 um wavelength range
Optics Express.

1.4.3 Patents

None

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1.4.4 Conference contributions (proceedings and abstracts in technical digests)

[PRG 461]*
A. Melikyan, K. Koehnle, M. Lauermann, R. Palmer, S. Koeber, S. Muehlbrandt, P.C. Schindler, D.L. Elder, S. Wolf, W. Heni, C. Haffner, Y. Fedoryshyn, D. Hillerkuss, M. Sommer, L.R. Dalton, D. Van Thourhout, W. Freude, M. Kohl, J. Leuthold, C. Koos ,
"Plasmonic-organic hybrid (POH) modulators for OOK and BPSK signaling at 40 Gbit/s",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper SM1I.1, 10 -15 May 2015.

[PRG 462]*
A. Abbasi, G. Roelkens, G. Morthier ,
"Numerical study of a 10 GHz optical flip-flop based on a short asymmetric DFB laser",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper JTh2A.33, 10 -15 May 2015.

[PRG 463]*
A. Dhakal, F. Peyskens, A. Subramanian, N. Le Thomas, R. Baets ,
"Enhanced spontaneous raman signal collected evanescently by silicon nitride slot waveguides",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper STh4H.3, 10 -15 May 2015.

[PRG 464]*
X. Fu, Q. Huang, Y. Hu, M. Tassaert, J. Verbist, J. Cheng, K. Ma, J. Zhang, K. Chen, C. Zhang, Y. Shi, J. Bauwelinck, G. Roelkens, L. Liu, S. He ,
"5 x 20 Gb/s III-V on silicon electroabsorption modulator array heteregoneously, integrared with a 1.6nm channel-spacing silicon AWG",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper STu4F.2, 10 -15 May 2015.

[PRG 465]*
R. Van Laer, B. Kuyken, R. Baets, D. Van Thourhout ,
"Unifying brillouin scattering and cavity optomechanics in silicon photonic wires",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper STh4I.4, 10 -15 May 2015.

[PRG 466]*
Y. Shimura, A. Srinivasan, D. Van Thourhout, R. Van Deun, M. Pantouvaki, J. Van Campenhout, R. Loo,
"Low temperature in-situ P-doped Ge epitaxy using Ge2H6 in view of optical applications",
The 9th International Conference on Silicon Epitaxy and Heterostructures (ICSI-9), Montral , Canada, pp. 91-92, 17-22 May 2015.

[PRG 467]*
S. Dwivedi, T. Van Vaerenbergh, A. Ruocco, T. Spuesens, P. Bienstman, P. Dumon, W. Bogaerts,
"Measurements of effective refractive index of SOI waveguides using interferometers",
Proceedings Advanced Photonics 2015, ISBN 978-1-55752-000-5, Boston, USA, pp. paper IM2A.6, 27 June-1 July 2015.

[PRG 468]*
A. Li, T. Van Vaerenbergh, P. De Heyn, Y. Xing, P. Bienstman, W. Bogaerts ,
"Experimentally demonstrate the origin for asymmetric resonance splitting and contributions from couplers to backscattering in SOI microrings",
Proceedings Advanced Photonics 2015, ISBN 978-1-55752-000-5, Boston, USA, pp. paper IM2B.6, 27 June-1 July 2015.

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[PRG 469]*
U. Dave, B. Kuyken, S. Combrie, A. De Rossi, F. Raineri, G. Roelkens ,
"Octave spanning supercontinuum generation in InGaP waveguides on a silicon substrate at 1550 nm",
Proceedings Advanced Photonics 2015, ISBN 978-1-55752-000-5, Boston, USA, pp. paper IM4B.5, 27 June-1 July 2015.

[PRG 470]*
R. Baets,
"Brillouin and raman scattering in silicon and silicon nitride photonic integrated circuits",
(Invited paper), Proceedings Advanced Photonics 2015, ISBN 978-1-55752-000-5, Boston, USA, pp. paper JM1A.1, 27 June-1 July 2015.

[PRG 471]*
R. Baets ,
"Silicon photonics: an enabler for fundamental science, for the internet and for the life sciences",
(Invited paper), 2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper CE-4.1 SUN, 21-25 June 2015.

[PRG 472]*
M.S. Murib, W.S. Yeap, D. Martens, L. Michiels, M.J. Schoning, W. De Ceuninck, K. Haenen, P. Bienstman, A. Serpenguzel, P. Wagner ,
"Sapphire microsperes: possible applications to biosensing",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper CL-P.8 SUN, 21-25 June 2015.

[PRG 473]*
J. S. Penades, Y. Hu, M. Nedeljkovic, C.G. Littlejohns, A.Z. Khokhar, C.J. Mitchell, S. Stankovic, G. Roelkens, F.Y. Gardes, G.Z. Mashanovich ,
"Angled CWDM structure on germanium on silicon",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper CK-7.2 TUE, 21-25 June 2015.

[PRG 474]*
D. Van Thourhout ,
"Silicon photonics",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper CK-11.6 WED, 21-25 June 2015.

[PRG 475]*
G. Morthier, A. Abbasi, G. Roelkens ,
"Heterogeneously integrated DFB and DBR membrane laser for high speed direct modulation ",
(Invited paper), 14th International Conference on Optical Communications and Networks (ICOCN 2015), Nanjing, China, pp. paper Su3A.2, 3-5 July 2015.

[PRG 476]*
Z. Wang, A. Malik, B. Tian, M. Muneeb, Clement Merckling, Marianna Pantouvaki, Yosuke Shimura, Roger Loo, Joris Van Campenhout, D. Van Thourhout, G. Roelkens ,
"Near/mid-infrared heterogeneous Si photonics",
(Invited paper), 9th International Conference On Silicon Epitaxy And Heterostructures (ICSI 9), Montreal, Quebec, Canada, pp. , 17-22 May 2015.

ANNEX 1: Publications specific to the IAP project

[PRG 477]*
A. De Groote, P. Cardile, A. Subramanian, M. Tassaert, D. Delbeke, R. Baets, G. Roelkens ,
"A waveguide coupled LED on SOI by heterogeneous integration of InP-based membranes",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 31-32, 26-28 August 2015.

[PRG 478]*
D. Delbeke, A. Z. Subramanian, P. Cardile, W. Woestenborghs, A. Ruocco, J.W. Hoste D. Martens, A. Dhakal, P. Bienstman, G. Roelkens, N. Le Thomas, W. Bogaerts, R. Baets ,
"Silicon photonics for on-chip spectrophotometry",
(Invited paper), 12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 191-192, 26-28 August 2015.

[PRG 479]*
S. Dwivedi, P. De Heyn, P. Absil, J. Van Campenhout, W. Bogaerts ,
"Coarse wavelength division multiplexer on silicon-on-insulator for 100 GbE",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 9-10, 26-28 August 2015.

[PRG 480]*
A. Ruocco, W. Bogaerts ,
"Fully integrated SOI wavelength meter based on phase shift technique",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 131-132, 26-28 August 2015.

[PRG 481]*
S.A. Srinivasan, M. Pantouvaki, P. Verheyen, G. Lepage, P. Absil, J. Van Campenhout, D. Van Thourhout ,
"Carrier lifetime assessment in integrated Ge waveguide devices",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 167-168, 26-28 August 2015.

[PRG 482]*
A. Ruocco, J. Juan Colas, W. Bogaerts ,
"Microring resonator refractive index sensor with integrated spectrometer",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 147-148, 26-28 August 2015.

[PRG 483]*
G. Roelkens, S. Keyvaninia, Y. De Koninck, S. Uvin, A. Abassi, K. Van Gasse, Z. Wang, G. Morthier, D. Van Thourhout, R. Baets ,
"III-V-on-silicon photonic integrated circuits for optical interconnects",
(Invited paper), IEEE Photonics Society Summer Topical Meeting (SUM 2015), ISBN 978-1-4799-7468-9, Nassau, Bahamas, pp. 144-145, 13-15 July 2015.

[PRG 484]*
K.S. Kaur, A.Z. Subramanian, R. Verplancke, P. Cardile, J. Van Kerrebrouck, S. Spiga, R. Meyer, J. Bauwelinck, R. Baets, G. Van Steenberge ,
"Flip-chip bonding of VCSELs to silicon grating couplers via SU8 prisms fabricated using laser ablation",
41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper P.2.14, 27 September-1 October 2015.

[PRG 485]
A. Abbasi, J. Verbist, J. Van Kerrebrouck, F. Lelarge, G.-H. Duan, J. Bauwelinck, G. Roelkens, G. Morthier ,
"28 Gb/s direct modulation heterogeneously integrated InO/Si DFB laser",

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41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper We.2.5.2, 27 September-1 October 2015.

[PRG 486]*
D. Van Thourhout, Y. Hu, M. Pantouvaki, K. Alexander, B. Kuyken, S. Brems, I. Asselberghs, C. Huygebaert, C. Alessandri, P. Absil, J. Van Campenhout ,
"Hybrid graphene-silicon photonics devices",
41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper Th.2.4.3, 27 September-1 October 2015.

[PRG 487]*
H.T. Chen, J. Verbist, P. Verheyen, P. De Heyn, G. Lepage, J. De Coster, P. Absil, X. Yin, J. Bauwelinck, J. Van Campenhout, G. Roelkens ,
"Low-voltage waveguide Ge APD based high sensitivity 10 Gb/s Si photonic receiver",
41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper Tu.1.3.4, 27 September-1 October 2015.

[PRG 488]*
M. Antier, J. Bourderionnet, C. Larat, E. Lallier, S. Scarcella, J. Su Lee, P. O'Brien, T. Spuesens, G. Lepage, P. Verheyen, P. Absil, A. Brignon ,
"Phase modulators ands splitting network on Si PIC coherent fiber beam combining",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper CJ-1,4 SUN, 21-25 June 2015.

[PRG 489]*
P. Wuytens, W. De Vos, A. Skirtach, R. Baets ,
"Nanodome coins for intracellular surface-enhanced raman spectroscopy",
3rd International Conference on Biophotonics, Florence, Italy, pp. paper P1.30, 20-22 May 2015.

[PRG 490]*
A. Dhakal, P. Wuytens, F. Peyskens, A. Z. Subramanian, A. Skirtach, N. Le Thomas, R. Baets ,
"Nanophotonic lab-on-a-chip raman sensors: a sensitivity comparison with confocal raman micriscope",
3rd International Conference on Biophotonics, Florence, Italy, pp. paper Th6.3, 20-22 May 2015.

[PRG 491]*
B. Kuyken, A. Pagies, M. Vanwolleghem, D. Yarekha, J.F. Lampin, G. Roelkens ,
"Low loss silicon waveguides for the terahertz spectral region",
40th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), Hong Kong, Hong Kong, pp. paper MS-57, 23-28 August 2015.

[PRG 492]*
G. Roelkens, A. Abassi, S. Keyvaninia, S. Uvin, K. Van Gasse, Z. Wang, U. Dave, B. Kuyken, G. Morthier, D. Van Thourhout ,
"III-V-on-silicon photonic integrated circuits for communication and sensing applications",
(Invited paper), 28th IEEE Photonics Conference (IPC 2015), ISBN 978-1-4799-7664-1, Reston, Virginia, USA, pp. 593-594, 4-8 October 2015.

