

List of Publications

Prof. Dr. Markus Pollnau

November 1, 2015

1. PEER-REVIEWED JOURNAL ARTICLES

- 1.135. L. Chang, M. Dijkstra, N. Ismail, M. Pollnau, R.M. de Ridder, K. Wörhoff, V. Subramaniam, and J.S. Kanger,
"Waveguide-coupled micro-ball lens array suitable for mass fabrication",
Optics Express **23** (17), 22414-22423 (2015).
- 1.134. J.W. Kim, S.Y. Choi, S. Aravazhi, M. Pollnau, U. Griebner, V. Petrov, S. Bae, K.J. Ahn, D.I. Yeom, and F. Rotermund,
"Graphene Q-switched Yb:KYW planar waveguide laser",
AIP Advances **5** (1), 017110 (January 2015).
- 1.133. M. Eichhorn and M. Pollnau,
"Spectroscopic foundations of lasers: Spontaneous emission into a resonator mode",
IEEE Journal of Selected Topics in Quantum Electronics **21** (1), 9000216 (January 2015). **Invited Paper.**
- 1.132. M. Pollnau,
"Rare-earth-ion-doped channel waveguide lasers on silicon",
IEEE Journal of Selected Topics in Quantum Electronics **21** (1), 1602512 (January 2015). **Invited Paper.**
- 1.131. S.A. Vázquez-Córdova, M. Dijkstra, E.H. Bernhardt, F. Ay, K. Wörhoff, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Erbium-doped spiral amplifiers with 20 dB of net gain on silicon",
Optics Express **22** (21), 25993-26004 (October 2014).
- 1.130. K. van Dalen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Thulium channel waveguide laser with 1.6 W of output power and ~80% slope efficiency",
Optics Letters **39** (15), 4380-4383 (August 2014).
- 1.129. M.A. Sefunc, M. Pollnau, and S.M. García-Blanco,
"Low-loss sharp bends in polymer waveguides enabled by the introduction of a thin metal layer",
Optics Express **21** (24), 29808-29817 (December 2013).
- 1.128. J.W. Kim, S.Y. Choi, D.I. Yeom, S. Aravazhi, M. Pollnau, U. Griebner, V. Petrov, and F. Rotermund,
"Yb:KYW planar waveguide laser Q-switched by evanescent-field interaction with carbon nanotubes",
Optics Letters **38** (23), 5090-5093 (December 2013).
- 1.127. F. Civitci, G. Sengo, A. Driessen, M. Pollnau, A.J. Annema, and H.J.W.M. Hoekstra,
"Light turning mirrors for hybrid integration of SiON-based optical waveguides and photo-detectors",
Optics Express **21** (20), 24375-24384 (October 2013).
- 1.126. B.I. Akca, B. Považay, A. Alex, K. Wörhoff, R.M. de Ridder, W. Drexler, and M. Pollnau,
"Miniature spectrometer and beam splitter for an optical coherence tomography on a silicon chip",
Optics Express **21** (14), 16648-16656 (July 2013).
- 1.125. E.H. Bernhardt, K.O. van der Werf, A.J.F. Hollink, K. Wörhoff, R.M. de Ridder, V. Subramaniam, and M. Pollnau,
"Intra-laser-cavity microparticle sensing with a dual-wavelength distributed-feedback laser",
Laser & Photonics Reviews **7** (4), 589-595 (July 2013).
- 1.124. D. Gekus, E.H. Bernhardt, K. van Dalen, S. Aravazhi, and M. Pollnau,
"Highly efficient Yb³⁺-doped channel waveguide laser at 981 nm",
Optics Express **21** (11), 13773-13778 (June 2013).