[PRG 493]*
C. Koos, W. Freude, J. Leuthold, M. Kohl, L.R. Dalton, W. Bogaerts, M. Lauermann, S. Wolf, C. Weimann, A. Melikyan, N. Lindenmann, M.R. Billah, S. Muehlbrandt, S. Koeber, R. Palmer, K. Koehnle, L. Alloatti, D.L. Elder, A.L. Giesecke, T. Wahlbrink ,
"Silicon-organic hybrid (SOH) integration and photonic multi-chip systems: extending the capabilities of the silicon photonic platform",

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(Invited paper), 28th IEEE Photonics Conference (IPC 2015), ISBN 978-1-4799-7664-1, Reston, Virginia, USA, pp. 480-481, 4-8 October 2015.

[PRG 494]*
S. Clemmen, H. Zhao, F. Peyskens, A. Dhakal, P. Wuytens, A.Z. Subramanian, N. Le Thomas, R. Baets ,
"Coherent anti-stokes raman spectroscopy on chip",
(Invited paper), 28th IEEE Photonics Conference (IPC 2015), ISBN 978-1-4799-7664-1, Reston, Virginia, USA, pp. 623-624, 4-8 October 2015.

[PRG 495]*
R. Morarescu, P. K. Pal, X. Han, M. Zhao, P. Bienstman, G. Morthier ,
"Polymer microring resonators for biosensing applications by nanoimprint lithography"
17th International Conference on Transparent Optical Networks (ICTON 2015), ISBN 978-1-4673-7880, Budapest , Hungary, pp. paper Mo.B4.3, 5-9 July 2015.

[PRG 496]*
B. Schneider, G. Vanmeerbeek, R. Stahl, L. Lagae, J. Dambre, P. Bienstman ,
"Neural network for blood cell classification in a holographic microscopy system",
17th International Conference on Transparent Optical Networks (ICTON 2015), ISBN 978-1-4673-7880, Budapest , Hungary, pp. paper Mo.B4.4, 5-9 July 2015.

[PRG 497]*
C. Koos, W. Freude, J. Leuthold, M. Kohl, L.R. Dalton, W. Bogaerts, M. Lauermann, S. Wolf, R. Palmer, S. Koeber, A. Melikyan, C. Weimann, G. Ronniger, K. Geistert, P.C. Schindler, D.L. Elder, T. Wahlbrink, J. Bolten, A.l. Giesecke, M. Koeningsmann, M. Kohler, D. Malsam ,
"Silicon-organic hybrid (SOH) integration for low-power and high-speed signal generation",
17th International Conference on Transparent Optical Networks (ICTON 2015), ISBN 978-1-4673-7880, Budapest , Hungary, pp. paper We.C5.1, 5-9 July 2015.

[PRG 498]*
R. Van Laer, B. Kuyken, A. Bazin, D. Van Thourhout, R. Baets ,
"Harnessing photon-phonon coupling in integrated optical circuits",
Frontiers in Optics: The 99th OSA Annual Meeting and Exhibit/Laser Science XXXI, San Jose, California, USA, pp. paper FTu5C.1, 18-22 October 2015.

[PRG 499]*
H.T. Chen, J. Verbist, P. Verheyen, P. De Heyn, G. Lepage, J. De Coster, P. Absil, B. Moeneclaey, X. Yin, J. Bauwelinck, J. Van Campenhout, G. Roelkens ,
"Sub-5V germanium waveguide avalanche photodiode based 25 Gb/s 1310 nm optical receiver",
Asia Communications and Photonics Conference (ACP), Hong Kong, Hong Kong, pp. paper AM1B,4, 19-23 November 2015.

[PRG 500]*
A. Ribeiro, A. Ruocco, L. Vanacker, W. Bogaerts ,
"Demonstration of a 4 x 4-port univeral coupler",
12th International Conference on Group IV Photonics, Vancouver, Canada, pp. paper PD5, 26-28 August 2015.

[PRG 501]*
W. Van Roy, P. Neutens, T. Claes, R. Jansen, A. Subramanian, K. Jans, J. O'Callaghan, T. Stakenborg, D. Vercruysse, R. Stahl, B. Du Bois, Ph. Helin, A. Stassen, S. Severi, D. Martens, P. Bienstman, P. Deshpande, R. Baets, A. Lambrechts, L. Lagae, X. Rottenberg, P. Van Dorpe,
"Si and SiN Biophotonic Technology Platform, Applied to Biosensing, Spectroscopy, and Lens-Free Imaging",
(Invited paper), SSDM2015, Sappora, Japan, pp. , 27-30 September 2015.

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[PRG 502]*
A. Diaz Tormo, N. Le Thomas ,
"On-chip axicon for light sheet microscopy",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 177-180, 26-27 November 2015.

[PRG 503]*
S. Dhoore, G. Roelkens, G. Morthier ,
"Design of an electronically tunable laser diode integrated on the SOI platform",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 113-116, 26-27 November 2015.

[PRG 504]*
D. Martens, A. Stassen, W. Van Roy, P. Bienstman ,
"Novelty low-cost integrated photonic biosensor using broadband source and on-chip spectral filter",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 173-176, 26-27 November 2015.

[PRG 505]*
A. De Groote, P. Cardile, A.Z. Subramanian, D. Delbeke, R. Baets, G. Roelkens ,
"A novel approach to an efficient LED on SOI",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 103-106, 26-27 November 2015.

[PRG 506]*
A. Li, Y. Xing, W. Bogaerts ,
"A novel sensing scheme based on resonance splitting in silicon microrings",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 187-190, 26-27 November 2015.

[PRG 507]*
H. Zhao, S. Clemmen, R. Baets ,
"Multiplex coherent anti-stokes raman spectroscopy on a CMOS compatible platform",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 181-184, 26-27 November 2015.

[PRG 508]*
K. Saurav, N. Le Thomas ,
"Fabrication of substrate-less planar silicon photonic crystal cavities",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 107-110, 26-27 November 2015.

[PRG 509]*
Y. Zhu, Y. Jiao, J. Wang, W. Xie, B. Tian, D. Van Thourhout ,
"Ultra-compact silicon nitride grating coupler for microscopy system",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 55-58, 26-27 November 2015.

[PRG 510]*
R. Wang, S. Sprengel, M. Muneeb, G. Boehm, R. Baets, M.-C. Amann, G. Roelkens ,
"Design and fabrication of type-II InP-based lasers and photodetectors integrarted on SOI waveguide",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 7-10, 26-27 November 2015.

ANNEX 1: Publications specific to the IAP project

[PRG 511]*
S.A. Srinivasan, P. Verheyen, R. Loo, I. De Wolf, M. Pantouvaki, G. Lepage, S. Balakrishnan, W. Vanherle, P. Absil, J. Van Campenhout ,
"50Gb/s C-band GeSi waveguide electro-absorption modulator",
OFC, Anaheim, California, USA, pp. paper Tu3D,7, 19-23 March 2016.

[PRG 512]*
E. P. Haglund, S. Kumari, P. Westbergh, J.S. Gustavsson, G. Roelkens, R. Baets, A. Larsson ,
"Dynamic properties of silicon-integrated short-wavelength hybrid-cavity VCSEL",
SPIE Photonics West , San Francisco, California, USA, pp. 976607 (7 pages), 13-18 February 2016.

[PRG 513]*
A. Abbasi, C. Spatharakis, G. Kanakis, N.S. Andre, H. Louchet, A. Katumba, J. Verbist, X. Yin, J. Bauwelinck, H. Avramopoulos, G. Roelkens, G. Morthier ,
"PAM-4 and duobinary direct modulation of a hybrid InP/SOI DFB laser for 40 Gb/s transmission over 2 km single mode fiber",
Optical Fiber Communication Conference (OFC 2016), ISBN 978-1-943580-07-1, Anaheim, California, USA, pp. paper M2C.6, 20-24 March 2016.

[PRG 514]*
H. Chen, P. Verheyen, P. De Heyn, G. Lepage, J. De Coster, P. Absil, G. Roelkens, J. Van Campenhout ,
" -1 V bias 56 Gbps germanium waveguide p-i-n photodetector with silicon contacts",
Optical Fiber Communication Conference (OFC 2016), ISBN 978-1-943580-07-1, Anaheim, California, USA, pp. paper Tu2D.6, 20-24 March 2016.

[PRG 515]*
J. Bauwelinck, W. Soenen, B. Moeneclaey, M. Van hoecke, R. Pierco, R. Vaernewyck, T. De Keulenaer, G. Roelkens, G. Torfs, Y. Xin, P. Demeester ,
"On-Chip transmitter and receiver front-ends for ultra-broadband wired and optical-fiber communications",
(Invited paper), Optical Fiber Communication Conference (OFC 2016), ISBN 978-1-943580-07-1, Anaheim, California, USA, pp. paper Tu3B.1, 20-24 March 2016.

[PRG 516]*
C. Hoessbacher, Y. Salamin, Y. Fedoryshyn, W. Heni, A. Josten, B. Baeuerle, C. Haffner, M. Zahner, H. Chen, D.L. Elder, S. Wehrli, D. Hillerkuss, D. Van Thourhout, J. Van Campenhput, L.R. Dalton, C. Hafner ,
"Optical interconnect with densely integrated plasmonic modulator and germanium photodetector arrays",
Optical Fiber Communication Conference (OFC 2016), ISBN 978-1-943580-07-1, Anaheim, California, USA, pp. paper Th1F.6, 20-24 March 2016.

[PRG 517]*
R. Baets, A. Subramaniun, S. Clemmen, B. Kuyken, P. Bienstman, N. Le Thomas, G. Roelkens, D. Van Thourhout, P. Helin, S. Severi ,
"Silicon photonics: silicon notride versus silicon-on-insulator",
(Invited paper), Optical Fiber Communication Conference (OFC 2016), ISBN 978-1-943580-07-1, Anaheim, California, USA, pp. paper Th3J.1, 20-24 March 2016.

[PRG 518]*
E. P. Haglund, S. Kumari, P. Westbergh, J.S. Gustavsson, G. Roelkens, R. Baets, A. Larsson ,
"Dynamic properties of silicon-integrated short-wavelength hybrid-cavity VCSEL",
SPIE Photonics West , Vol. 9766, San Francisco, USA, pp. 976607 (7 pages), 13-18 February 2016.

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[PRG 519]*
R. Wang, M. Muneeb, S. Sprengel, G. Boehm, R. Baets, M.C. Amann, G. Roelkens ,
"SWIR InGaAs/GaAsSb type-II quantum well photodetectors and spectrometers integrated on SOI",
SPIE Photonics West , Vol. 9752, San Francisco, USA, pp. 975209 (9 pages), 13-18 February 2016.

[PRG 520]*
P. Absil, P. De Heyn, H. Chen, A. Srinivasan, P. Verheyen, S. Balakrishnan, G. Lepage, M. Pantouvaki, J. De Coster, G. Roelkens, D. Van Thourhout, J. Van Campenhout ,
"Isipp-200: a silicon photonis platform supporting optical data rates beyond 50 Gb/s",
(Invited paper), SPIE Photonics West , Vol. 9775, San Francisco, USA, pp. 977517, 13-18 February 2016.

[PRG 521]*
A. Bazin, R. Van Laer, B. kuyken, R. Baets, D. Van Thourhout ,
"Net on-chip brillouin continuous wave gain based on suspended silicon photonic nanowires",
SPIE Photonics West , Vol. 9756, San Francisco, USA, pp. 975627, 13-18 February 2016.

[PRG 522]*
Y. Shimura, S. A. Srinivasan, D. Van Thourhout, R. Van Deun, M. Pantouvaki, J. Van Campenhout, R. Loo,
"High active phosphorus concentration in in-situ doped Ge CVD layers using low growth temperature and high order Ge precursors: toward group-IV optical interconnects",
Invited paper at 9th International Workshop on New Group IV Semiconductor Nanoelectronics and ISPS Core-to-Core Program Joint Seminar "Atomically Controlled Processing for Ultralarge Scale Integration", Sendai, Japan, paper I-03, 11-12 January 2016

[PRG 523]*
R. Loo, S. A. Srinivasan, Y. Shimura, C. Porret, D. Van Thourhout, R. Van Deun, T. Stoica, D. Buca, J. Van Campenhout,
"Ge epitaxial growth in view of optical device apllications",
Invited paper at 9th International Workshop on New Group IV Semiconductor Nanoelectronics and ISPS Core-to-Core Program Joint Seminar "Atomically Controlled Processing for Ultralarge Scale Integration", Sendai, Japan, paper I-01, 11-12 January 2016

[PRG-OptIQ 524]*
K. Alexander, Y. Hu, M. Pantouvaki, S. Brems, I. Asselberghs, S.-P. Gorza, C. Huyghebaert, J. Van Campenhout, B. Kuyken, D. Van Thourhout ,
"Electrically controllable saturable absorption in hybrid graphene-silicon waveguides",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper STh4H,7, 10 -15 May 2015.

[PRG-OptIQ 525]*
B. Kuyken, R. Van Laer, F. Leo, D. Van Thourhout, R. Baets, G. Roelkens, T. Ideguchi, S. Holzner, M. Yan, T.W. Hansch, S. Coen, P. Verheyen, J. Van Campenhout, S.-P. Gorza, S. Combrie, A. De Rossi, F. Raineri, W.M.J. Green, N. Picque ,
"Nonlinear optics on a silicon platform for broadband light generation and ultrafast information processing",
(Invited paper), The 20th Optoelectronic and Communications Conference (OECC2015), Shanghai, China, pp. paper JThE.22, June 28-July 2, 2015.

[PRG – EOS 526]*
K. Vandoorne, P. Mechet, M. Fiers, T. Van Vaerenbergh, B. Schneider, A. Kutumba, D. Verstraeten, B. Schrauwen, J. Dambre, P. Bienstman ,
"Photonic reservoir computing: a brain-inspired paradigm for information processing",

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(Invited paper), OSA incubator meeting on Optical Computing, Washington, USA, pp. , 9-11 December 2015.

[PRG-EOS 527]
A. Katumba, P. Bienstman, J. Dambre ,
"Photonic reservoir computing approaches to nanoscale computation",
Proceedings of the Second Annual Conference on Nanoscale Computing and communication (NANOCOM'15), ISBN 978-1-4503-3674-1, Boston, USA, pp. article nr 23, 21-22 September 2015.

[PRG-FCN 460]*
H. Zhao, B. Kuyken, F. Leo, S. Clemmen, E. Brainis, G. Roelkens, R. Baets ,
"Visible-to-near-infrared octave spanning supercontinuum generation in a partially underetched silicon nitride waveguide",
CLEO: 2015 - Laser Science to Photonic Applications, ISBN 978-1-55752-968-8, San Jose, USA, pp. paper SF2D.6, 10 -15 May 2015.

[PRG-FCN 529]
W. Xie, Y. Zhu, T. Aubert, Z. Hens, E. Brainis, D. Van Thourhout ,
"On-chip hybrid integration of silicon nitride microdisk with colloidal quantum dots",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 159-160, 26-28 August 2015.

[PRG-COBRA 530]*
S. Uvin, S. Keyvaninia, M. Tassaert, Z. Wang, X. Fu, S. Latkowski, J. Marien, L. Thomassen, F. Lelarge, G. Duan, G. Lepage, P. Verheyen, J. Van Campenhout, E. Bente, G. Roelkens ,
"1,7 kHz RF linewidth III-V-on-silicon mode-locked laser",
12th International Conference on GPF , ISBN 978-1-4799-8254-7, Vancouver, Canada, pp. 25-26, 26-28 August 2015.

[PRG-COBRA 531]*
J. Verbist, J. Zhang, B. Moeneclaey, J. Van Weerdenburg, R. Van Uden, C. Okonkwo, X. Yin, J. Bauwelinck, G. Roelkens ,
"112 Gbit/s single-polarization silicon coherent receiver with hybrid-integrated BiCMOS linear TIA"
, 41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper P.4.15, 27 September-1 October 2015.

[OptIQ-PRG 147]*
C. Ciret, F. Leo, B. Kuyken, G. Roelkens, S.P. Gorza ,
"Demonstration of an optical event horizon in a silicon nanophotonic waveguide",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper EF-7.3 TUE, 21-25 June 2015.

[FCN-PRG 195]*
P. Geiregat, A. Houtepen, D. Van Thourhout, Z. Hens ,
"Low power all-optical wavelength conversion with terahertz refresh rates using colloidal nanocrystals",
2015 Conference on Lasers and Electro-optics Europe & European Quantum Electronics Conference (CLEO Europe), ISBN 978-1-4673-7475-0, Munich, Germany, pp. paper EG-P.13 MON, 21-25 June 2015.

[FCN-PRG 186]*
P. Geiregat, C. Delerue, Y. Justo, M. Aerts, F. Spoor, D. Van Thourhout, L. Siebbeles, G. Allan, A. Houtepen, Z. Hens ,
"A phonon scattering bottleneck for carrier cooling in lead-chalcogenide nanocrystals",

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2015 MRS Spring meeting , Vol. 1787, San Francisco, California, USA, pp. paper U1.08, 6-10 April 2015.

[FCN-PRG 187]
Geiregat, P., Houtepen, A., Grozema, F., Van Thourhout, D. & Hens, Z. (2015).
Picosecond all-optical wavelength conversion using hot carrier intraband absorption in colloidal PbS nanocrystals.
In: MRS Spring Meeting, San Francisco, 2007-04-06. Materials Research Society (MRS).

[FCN-PRG 188]
Geiregat, P., Delerue, C., Justo Zarraquiños, Y., Aerts, M., Spoor, F., Van Thourhout, D., Siebbeles, L., Allan, G., Houtepen, A. & Hens, Z. (2015).
A phonon scattering bottleneck for carrier cooling in lead-chalcogenide nanocrystals.
In: E-MRS 2015 Spring meeting, Lille, France, 2015-05-11. European Materials Research Society (E-MRS).

[FCN-PRG 189]
Bisschop, S., Ciers, J., Guille, A., Geiregat, P., Brainis, E., Hens, Z. & Van Thourhout, D. (2015).
Subwavelength nanopatch SiN/Au nanocavities with colloidal nanocrystals.
In: European Quantum Electronics Conference 2015, Munchen, 2015-06-21. Optical Society of America. EG_P_13-.

[COBRA – PRG 31] *
Shen, L., Yao, W., Jiao, Y., van der Tol, J.J.G.M., Roelkens, G.C. & Smit, M.K.
High bandwidth photodiode integrated in an InP-based membrane on Silicon for wireless applications
5th Conference for ICT-Research in the Netherlands (ICT.OPEN, ProRISC track), 22-23 March 2016, Amersfoort, the Netherlands(2016).

[COBRA – PRG 32] *
Shen, Longfei, Jiao, Yuqing, van der Tol, Jos, Roelkens, Gunther & Smit, Meint
A double-side processed uni-traveling-carrier (UTC) photodiode integrated in an InP-based membrane bonded on Silicon
The 5th International Symposium on Photonics and Electronics Convergence (ISPEC), 30 November - 2 December 2015, Tokyo, Japan (2015)

[COBRA-PRG 33]*
L. Shen, P.J. van Veldhoven, Y. Jiao, V.M. Dolores Calzadilla, J. van der Tol, G. Roelkens, M.K. Smit ,
"Low optical loss-n-type ohmic contacts for InP-based membrane devices",
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter, ISBN 978-2-8052-0288-9, Brussels, Belgium, pp. 47-50, 26-27 November 2015.

[COBRA-PRG 34]*
L. Shen, R. van Veldhoven, Y. Jiao, V. Dolores-Calzadilla, J. van der Tol, G. Roelkens, M. Smit,
"Low optical loss ohmic contacts on heavily doped n-type InGaAs for InP membrabes devices",
The 27th International Conference on Indium Phosphide and related Materials (IPRM), Santa Barbara, USA, pp. paper Mo4PP-O.13, 28 June- 2 July 2015.

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In press 2016 :

[PRG 532]
Z. Wang, M. Pantouvaki, G. Morthier, C. Merckling, J. Van Campenhout, D. Van Thourhout, G. Roelkens,
"Heterogeneous Integration of InP Devices on Silicon",
the 28th International Conference on Indium Phosphide and Related Materials (IPRM), Toyama, Japan.

[PRG 533]
A. Vasiliev, A. Malik, M. Muneeb, R. Baets, G. Roelkens,
"Photothermal Mid-Infrared Spectroscopy using Fano Resonances in Silicon Microring Resonators",
CLEO 2016, San Jose, USA, 5-10 June 2016.

[PRG 534]
X. Nie, E. Ryckeboer, G. Roelkens, R. Baets,
"Novel Concept for a Broadband Co-propagative Stationary Fourier Transform Spectrometer Integrated on a Si3N4 Waveguide Platform ",
CLEO 2016, San Jose, USA, 5-10 June 2016.

[PRG 535]
Y. Xing, D. Spina, A. Li, T. Dhaene, W. Bogaerts,
"Variability analysis of device-level photonics using stochastic collocation",
SPIE Photonics Europe, Brussels, Belgium, 3-7 April 2016.

[PRG 536]
A. Srinivasan, M. Pantouvaki, Y. Shimura, C. Porret, R. Van Deun. R. Loo, D. Van Thourhout, J. Van Campenhout,
"Laser Annealed in-situ P-doped Ge for on-chip laser source applications",
SPIE Photonics Europe, Brussels, Belgium, 3-7 April 2016.

[PRG 537]
A. Li. W. Bogaerts,
"A simple and novel method to obtain a FSR free Silicon Microring",
SPIE Photonics Europe, Brussels, Belgium, 3-7 April 2016.

[PRG 538]
G. Morthier, A. Abbasi, J. Verbist, S. Keyvaninia, X. Yin, F. Lelarge, G.H. Duan, J. Bauwelinck, G. Roelkens,
"High-speed directly modulated heterogeneously integrated InP/Si DFB laser",
ECOC 2016, Dusseldorg, Germany , 19-21 September 2016.

[PRG 539]
F. Peyskens, A. Dhakal, P. Van Dorpe, N. Le Thomas, R. Baets,
"Hybrid Single Mode Nanophotonic-Plasmonic Waveguides for On-Chip Surface Enhanced Raman Spectroscopy",
META'16, the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Malaga, Spain, 25-28 July 2016.

[PRG 540]
Y. Xing, A. Li, R. Van Laer, R. Baets, W. Bogaerts,
"Backscatter Model for Nanoscale Silicon Waveguides",
OWTNM, Warsaw, Poland, 20-21 May 2016.

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[PRG 541]
E. Ryckeboer, X. Nie, A. Subramanian, D. Martens, P. Bienstman, S. Clemmen, S. Severi, R. Jansen, G. Roelkens, R. Baets,
"CMOS-compatible silicon nitride spectrometers for lab-on-a-chip spectral sensing",
SPIE Photonics Europe, Brussels, Belgium, 3-7 April 2016.

[PRG 542]
S. Uvin, S. Keyvaninia, F. Lelarge, G.H.Duan, B. kuyken, G. Roelkens,
"Narrow Line Width Injection-locked III-V-on-silicon Mode-locked Laser",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[PRG 543]
P. Cardile, A. De Groote, A. Subramanian, D. Delbeke, R. Baets, G. Roelkens,
"Optically pumped broadband LED emission coupled to SOI waveguides",
EMRS 2016, Lille, France, 2-6 May 2016.

[PRG 544]
F. Peyskens, A. Dhakal, P. Van Dorpe, N. Le Thomas, R. Baets,
"Surface Enhanced Raman Spectroscopy on Single Mode Nanophotonic-Plasmonic Waveguides",
CLEO 2016, San Jose, USA, 5-10 May 2016.

[PRG 545]
G. Roelkens,
"III-V-on-Si photonic integrated circuits for applications in sensing and communication",
EMRS 2016, Lille, France, 2-6 May 2016.

[PRG-FCN 546]
Y. Zhu, W. Xie, P. Geiregat, S. Bisschop, T. Aubert, E. Brainis, Z. Hens, D. Van Thourhout,
"Hybrid Colloidal Quantum Dot Silicon Nitride Waveguide Gain Measurement Based on Variable Stripe Length Method",
CLEO 2016, San Jose, USA, 5-10 June 2016.

[PRG-FCN 547]
Y. Zhu, Y. Jiao, W. Xie, J. Wang, B. Tian, E. Brainis, D. Van Thourhout,
"Ultra-compact silicon nitride grating coupler for on-chip single photon source",
EMRS Spring Meeting, Lille , France, 4 May 2016.

[PRG-COBRA 548]
A. Vasiliev, M. Muneeb, A. Ruocco, A. Malik, H. Chen, M. Nedeljkovic, J. Soler-Penades, L. Cerutti, J.B. Rodriguez, G.Z. Mashanovich , M.K. Smit, E. Tournie, G. Roelkens,
"3.8 µm Heterogeneously Integrated III-V on Silicon Micro-Spectrometer",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[PRG-COBRA 549]
G. Roelkens, U. Dave, S. Keyvaninia, F. Leo, S. Uvin, K. Van Gasse, Z. Wang, S. Latkowski, E. Bente,
"Frequency comb generation in III-V-on-silicon photonic integrated circuits",
IPR 2016, Vancouver, Canada, 18-20 July 2016.

[PRG – COBRA 554] *
Van Thourhout, Dries, Tassaert, Martijn, De Heyn, Peter, Raz, Oded, Calabretta, Nicola, Dorren, H. J S & Roelkens, Gunther
Photonic subsystems for optical packet/burst switches based on heterogeneous SOI and III-V integration
Optical Fiber Communications Conference and Exhibition (OFC) 2015, 22-26 March 2015, Los Angeles, California Piscataway: IEEE Service Center (2015)

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[FCN-PRG 185]
Brainis, E., Bisschop, S., Geiregat, P., Hens, H., Van Thourhout, D. (2016)
Fabrication and characterization of SiNx/Au nanopatch Cavities with colloidal nanocrystals.
Accepted for presentation CLEO 2016

[FCN-PRG 196]
M. Kolarczik, B. Herzog, C. Ulbrich, Y. Kaptan, U. Woggon, M. Owschimikow, A. Sign, X. Li, Y. Zhu, D. Van Thourhout, P. Geiregat, Z. Hens,
"*Biexciton-mediated modulation response of colloidal quantum dots deposited on a silicon nitride waveguide at high laser excitation rate*",
CLEO 2016, San Jose, USA, 5-10 June 2016.

[COBRA-PRG 36]
J. Verbist, J. Zhang, B. Moeneclaey, W. Soenen, J. Van Weerdenburg, R. Van Uden, C. Okonkwo, X. Yin, G. Roelkens, J. Bauwelinck,
"A novel optically wide-band electro-absorption modulator based on band filling in n-InGaAs",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 37]
J. Van Engelen, L. Shen, J. Van der Tol, G. Roelkens, M. Smit,
"Double-sided processing for membrane-based photonic integration",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 38]
L. Shen, Y. Jiao, A. Higuera-Rodriguez, A. Millan-Mejia, J. van der Tol, G. Roelkens, M. Smit,
"Double-sided processing for membrane-based photonic integration",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 39]
L. Shen, Y. Jiao, W. Yao, Z. Cao, V. van der Tol, G. Roelkens, M. Smit,
"67 GHz uni-traveling carrier photodetector on an InP-membrane-on-silicon platform",
CLEO 2016, San Jose, USA, 5-10 May 2016.

1.4.5 PhD theses

[PRG 550]
Sarvagya Dwivedi
Tolerant Spectral Filters Using Silicon Nanophotonic Waveguides
23/02/2016
Promotor: W. Bogaerts

[PRG 551]
Alfonso Ruocco
Active and Passive Wavelength Filters for Silicon Photonic Integrated Spectrometers
22/02/2016
Promotor: W. Bogaerts

[PRG 552]
Gunay Yurtsever
Photonic Integrated Components for Optical Coherence Tomography
12/06/2015
Promotor: R. Baets

[EOS-PRG 116]
Thomas Ako
Silicon on Insulator Photonic Components with a liquid crystal upper cladding

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1.5. UMONS-ARO

1.5.1 Books

[OptIQ-ARO-PRG-PHOT-COBRA 86]
Pascal Kockaert, Philippe Emplit, Simon-Pierre Gorza, Serge Massar (editors)
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter
November 26-27, 2015, Université libre de Bruxelles, Belgium (February 8-9, 2016)
ISBN 978-2-8052-0288-9

1.5.2 International Journals (with referee system)

[ARO 68]
Rosolen Gilles, Maes Bjorn
"Asymmetric and connected graphene dimers for a tunable plasmonic response"
Physical Review. B: Condensed Matter and Materials Physics, 92, 20, 205405 (2015)

[ARO 69]
Rivolta Nicolas, Maes Bjorn
"Symmetry recovery for coupled photonic modes with transversal PT symmetry"
Optics Letters, 40, 16, 3922-3925 (2015)

[ARO 70]
Vaianella Fabio, Rosolen Gilles, Maes Bjorn
"Graphene as a transparent electrode for amorphous silicon-based solar cells"
Journal of Applied Physics, 117, 24, 243102 (2015)

[ARO 71]
Rosolen Gilles, Maes Bjorn
"Patterned graphene edges for tailored reflection of plasmonic modes"
Optics Letters, 40, 12, 2727-2730 (2015)

[ARO 72]
Rivolta Nicolas, Maes Bjorn
"Diffractive switching by interference in a tailored PT-symmetric grating"
Journal of the Optical Society of America. B, Optical Physics, 32, 7, 1330-1337 (2015)

[ARO 73]
A. Faustov, A. Gusarov, P. Mégret, M. Wuilpart, D. Kinet, Zhukov A., S.G. Novikov, V.V. Svetuhin, A. A. Fotiadi,
'Gamma radiation-induced blue shift of resonance peaks of Bragg gratings in pure silica fibres',
Quantum Electronics, vol. 46, n. 2, pp. 150-154, 2016

[ARO 74]
A. Faustov, A. Gusarov, P. Mégret, M. Wuilpart, Zhukov A., S.G. Novikov, V.V. Svetuhin, A. A. Fotiadi,
'The Use of Optical Frequency-Domain Reflectometry in Remote Distributed Measurements of the Gamma-Radiation Dose',
Technical Physics Letters, vol. 41, n. 5, pp. 412-415, 2015

[ARO 75]
X. Hu, P. Mégret, C. Caucheteur,
'Surface plasmon excitation at near-infrared wavelengths in polymer optical fibers',
Optics Express, vol. 40, n. 17, pp. 3998-4001, 2015

[ARO 76]
I.A. Lobach, S. I. Kablukov, E.V. Podivilov, A. A. Fotiadi, S.A. Babin,

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'Fourier synthesis with single-mode pulses from a multimode laser',
Optics Letters, vol. 40, n. 15, pp. 3671-3674, 2015

[ARO 77]
J.L. Bueno-Escobedo, V. V. Spirin, C.A. Lopez-Mercado, P. Mégret, I. Zolotovskii, A. A. Fotiadi,
'Self-injection locking of the DFB laser through an external ring fiber cavity: Polarization behavior',
Results in Physics, vol. 6, pp. 59-60, 2016.

[ARO 78]
A. Faustov, A. Gusarov, P. Mégret, M. Wuilpart, Zhukov A., S.G. Novikov, V.V. Svetuhin, A. A. Fotiadi,
'Application of phosphate doped fibers for OFDR dosimetry',
Results in Physics, vol. 6, pp. 86-87, 2016.

[ARO 79]
C.A. Lopez-Mercado, V. V. Spirin, J.L. Bueno-Escobedo, A. Márquez Lucero, P. Mégret, I. Zolotovskii, A. A. Fotiadi,
'Locking of the DFB laser through fiber optic resonator on different coupling regimes',
Optics Communications, vol. 359, pp. 195-199, 2016.

[ARO 80]
A. Faustov, A. Gusarov, P. Mégret, M. Wuilpart, D. Kinet, Zhukov A., S.G. Novikov, V.V. Svetuhin, A. A. Fotiadi,
'Gamma radiation induced short wavelengths peak shift in fiber Bragg gratings inscribed in a pure silica fiber',
Quantum Electronics, vol. 46, n. 2, pp. 150-154, 2016.

[PHOT-ARO 295]
C. Sonnenfeld, G. Luyckx, S. Sulejmani, T. Geernaert, S. Eve, M. Gomina, K. Chah, P. Mergo, W. Urbanczyk, H. Thienpont, J. Degrieck, F. Berghmans
Microstructured optical fiber bragg grating as an internal three-dimensional strain sensor for composite laminates
Smart Mater. Struct., Vol. 24, No. 5, pp. 055003, 2015

1.5.3 Patents

None

1.5.4 Conference contributions (proceedings and abstracts in technical digests)

[ARO 81]
Rosolen Gilles, Maes Bjorn
"Absorption tunability of asymmetric and bridged graphene dimers"
"20th Annual Symposium of the IEEE Photonics Benelux Chapter", 271-274, Brussels, Belgium (2016)

[ARO 82]
Vaianella Fabio, Maes Bjorn
"Describing the dispersion of hyperbolic metamaterials by elementary excitation coupling"
"20th Annual Symposium of the IEEE Photonics Benelux Chapter", 295-298, Brussels, Belgium (2016)

[ARO 83]
Altares Menendez Galaad, Rosolen Gilles, Maes Bjorn,
"Graphene plasmons embedded in a gain medium"
"20th Annual Symposium of the IEEE Photonics Benelux Chapter", Brussels, Belgium (2016)

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[ARO 84]
Rosolen Gilles, Maes Bjorn
"Patterned Graphene Edges for Tailored Reflection of Plasmonic Modes"
"Metamaterials", 1124-1126, Oxford, UK (2015)

[ARO 85]
S. Boivinet, Jean-Bernard Lecourt, Y. Hernandez, A. A. Fotiadi, M. Wuilpart, P. Mégret,
'547 kHz repetition rate all-fiber mode-locked laser delivering picoseconds pulse at 1 µm wavelength',
Advanced Solid State Lasers Conference and Exhibition ASSL, Papier ATh2A.26, Adlershof-Berlin, Allemagne, 05/10-08/10, 2015.

[ARO 86]
S.M. Popov, Y.K. Chamarovski, P. Mégret, I. Zolotovskii, A. A. Fotiadi,
'Brillouin Random Lasing in Artifice Rayleigh Fiber',
European Conference on Optical Communications (ECOC), 10.1109/ECOC.2015.7341709, Valencia (Spain), 27/09-01/10, 2015.

[ARO 87]
I.A. Lobach, S. I. Kablukov, E.V. Podivilov, A. A. Fotiadi, S.A. Babin,
'Coherent Combining Of Single-Mode Pulses In A Ring Cavity'",
European Conference on Lasers and Electro-Optics (CLEO) - European Quantum Electronics Conference (EQEC), CJ_P_16, Munich (Germany), 21/06-25/06, 2015.

[ARO 88]
A. A. Fotiadi, I.A. Lobach, P. Mégret,
'Acoustic and thermal effects in Brillouin Random Fiber Laser',
European Conference on Lasers and Electro-Optics (CLEO) - European Quantum Electronics Conference (EQEC), Page CJ_P_28, Munich (Germany), 21/06-25/06, 2015.

[ARO 89]
I.A. Lobach, S. I. Kablukov, E.V. Podivilov, A. A. Fotiadi, S.A. Babin,
'Pulse Coherence in Self-sweeping Fiber Laser',
Conference on Laser and Electro-Optics (CLEO), 10.1364/CLEO_SI.2015.STh4L.4, San Jose, CA (USA), 10/05-15/05, 2015.

[ARO 90]
D. Kinet, K. Chah, A. Gusarov, A. Faustov, L. Areias, P. Mégret, C. Caucheteur,
'Bare Fiber Bragg Gratings embedded into concrete buffer supercontainer concept for nuclear waste storage',
ANIMMA 2015, Papter 237, Lisbon (Portugal), 20/04-24/04, 2015.

[ARO 91]
S. Boivinet, Jean-Bernard Lecourt, Y. Hernandez, A. A. Fotiadi, M. Wuilpart, P. Mégret,
'Impact of chromatic dispersion and spectral filtering in an all-fiber mode-locked Ytterbium laser',
SPIE Conference - Photonics West, vol. 9344, 934421, San Francisco (USA), 04/02-12/02, 2015.

[ARO 92]
V. V. Spirin, C.A. Lopez-Mercado, J.L. Bueno-Escobedo, A.M. Lucero, I. Zolotovskii, P. Mégret, A. A. Fotiadi,
'Self-injection locking of the DFB laser through ring fiber optic resonator',
SPIE 9344 Fiber Lasers XII : Technology, Systems, and Applications", 93442B, San Francisco, CA (USA), 09/02-12/02, 2015.

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[ARO 93]
Régis Hontinfindé, Patrice Mégret et Marc Wuilpart,
« Distributed measurement of supercontinuum in an optical fiber using a reflectometry technique »,
Proceedings of the IEEE Photonics Society Benelux Chapter Symposium 2015, 26-27 November 2015, Brussels, Belgium.

[EOS-ARO 111]
Beeckman, Jeroen, Thomas Ako, Yi Xie, Aimi Abass, and Kristiaan Neyts. 2015.
Tuning of Nanophotonic and Nanoplasmonic Components with Liquid Crystals.
In European Conference on Liquid Crystals, Abstracts, I7–17.

1.5.5 PhD theses

None

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1.6. VUB-PHOT

1.6.1 Books

[LMOPS-PHOT-OptIQ 82]
L Weicker, L Keuninckx, G Friart, J Danckaert, T Erneux
Multirhythmicity for a Time-Delayed FitzHugh-Nagumo System with Threshold Nonlinearity
In *Control of Self-Organizing Nonlinear Systems*, pp. 337-354, Eds. E. Schöll; S.H.L. Klapp; P. Hövel, Springer International Publishing, 2016

[LMOPS-PHOT 84]
M Virte, M Sciamanna, H Thienpont, K Panajotov
Nonlinear Dynamics of Vertical-Cavity Surface-Emitting Lasers: Deterministic Chaos and Random Number Generation
Nonlinear Dynamics: Materials, Theory and Experiments, 59-69 (2016)

[OptIQ-ARO-PRG-PHOT-COBRA 86]
Pascal Kockaert, Philippe Emplit, Simon-Pierre Gorza, Serge Massar (editors)
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter
November 26-27, 2015, Université libre de Bruxelles, Belgium (February 8-9, 2016)
ISBN 978-2-8052-0288-9

[OptIQ – PHOT 148]
M. Tlidi, E. Averlant, A. Vladimirov, A. Pimenov, S. Gurevich, K. Panajotov ,
Localized structures in VCSELs: experiments and delay-induced motion
In « Structural Nonlinear Dynamics and Diagnosis », Springer Proceeding in Physics 168, 417-438 (2015)

1.6.2 International Journals (with referee system)

[PHOT 250]*
A. Quirce, A. Valle, L. Pesquera, H. Thienpont, K. Panajotov
Measurement of temperature-dependent polarization parameters in long-wavelength VCSELs
IEEE J. Sel. Top. Quantum Electron., Vol. 21, No. 6, Art.No. 1800207, 2015

[PHOT 251]
V. Ginis, P. Tassin, T. Koschny, C.M. Soukoulis
Tunable terahertz frequency comb generation using time-dependent graphene sheets
Phys. Rev. B, Vol. 91, Art. No. 161403

[PHOT 252]*
B. De Pauw, W. Weijtjens, S. Vanlanduit, K. Van Tichelen, F. Berghmans
Operational modal analysis of flow-induced vibration of nuclear fuel rods in a turbulent axial flow
Nucl. Eng. Des., Vol. 284, pp. 19-26, 2015

[PHOT 253]
H. Ottevaere, S. Van Overmeire, J. Albero, L. Nieradko, G. Desmet, C. Gorecki, H. Thienpont
Plastic light coupler for absorbance detection in silicon microdfluidic channels
Microfluid. Nanofluid., Vol. 18, No. 4, pp. 559-568, 2015

[PHOT 254]*
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Metamaterials X. ed. / Allan Boardman; Nigel Johnson; Kevin MacDonald; Ekmel Özbay. Vol. 9883 Brussels, Belgium : SPIE, 2016. 98831B.

[PHOT 344]
Guy Van der Sande ; Romain Modeste Nguimdo and Guy Verschaffelt
"Parallel processing using an optical delay-based reservoir computer ",
Proc. SPIE 9894, Nonlinear Optics and its Applications IV, 98941P (2016);
doi:10.1117/12.2228005

[PHOT 345]
P. Parra-Rivas, D. Gomila and L. Gelens
" Characterizing the dynamics of cavity solitons and frequency combs in the Lugiato-Lefever equation ",
Proc. SPIE 9894, Nonlinear Optics and its Applications IV, 989403
(2016); doi:10.1117/12.2225591;

[PHOT 346]
Guy Van der Sande and Guy Verschaffelt
"Dynamics of quantum cascade lasers: numerics ",
Proc. SPIE 9892, Semiconductor Lasers and Laser Dynamics VII, 989220 (2016);
doi:10.1117/12.2227822;

[PHOT 347]
S. Viaene, V. Ginis, P. Verhulst, J. Danckaert, and P. Tassin,
Circularly polarized light generating optical forces between chiral metasurfaces
9 Feb 2016, Kockaert, P. & Pustakhod, D. (eds.), IEEE Photonics Benelux Chapter Proceedings

[PHOT 348]
S. Viaene, V. Ginis, J. Danckaert, and P. Tassin,
Transforming guided waves with metamaterial waveguide cores
Proc. SPIE. 9883, p. 98831F-98831F-8 8 p., 98831F; doi:10.1117/12.2227501

[PHOT 349]
Gabin Oumbe Tekam; Vincent Ginis; Divitha Seetharamdoo; Jan Danckaert,
Subwavelength resonant antennas enhancing electromagnetic energy harvesting,
Proc. SPIE 9884, Nanophotonics VI, 988408 (April 18, 2016); doi:10.1117/12.2227810

[PHOT 350]
Mulham Khoder, Guy Van der Sande, Jan Danckaert, Guy Verschaffelt

ANNEX 1: Publications specific to the IAP project

Semiconductor ring lasers subject to both on-chip filtered optical feedback and external conventional optical feedback
06 Apr 2016 Silicon Photonics and Photonic Integrated Circuits Paper 9891-70
To appear in SPIE Photonics Europe proceeding 9891

[PHOT-OptIQ 320]
E.A. Viktorov, T. Erneux, M. Abusaa, J. Danckaert, V.V. Dudelev, E.D. Kolykhalova, K.K. Soboleva, A.G. Deryagin, I.I. Novikov, M.V. Maximov
Two state QD laser turn on: slow passage effects
Proc. CLEO/Europe-EQEC 2015, Paper CBP22, 2015

[PHOT-OptIQ 351]
Mulham Khoder; Gaetan Friart; Jan Danckaert; Thomas Erneux; Guy Van der Sande & Guy Verschaffelt
Effect of Filtered Optical Feedback on The Dynamics of Semiconductor Ring Lasers
Proceeding of the 20th annual Symposium of the IEEE photonics society Benelux 2015 . Brussels Belgium: IEEE Benelux, Vol. 20, p. 147-150, Feb 2016

[PHOT-OptIQ 352]
Mulham Khoder; Gaetan Friart; Jan Danckaert; Thomas Erneux; Guy Van der Sande; Guy Verschaffelt
Dynamics of semiconductor microring lasers subject to on-chip filtered optical feedback
Proc. SPIE. 9892, Semiconductor Lasers and Laser Dynamics VII, 98921J. (April 28, 2016) doi: 10.1117/12.2225627

[PHOT-EOS 319]
K. Panajotov, Y. Xie, J. Beeckman, K. Neyts, M. Dems, C. Belmonte, H. Thienpont
Hybrid VCSEL –liquid crystal systems
Proc. SPIE, Vol. 9381, Vertical-Cavity Surface-Emitting Lasers XIX, pp. 93810P, 2015

[PHOT-LMOPS 321]*
M. Virte, M. Sciamanna, H. Thienpont, K. Panajotov
Nonlinear dynamics of Vertical-Cavity Surface-Emitting Lasers: deterministic chaos and random number generation
Springer Proc. In Physics, Vol. 173, pp. 59-69, Nonlinear dynamics: materials, theory and experiments (3rd Dynamics Days South America, 2014), 2016

[OptIQ-PHOT 156]*
Gaetan Friart; Mulham Khoder; Guy Van der Sande; Guy Verschaffelt & Thomas Erneux
Ponts de bifurcation dans un laser en anneau soumis `a un feedback optique
Rencontre du non-lineaire 2016 . Vol. 19, Mar 2016

[EOS-PHOT 112]
Cuypers, Dieter, Xiaobing Shang, Jelle De Smet, Joshi Pankaj, Jeroen Beeckman, Kristiaan Neyts, Oliver Willekens, Michael Vervaeke, Hugo Thienpont, and Herbert De Smet. 2015.
Liquid Crystal Beam Steering Components for Display Applications
In 15th International Meeting on Information Display, Abstracts, 246–246. KIDS, SID.

[EOS-PHOT 113]
Shang, Xiaobing, Jelle De Smet, Pankaj Joshi, Dieter Cuypers, Jin Yi Tan, Oliver Willekens, Jeroen Beeckman, Kristiaan Neyts, Tigran Baghdasaryan, Michael Vervaeke, Hugo Thienpont, and Herbert De Smet. 2015.
Switchable Liquid Crystal Devices for Efficient Light Steering.
In SID Symposium Digest of Technical Papers, 46:16–16. Ghent, Belgium: Society for Information Display.

[LMOPS-PHOT 115]

ANNEX 1: Publications specific to the IAP project

M Virte, S Breuer, M Sciamanna, K Panajotov
Optical feedback induced switching between ground and excited state emission in a quantum dot laser diode
The European Conference on Lasers and Electro-Optics, CB_8_5

1.6.5 PhD theses

[PHOT 322]*
Tigran Baghdasaryan
A study of multi-photon inscription of fiber Bragg gratings in glass micro-structured optical fibers
Promotor: F. Berghmans, H. Thienpont, Vrije Universiteit Brussel, April 2015

[PHOT 323]*
Andrea Ceglia
Unravelling technology and distribution of ancient glass by X-rays and UV-vis-NIR absorption spectroscopy
Promotors: H. Terryn, H. Thienpont, K. Nys (supervisor: W. Meulebroeck), Vrije Universiteit Brussel, Juli 2015

[PHOT 324]*
Sanne Sulejmani
Microstructured optical fiber Bragg grating-based sensors for shear strain measurements
Promotors: F. Berghmans, H. Thienpont, Vrije Universiteit Brussel, Augustus 2015

[PHOT 325]
Muayad Abu Saa
Simultaneous Two State Operation in Quantum Dot Lasers
Promotors J. Danckaert, E. Viktorov (ITMO Univ. St-Petersburg, Russia & ULB), Vrije Universiteit Brussel, September 2015

[PHOT 326]*
Carlos Belmonte
Semiconductor lasers for random bit generation, wavelength tuning and circularly polarized light emission
Promotors: K. Panajotov, T. Durt (Institut Fresnel)
Joint PhD between Vrije Universiteit Brussel en Institut Fresnel, Domaine Universitaire de Aint-Jerome, Marseille, France, September 2015

[PHOT 327]*
Ben De Pauw
Experimental analysis of flow-induced vibration in lead-bismuth cooled nuclear fuel assemblies
Promotors: F. Berghmans, S. Vanlanduit, Vrije Universiteit Brussel, November 2015

[PHOT 328]*
Diane De Coster
Microfluidic devices for Raman spectroscopy and optical trapping
Promotors: H. Ottevaere, J. Van Erps, Vrije Universiteit Brussel, Maart 2016

ANNEX 1: Publications specific to the IAP project

1.7. TU/e-COBRA

1.7.1 Books

[OptIQ-ARO-PRG-PHOT-COBRA 86]
Pascal Kockaert, Philippe Emplit, Simon-Pierre Gorza, Serge Massar (editors)
Proceedings of the 20th Annual Symposium of the IEEE Photonics Society Benelux Chapter
November 26-27, 2015, Université libre de Bruxelles, Belgium (February 8-9, 2016)
ISBN 978-2-8052-0288-9

1.7.2 International Journals (with referee system)

[COBRA – PRG 30] *
Shen, Longfei, van Veldhoven, René, Jiao, Yuqing, Dolores Calzadilla, Victor, van der Tol, Jos, Roelkens, Gunther & Smit, Meint
Ohmic contacts with ultra-low optical loss on heavily doped n-type InGaAs and InGaAsP for InP-based photonic membranes
IEEE Photonics Journal, 8(1):4500210 (2016)

[COBRA-PRG 35]
L. Shen, Y. Jiao, W. Yao, Z. Cao, J.P. van Engelen, G. Roelkens, G. Roelkens, M. K. Smit, and J. J. G. M. van der Tol
"High-bandwidth uni-traveling carrier waveguide photodetector on an InP-membrane-on-silicon platform",
Optics Express 24, 8290-8301 (2016)

[PRG – COBRA 433] *
Chen, H., Verheyen, P., de Heyn, P., Lepage, G., de Coster, J., Yao, W., Shen, L., Roelkens, G.C., van Campenhout, J.
-1 V bias 67GHz bandwidth Si-contacted germanium waveguide p-i-n photodetector for optical links at 56 Gbps and beyond
Optics Express, 24(5), 4622-4631 (2016)

[PRG – COBRA 437] *
Zhang, J., Verbist, J., Moeneclaey, B., van Weerdenburg, J., van Uden, R., Chen, H., Van Campenhout, J., van Campenhout, J., Okonkwo, C, Yin, X, Bauwelinck, J. & Roelkens, G.
Compact Low-Power-Consumption 28-Gbaud QPSK/16-QAM Integrated Silicon Photonic/Electronic Coherent Receiver
IEEE Photonics Journal, 8(1):7100110 (2016)

[PRG – COBRA 453] *
Keyvaninia, S., Uvin, S., Tassaert, M., Wang, Z., Fu, X., Latkowski, S., Marien, J., Thomassen, L., Lelarge, F., Duan, G.-H., Lepage, G., Verheyen, P., Campenhout, van, J., Bente, E.A.J.M. & Roelkens, G.
III–V-on-silicon anti-colliding pulse-type mode-locked laser
Optics Letters, 40(13), 3057-3060 (2015)

In press 2016 :

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[PRG-COBRA 459]
M. Muneeb, A. Vasiliev, A. Ruocco, A. Malik, H. Chen, M. Nedeljkovic, J.S. Penades, L. Cerutti, J.B. Rodriguez, G. Mashanovich, M. Smit, E. Tournie, G. Roelkens,
III-V-on-silicon integrated micro-spectrometer for the 3 um wavelength range
Optics Express.

1.7.3 Patents

None

1.7.4 Conference contributions (proceedings and abstracts in technical digests)

[COBRA – PRG 31] *
Shen, L., Yao, W., Jiao, Y., van der Tol, J.J.G.M., Roelkens, G.C. & Smit, M.K.
High bandwidth photodiode integrated in an InP-based membrane on Silicon for wireless applications
5th Conference for ICT-Research in the Netherlands (ICT.OPEN, ProRISC track), 22-23 March 2016, Amersfoort, the Netherlands(2016).

[COBRA – PRG 32] *
Shen, Longfei, Jiao, Yuqing, van der Tol, Jos, Roelkens, Gunther & Smit, Meint
A double-side processed uni-traveling-carrier (UTC) photodiode integrated in an InP-based membrane bonded on Silicon
The 5th International Symposium on Photonics and Electronics Convergence (ISPEC), 30 November - 2 December 2015, Tokyo, Japan (2015)

[COBRA – PRG 33] *
Shen, L., Veldhoven, van, P.J., Jiao, Y., Dolores Calzadilla, V.M., Tol, van der, J.J.G.M., Roelkens, G. & Smit, M.K.
Low optical loss n-type ohmic contacts for InP-based membrane devices
Proceedings of the 20th Annual Symposium of the IEEE Photonics Benelux Chapter, 26-27 November 2015, Brussels, Belgium (2015)

[COBRA – PRG 34] *
Shen, L., Veldhoven, van, P.J., Jiao, Y., Dolores Calzadilla, V.M., Tol, van der, J.J.G.M., Roelkens, G.C. & Smit, M.K.
Low Optical Loss Ohmic Contacts on Heavily Doped N-type InGaAs for InP Membrane Devices
The 27th International Conference on Indium Phosphide and Related Materials (IPRM), 28 June - 2 July 2015, Santa Barbara, USA Piscataway: IEEE Service Center (2015)

[PRG – COBRA 530] *
S. Uvin, S. Keyvaninia, M. Tassaert, Z. Wang, X. Fu, S. Latkowski, J. Marien, L. Thomassen, F. Lelarge, G. Duan, G. Lepage, P. Verheyen, J. Van Campenhout, E. Bente, G. Roelkens
1.7 kHz RF linewidth III-V-on-silicon mode-locked laser
IEEE 12th International Conference on Group IV Photonics (GFP), pp. 25–26 (2015)

[PRG-COBRA 531]*
J. Verbist, J. Zhang, B. Moeneclaey, J. Van Weerdenburg, R. Van Uden, C. Okonkwo, X. Yin, J. Bauwelinck, G. Roelkens ,
"112 Gbit/s single-polarization silicon coherent receiver with hybrid-integrated BiCMOS linear TIA"
, 41st European Conference on Optical Communication (ECOC), ISBN 978-84-608-1741-3, Valencia, Spain, pp. paper P.4.15, 27 September-1 October 2015.

ANNEX 1: Publications specific to the IAP project

[PRG – COBRA 554] *
Van Thourhout, Dries, Tassaert, Martijn, De Heyn, Peter, Raz, Oded, Calabretta, Nicola, Dorren, H. J S & Roelkens, Gunther
Photonic subsystems for optical packet/burst switches based on heterogeneous SOI and III-V integration
Optical Fiber Communications Conference and Exhibition (OFC) 2015, 22-26 March 2015, Los Angeles, California Piscataway: IEEE Service Center (2015)

In press 2016 :

[PRG-COBRA 548]
A. Vasiliev, M. Muneeb, A. Ruocco, A. Malik, H. Chen, M. Nedeljkovic, J. Soler-Penades, L. Cerutti, J.B. Rodriguez, G.Z. Mashanovich , M.K. Smit, E. Tournie, G. Roelkens,
"3.8 µm Heterogeneously Integrated III-V on Silicon Micro-Spectrometer",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[PRG-COBRA 549]
G. Roelkens, U. Dave, S. Keyvaninia, F. Leo, S. Uvin, K. Van Gasse, Z. Wang, S. Latkowski, E. Bente,
"Frequency comb generation in III-V-on-silicon photonic integrated circuits",
IPR 2016, Vancouver, Canada, 18-20 July 2016.

[COBRA-PRG 36]
J. Verbist, J. Zhang, B. Moeneclaey, W. Soenen, J. Van Weerdenburg, R. Van Uden, C. Okonkwo, X. Yin, G. Roelkens, J. Bauwelinck,
"A novel optically wide-band electro-absorption modulator based on band filling in n-InGaAs",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 37]
J. Van Engelen, L. Shen, J. Van der Tol, G. Roelkens, M. Smit,
"Double-sided processing for membrane-based photonic integration",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 38]
L. Shen, Y. Jiao, A. Higuera-Rodriguez, A. Millan-Mejia, J. van der Tol, G. Roelkens, M. Smit,
"Double-sided processing for membrane-based photonic integration",
ECIO 2016, Dublin, Ireland, 17-20 April 2016.

[COBRA-PRG 39]
L. Shen, Y. Jiao, W. Yao, Z. Cao, V. van der Tol, G. Roelkens, M. Smit,
"67 GHz uni-traveling carrier photodetector on an InP-membrane-on-silicon platform",
CLEO 2016, San Jose, USA, 5-10 May 2016.

1.7.5 PhD theses

None

ANNEX 1: Publications specific to the IAP project

1.8. USTL-IRCICA

1.8.1 Books

[IRCICA-OptIQ 150]
V. Odent, M. Tlidi, M. Clerc, E. Louvergneaux,
Experimental observation of front propagation in Lugiato-Lefever equation in a negative diffractive regime and inhomogeneous kerr cavity
In « Nonlinear Dynamics: Materials, Theory and Experiments »Springer Proceedings in Physics 173, 75-85 (2016)

1.8.2 International Journals (with referee system)

[IRCICA 100]*
P. Gouriou, F. Scol, B. Sevigny, C. Valentin, Y. Quiquempois, L. Bigot, R. Habert, A. Cassez, O. Vanvincq, E. Hugonnot and G. Bouwmans
Polarization maintaining single-mode fiber delivering a flat top intensity profile
Optics Express **23** 32496 (2015).

[IRCICA 101]*
A. Bendahmane, A. Mussot, A. Kudlinski, P. Szriftgiser, M. Conforti, S. Wabnitz and S. Trillo
Optimal frequency conversion in the nonlinear stage of modulation instability
Optics Express **23** 30861 (2015).

[IRCICA 102]*
M. G. Clerc, S. Coulibaly, F. del Campo, M. A. Garcia-Nustes, E. Louvergneaux and M. Wilson
Recurrent noise-induced phase singularities in drifting patterns
Physical Review E **92** (2015).

[IRCICA 103]*
H. El Hamzaoui, M. Bouazaoui and B. Capoen
Raman investigation of germanium- and phosphorus-doping effects on the structure of sol-gel silica-based optical fiber preforms
Journal of Molecular Structure **1099** 77 (2015).

[IRCICA 104]*
M. G. Clerc, S. Coulibaly, M. A. Garcia-Nustes and Y. Zarate
Transverse phase shielding solitons in the degenerated optical parametric oscillator
Optics Communications **354** 163 (2015).

[IRCICA 105]*
C. G. L. Tiofack, S. Coulibaly, M. Taki, S. De Bievre and G. Dujardin
Comb generation using multiple compression points of Peregrine rogue waves in periodically modulated nonlinear Schrodinger equations
Physical Review A **92** (2015).

[IRCICA 106]*
P. Rigaud, V. Kermene, G. Bouwmans, L. Bigot, A. Desfarges-Berthelemot and A. Barthelemy
Spectral division amplification of a 40 nm bandwidth in a multicore Yb doped fiber and femtosecond pulse synthesis with in-fiber delay line
Optics Express **23** 27448 (2015).

[IRCICA 107]*
F. Braud, A. Bendahmane, A. Mussot and A. Kudlinski
Simultaneous control of the wavelength and duration of Raman-shifting solitons using topographic photonic crystal fibers
Journal of the Optical Society of America B-Optical Physics **32** 2146 (2015).

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[IRCICA 108]*
Y. Bourlier, O. C. Robbe, C. Lethien, P. Roussel, A. Pastre, M. Zegaoui, N. Rolland, M. Bouazaoui and R. Bernard
Control of gallium incorporation in sol-gel derived CuIn(1-x)GaxS2 thin films for photovoltaic applications
Materials Research Bulletin **70** 137 (2015).

[IRCICA 109]*
B. H. Babu, N. Ollier, M. L. Pichel, H. El Hamzaoui, B. Poumellec, L. Bigot, I. Savelii, M. Bouazaoui, A. Ibarra and M. Lancry
Radiation hardening in sol-gel derived Er3+-doped silica glasses
Journal of Applied Physics **118** (2015).

[IRCICA 110]*
C. Milian, A. V. Gorbach, M. Taki, A. V. Yulin and D. V. Skryabin
Solitons and frequency combs in silica microring resonators: Interplay of the Raman and higher-order dispersion effects
Physical Review A **92** (2015).

[IRCICA 111]*
P. Rigaud, V. Kermene, C. Simos, A. Desfarges-Berthelemot, G. Bouwmans, L. Bigot, A. Hideur and A. Barthelemy
Dual-wavelength synchronous ultrashort pulses from a mode-locked Yb-doped multicore fiber laser with spatially dispersed gain
Optics Express **23** 25308 (2015).

[IRCICA 112]*
P. Szriftgiser, A. Kudlinski, D. Bacquet, G. Bouwmans, M. Dossou, J. C. Beugnot and V. Laude
Enhanced structural sensitivity of hybrid-mode acoustic phonons in axially-varying photonic crystal fiber
Optics Express **23** 23329 (2015).

[IRCICA 113]*
O. Vanvincq, J. P. Yehouessi, G. Bouwmans, L. Bigot and Y. Quiquempois
Pixelated Bragg fibers: bandgap guiding, generalized half-wave stack condition, and application to large mode area fibers
Journal of the Optical Society of America B-Optical Physics **32** 1986 (2015).

[IRCICA 114]*
X. Wei, S. Tan, A. Mussot, A. Kudlinski, K. K. Tsia and K. K. Y. Wong
110 nm versatile fiber optical parametric amplifier at 1.0 µm
Optics Letters **40** 4090 (2015).

[IRCICA 115]*
O. Laguta, H. El Hamzaoui, M. Bouazaoui, V. B. Arion and I. Razdobreev
Magnetic circular polarization of luminescence in bismuth-doped silica glass
Optica **2** 663 (2015).

[IRCICA 116]*
S. F. Wang, A. Mussot, M. Conforti, A. Bendahmane, X. L. Zeng and A. Kudlinski
Optical event horizons from the collision of a soliton and its own dispersive wave
Physical Review A **92** (2015).

[IRCICA 117]*
S. Coulibaly, E. Louvergneaux, M. Taki and L. Brevdo

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Spatiotemporal wave-train instabilities in nonlinear Schrodinger equation: revisited
European Physical Journal D **69** (2015).

[IRCICA 118]*
H. Tran, J. Vander Auwera, X. Landsheere, N. H. Ngo, E. Pangui, S. B. Morales, H. El Hamzaoui, B. Capoen, M. Bouazaoui, C. Boulet and J. M. Hartmann
Infrared light on molecule-molecule and molecule-surface collisions
Physical Review A **92** (2015).

[IRCICA 119]*
S. F. Wang, A. Mussot, M. Conforti, X. L. Zeng and A. Kudlinski
Bouncing of a dispersive wave in a solitonic cage
Optics Letters **40** 3320 (2015).

[IRCICA 120]*
S. R. Nodari, M. Conforti, G. Dujardin, A. Kudlinski, A. Mussot, S. Trillo and S. De Bievre
Modulational instability in dispersion-kicked optical fibers
Physical Review A **92** (2015).

[IRCICA 121]*
O. Vanvincq, C. Fourcade-Dutin, A. Mussot, E. Hugonnot and D. Bigourd
Ultrabroadband fiber optical parametric amplifiers pumped by chirped pulses. Part 1: analytical model
Journal of the Optical Society of America B-Optical Physics **32** 1479 (2015).

[IRCICA 122]*
C. Fourcade-Dutin, O. Vanvincq, A. Mussot, E. Hugonnot and D. Bigourd
Ultrabroadband fiber optical parametric amplifier pumped by chirped pulses. Part 2: sub-30-fs pulse amplification at high gain
Journal of the Optical Society of America B-Optical Physics **32** 1488 (2015).

[IRCICA 123]*
P. Walczak, S. Randoux and P. Suret
Statistics of a turbulent Raman fiber laser
Optics Letters **40** 3101 (2015).

[IRCICA 124]*
A. Bendahmane, A. Mussot, M. Conforti and A. Kudlinski
Observation of the stepwise blue shift of a dispersive wave preceding its trapping by a soliton
Optics Express **23** 16595 (2015).

[IRCICA 125]*
M. G. Clerc, S. Coulibaly, D. Laroze, A. O. Leon and A. S. Nunez
Alternating spin-polarized current induces parametric resonance in spin valves
Physical Review B **91** (2015).

[IRCICA 126]*
I. Andrade-Silva, M. G. Clerc and V. Odent
Asymmetric counterpropagating fronts without flow
Physical Review E **91** (2015).

[IRCICA 127]*
E. R. Andresen, S. Sivankutty, G. Bouwmans, L. Gallais, S. Monneret and H. Rigneault
Measurement and compensation of residual group delay in a multi-core fiber for lensless endoscopy
Journal of the Optical Society of America B-Optical Physics **32** 1221 (2015).

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[IRCICA 128]*
B. Kuyken, F. Leo, A. Mussot, A. Kudlinski and G. Roelkens
A two-stage photonic crystal fiber/silicon photonic wire short-wave infrared wavelength converter/amplifier based on a 1064 nm pump source
Optics Express **23** 13025 (2015).

[IRCICA 129]*
B. Sevigny, A. Cassez, O. Vanvincq, Y. Quiquempois and G. Bouwmans
High-quality ultraviolet beam generation in multimode photonic crystal fiber through nondegenerate four-wave mixing at 532 nm
Optics Letters **40** 2389 (2015).

[IRCICA 130]*
B. Macke and B. Segard
Brillouin precursors in Debye media
Physical Review A **91** (2015).

[IRCICA 131]*
A. O. Leon, M. G. Clerc and S. Coulibaly
Traveling pulse on a periodic background in parametrically driven systems
Physical Review E **91** (2015).

[IRCICA 132]*
A. Le Rouge, H. El Hamzaoui, B. Capoen, R. Bernard, O. Cristini-Robbe, G. Martinelli, C. Cassagne, G. Boudebs, M. Bouazaoui and L. Bigot
Synthesis and nonlinear optical properties of zirconia-protected gold nanoparticles embedded in sol-gel derived silica glass
Materials Research Express **2** (2015).

[IRCICA 133]*
A. Kudlinski, S. F. Wang, A. Mussot and M. Conforti
Soliton annihilation into a polychromatic dispersive wave
Optics Letters **40** 2142 (2015).

[IRCICA 134]*
C. Fourcade-Dutin, Q. Bassery, D. Bigourd, A. Bendahmane, A. Kudlinski, M. Douay and A. Mussot
12 THz flat gain fiber optical parametric amplifiers with dispersion varying fibers
Optics Express **23** 10103 (2015).

[IRCICA 135]*
P. Walczak, S. Randoux and P. Suret
Optical Rogue Waves in Integrable Turbulence
Physical Review Letters **114** (2015).

[IRCICA 136]*
O. Laguta, H. El Hamzaoui, M. Bouazaoui, V. B. Arion and I. Razdobreev
Anti-Stokes photoluminescence in Ga/Bi co-doped sol-gel silica glass
Optics Letters **40** 1591 (2015).

[IRCICA 137]*
C. Kinowski, O. Robbe-Cristini, R. Bernard, H. El Hamzaoui, L. Boussekey, M. Bouazaoui and B. Capoen
CO2 laser-induced precipitation of CdSxSe1-x nanoparticles in a borosilicate glass: A new approach for the localized growth of quantum dots
Optical Materials **42** 331 (2015).

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[IRCICA 138]*
M. Conforti, S. Trillo, A. Mussot and A. Kudlinski
Parametric excitation of multiple resonant radiations from localized wavepackets
Scientific Reports **5** (2015).

[IRCICA 139]*
G. Patera and M. I. Kolobov
Temporal imaging with squeezed light
Optics Letters **40** 1125 (2015).

[IRCICA 140]*
L. P. Ramirez, M. Hanna, G. Bouwmans, H. El Hamzaoui, M. Bouazaoui, D. Labat, K. Delplace, J. Pouysegur, F. Guichard, P. Rigaud, V. Kermene, A. Desfarges-Berthelemot, A. Barthelemy, F. Prevost, L. Lombard, Y. Zaouter, F. Druon and P. Georges
Coherent beam combining with an ultrafast multicore Yb-doped fiber amplifier
Optics Express **23** 5406 (2015).

[IRCICA 141]*
F. Copie, A. Kudlinski, M. Conforti, G. Martinelli and A. Mussot
Modulation instability in amplitude modulated dispersion oscillating fibers
Optics Express **23** 3869 (2015).

[IRCICA 142]*
L. Bigot, G. Le Cocq and Y. Quiquempois
Few-Mode Erbium-Doped Fiber Amplifiers: A Review
Journal of Lightwave Technology **33** 588 (2015).

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Erbium-Doped Tin-Silicate Sol-Gel-Derived Glass-Ceramic Thin Films: Effect of Environment Segregation on the Er3+ Emission
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[IRCICA 144]*
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Design and realization of flexible very large mode area pixelated Bragg fibers
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[IRCICA 146]*
A. Aboulaich, N. Caperaa, H. El Hamzaoui, B. Capoen, A. Potdevin, M. Bouazaoui, G. Chadeyron and R. Mahiou
In situ synthesis of a highly crystalline Tb-doped YAG nanophosphor using the mesopores of silica monoliths as a template
Journal of Materials Chemistry C **3** 5041 (2015).

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G. Le Cocq, Y. Quiquempois and L. Bigot
Optimization Algorithm Applied to the Design of Few-Mode Erbium Doped Fiber Amplifier for Modal and Spectral Gain Equalization

ANNEX 1: Publications specific to the IAP project

Journal of Lightwave Technology **33** 100 (2015).

[IRCICA 148]*
E. E. Bendeif, A. Gansmuller, K. Y. Hsieh, S. Pillet, T. Woike, M. Zobel, R. B. Neder, M. Bouazaoui, H. El Hamzaoui and D. Schaniel
Structure determination of molecular nanocomposites by combining pair distribution function analysis and solid-state NMR
Rsc Advances **5** 8895 (2015).

[IRCICA-OptIQ 149]*
M. Conforti, A. Mussot, J. Fatome, A. Picozzi, S. Pitois, C. Finot, M. Haelterman, B. Kibler, C. Michel and G. Millot
Turbulent dynamics of an incoherently pumped passive optical fiber cavity: Quasisolitons, dispersive waves, and extreme events
Physical Review A 91, 023823 (2015).

[PRG-OptIQ-IRCICA 553]
F. Leo, S. Coen, P. Kockaert, P. Emplit, M. Haelterman, A. Mussot and M. Taki
Impact of third-order dispersion on nonlinear bifurcations in optical resonators
Physics Letters A **379** 1934 (2015).

[PRG-IRCICA 454]*
B. Kuyken, F. Leo, A. Mussot, A. Kudlinski, G. Roelkens,
"A two-stage photonic crystal fiber/silicon photonic wire short-wave infrared wavelength converter/amplifier based on a 1064 nm pump source",
Optics Express, ISSN 1094-1087, Vol. 23, Nr. 10, pp. 13025-13031, 8 May 2015.

1.8.3 Patents

None

1.8.4 Conference contributions (proceedings and abstracts in technical digests)

[IRCICA 151]*
E. R. Andresen, S. Sivankutty, G. Bouwmans, O. Vainvinq, L. Gallais, S. Monneret and H. Rigneault
Towards two-photon lensless endoscopes: Inter-core group delay compensation in a multi-core fiber
Advanced Microscopy Techniques IV; and Neurophotonics II, Proceedings of SPIE 9536, 953605 (2015).

[IRCICA 152]*
P. Genevaux, C. Simonneau, G. Le Cocq, Y. Quiquempois, L. Bigot, J.-F. Morizur, G. Charlet and Ieee
Amplification of 5 modes carrying each 100Gb/s with a few mode EDFA
Optical Fiber Communications Conference and Exhibition (Ofc) (2015).

[IRCICA 153]*
M. Leon, M. Lancry, N. Ollier, L. Bigot, H. El Hamzaoui, I. Savelii, A. Pastouret, E. Burov, B. Poumellec, M. Bouazaoui
Influence of Al/Ge ratio on radiation-induced attenuation in nanostructured erbium-doped fibers preforms
Conference on Lasers and Electro-Optics (2015)

1.8.5 PhD theses

ANNEX 1: Publications specific to the IAP project

None

ANNEX 1: Publications specific to the IAP project

1.9. Supélec-LMOPS

1.9.1 Books

[LMOPS-PHOT-OptIQ 82]
L Weicker, L Keuninckx, G Friart, J Danckaert, T Erneux
Multirhythmicity for a Time-Delayed FitzHugh-Nagumo System with Threshold Nonlinearity
In *Control of Self-Organizing Nonlinear Systems*, pp. 337-354, Eds. E. Schöll; S.H.L. Klapp; P. Hövel, Springer International Publishing, 2016

[LMOPS-PHOT 84]
M Virte, M Sciamanna, H Thienpont, K Panajotov
Nonlinear Dynamics of Vertical-Cavity Surface-Emitting Lasers: Deterministic Chaos and Random Number Generation
Nonlinear Dynamics: Materials, Theory and Experiments, 59-69 (2016)

1.9.2 International Journals (with referee system)

[LMOPS 100]
A. Karsaklian Dal Bosco, K. Kanno, A. Uchida, M. Sciamanna, T. Harayama, K. Yoshimura
Cycles of self-pulsations in a photonic integrated circuit
Phys. Rev. E 92, 062905 (2015)

[LMOPS 101]
N. Wiersma, N. Marsal, M. Sciamanna, D. Wolfersberger
Spatiotemporal dynamics of counterpropagating Airy beams
Sci. Rep. 5 13463 (2015)

[LMOPS 102]
E. Mercier, A. Even, E. Mirisola, D. Wolfersberger, M. Sciamanna
Numerical study of extreme events in a laser diode with phase-conjugate optical feedback
Phys. Rev. E 91, 042914 (2015)

[LMOPS 103]
E. Mercier, D. Wolfersberger, M. Sciamanna
High-frequency chaotic dynamics enabled by optical phase-conjugation
Sci. Rep. 6, 18988 (2016)

[LMOPS 104]*
V. Coda, C. Ciret, T. Mengis, M. Gorram, G. Montemezzani, M. Chauvet, F. Devaux
Anisotropic buid-up of photo-induced waveguides in biased photorefractive media
Opt. Commun. 355 382-390 (2015)

[LMOPS 105]*
Bishop, C., Salvestrini, J.-P., Halfaya, Y., Suresh, S., El Gmili, Y. et al.
Highly sensitive detection of NO2 gas using BGaN/GaN superlattice-based double Schottky junction sensors
Applied Physics Letters, 2015, 106(24):243504 (2015)

[LMOPS 106]*
HS Hristova, AA Rangelov, G Montemezzani, NV Vitanov
Adiabatic three-waveguide coupler
Phys. Rev. A 93 (3), 033802 (2016)

[LMOPS-OptIQ 83]
L. Weicker, T. Erneux, D. Wolfersberger, M. Sciamanna
Laser diode nonlinear dynamics from a filtered phase-conjugate optical feedback

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Phys. Rev. E 92 022906 (2015)

[LMOPS-PHOT 107]
M. Virte, E. Mirisola, M. Sciamanna, K. Panajotov
Asymmetric dwell-time statistics of polarization chaos from free-running VCSEL
Opt. Lett. 40, 1865-1868 (2015)

[OptIQ – LMOPS 127]
Thomas Erneux, Lionel Weicker, Larissa Bauer, and Philipp Hövel,
Short-time-delay limit of the self-coupled FitzHugh-Nagumo system
Phys. Rev. E 93, 022208 (2016)

1.9.3 Patents

None

1.9.4 Conference contributions (proceedings and abstracts in technical digests)

[LMOPS 108]
Jumpertz, K Schires, M Carras, M Sciamanna
Deterministic temporal chaos from a mid-infrared external cavity quantum cascade lasers
SPIE Photonics West, OPTO, 975521-975521-6

[LMOPS 109]
N Marsal, N Wiersma, M Sciamanna, D Wolfersberger
Interaction between Airy beams in nonlinear media
OSA Nonlinear Optics, NF2A. 7

[LMOPS 110]
M Sciamanna, E Mercier, CH Uy, L Weicker, D Wolfersberger
High-frequency pulsating dynamics in a laser diode with phase-conjugate feedback
European Semiconductor Laser Workshop (2015)

[LMOPS 111]
D Wolfersberger, E Mercier, AK Dal Bosco, M Sciamanna
Deterministic optical rogue waves in a laser diode with time-delayed feedback
European Semiconductor Laser Workshop (2015)

[LMOPS 112]
N. Wiersma, N. Marsal, M. Sciamanna, D. Wolfersberger
Spatiotemporal interactions of Airy beams
International Workshop: Waves, Solitons and Turbulence in Optical Systems (WASTOS), Berlin (Allemagne), 12-14/10/2015

[LMOPS 113]*
G. Montemezzani
Coupled waveguides: from quantum analogies to nonlinear optics
IONS/FOCUS Tunis 2015, International Optical Network of Students, Optical Society of America, Carthage (Tunisie), 2-5/09/2015

[LMOPS 114]*
I. Biaggio, V. Coda and G. Montemezzani
Coupling length phase matching in parallel waveguides
Frontiers in Optics/Laser Science 2015, FM1F.1, Optical Society of America, San Jose (USA), 18- 22/10/2015

ANNEX 1: Publications specific to the IAP project

[LMOPS-PHOT 115]
M Virte, S Breuer, M Sciamanna, K Panajotov
Optical feedback induced switching between ground and excited state emission in a quantum dot laser diode
The European Conference on Lasers and Electro-Optics, CB_8_5

[PHOT-LMOPS 321]*
M. Virte, M. Sciamanna, H. Thienpont, K. Panajotov
Nonlinear dynamics of Vertical-Cavity Surface-Emitting Lasers: deterministic chaos and random number generation
Springer Proc. In Physics, Vol. 173, pp. 59-69, Nonlinear dynamics: materials, theory and experiments (3rd Dynamics Days South America, 2014), 2016

1.9.5 PhD theses

None

3.2 List of co- publications

3.2.1 Books

3.2.2 International Journals (with referee system)

3.2.3 Patents

None

3.2.4 Conference contributions (proceedings and abstracts in technical digests)

3.2.5 PhD theses