- 1.123. S. Aravazhi, D. Gekus, K. van Dalzen, S.A. Vázquez-Córdova, C. Grivas, U. Griebner, S.M. García-Blanco, and M. Pollnau,
"Engineering lattice matching, doping level, and optical properties of KY(WO₄)₂:Gd,Lu,Yb layers for a cladding-side-pumped channel waveguide laser",
Applied Physics B **111** (3), 433-446 (May 2013).
- 1.122. L. Agazzi, K. Wörhoff, and M. Pollnau,
"Energy-transfer-upconversion models, their applicability and breakdown in the presence of spectroscopically distinct ion classes: A case study in amorphous Al₂O₃:Er³⁺",
Journal of Physical Chemistry C **117** (13), 6759-6776 (April 2013).
- 1.121. L. Agazzi, K. Wörhoff, A. Kahn, M. Fechner, G. Huber, and M. Pollnau,
"Spectroscopy of upper energy levels in an Er³⁺-doped amorphous oxide",
Journal of the Optical Society of America B **30** (3), 663-677 (March 2013).
- 1.120. S.V. Pham, M. Dijkstra, A.J.F. Hollink, L.J. Kauppinen, R.M. de Ridder, M. Pollnau, P.V. Lambeck, and H.J.W.M. Hoekstra,
"On-chip bulk-index concentration and direct, label-free protein sensing utilizing an optical grating-waveguide cavity",
Sensors and Actuators B: Chemical **174**, 602-608 (November 2012).
- 1.119. B.I. Akca, G. Sengo, M. Pollnau, A. Driessen, K. Wörhoff, and R.M. de Ridder,
"Flat-focal-field integrated spectrometer using a field-flattening lens",
Optics Letters **37** (20), 4281-4283 (October 2012).
- 1.118. F. Ay, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Focused-ion-beam nano-structuring of Al₂O₃ dielectric layers for photonic applications",
Journal of Micromechanics and Microengineering **22** (10), 105008 (October 2012).
- 1.117. A.C. Baclig, N. Ismail, K. Wörhoff, A. Driessen, R.M. de Ridder, M. Pollnau, P.J. Caspers, and G.J. Puppels,
"Low-resolution Raman spectroscopy over a wide spectral range with a single-diffraction order arrayed-waveguide grating",
Journal of Raman Spectroscopy **43** (9), 1306-1311 (September 2012).
- 1.116. M.R.H. Khan, E.H. Bernhardt, D.A.I. Marpaung, M. Burla, R.M. de Ridder, K. Wörhoff, M. Pollnau, and C.G.H. Roeloffzen,
"Dual-frequency distributed feedback laser with optical frequency locked loop for stable microwave signal generation",
IEEE Photonics Technology Letters **24** (16), 1431-1433 (August 2012).
- 1.115. B.I. Akca, C.R. Doerr, G. Sengo, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Broad-spectral-range synchronized flat-top arrayed-waveguide grating applied in a 225-channel cascaded spectrometer",
Optics Express **20** (16), 18313-18318 (July 2012).
- 1.114. C. Grivas and M. Pollnau,
"Organic solid-state integrated amplifiers and lasers",
Laser & Photonics Reviews **6** (4), 419-462 (July 2012). **Invited Paper.**
- 1.113. B.I. Akca, L. Chang, G. Sengo, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Polarization-independent enhanced-resolution arrayed-waveguide grating used in spectral-domain optical low-coherence reflectometry",
IEEE Photonics Technology Letters **24** (10), 848-850 (May 2012).
- 1.112. B.I. Akca, V.D. Nguyen, J. Kalkman, N. Ismail, G. Sengo, F. Sun, A. Driessen, T.G. van Leeuwen, M. Pollnau, K. Wörhoff, and R.M. de Ridder,
"Toward spectral-domain optical coherence tomography on a chip",
IEEE Journal of Selected Topics in Quantum Electronics **18** (3), 1223-1233 (May 2012).

- 1.111. D. Gekus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Giant optical gain in a rare-earth-ion-doped microstructure",
Advanced Materials **24** (10), OP19-OP22 (March 2012).
- 1.110. K. van Dalfsen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Thulium channel waveguide laser in a monoclinic double tungstate with 70% slope efficiency",
Optics Letters **37** (5), 887-889 (March 2012).
- 1.109. E.H. Bernhardt, M.R.H. Khan, C.G.H. Roeloffzen, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder,
and M. Pollnau,
"Photonic generation of stable microwave signals from a dual-wavelength $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ distributed-feedback waveguide laser",
Optics Letters **37** (2), 181-183 (January 2012).
- 1.108. L. Agazzi, E.H. Bernhardt, K. Wörhoff, and M. Pollnau,
"Impact of luminescence quenching on relaxation-oscillation frequency in solid-state lasers",
Applied Physics Letters **100** (1), 011109 (January 2012).
- 1.107. S.M. García-Blanco, M. Pollnau, and S.I. Bozhevolnyi,
"Loss compensation in long-range dielectric-loaded surface plasmon-polariton waveguides",
Optics Express **19** (25), 25298-25310 (December 2011).
- 1.106. N. Ismail, L.P. Choo-Smith, K. Wörhoff, A. Driessen, A.C. Baclig, P.J. Caspers, G.J. Puppels,
R.M. de Ridder, and M. Pollnau,
"Raman spectroscopy with an integrated arrayed-waveguide grating",
Optics Letters **36** (23), 4629-4631 (December 2011).
- 1.105. S.V. Pham, M. Dijkstra, H.A.G.M. van Wolferen, M. Pollnau, G.J.M. Krijnen, and H.J.W.M. Hoekstra,
"Integrated mechano-optical hydrogen gas sensor using cantilever bending readout with a Si_3N_4 grated waveguide",
Optics Letters **36** (15), 3003-3005 (August 2011).
- 1.104. E.H. Bernhardt, Q. Lu, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Monolithic distributed Bragg reflector cavities in Al_2O_3 with quality factors exceeding 10^6 ",
Photonics and Nanostructures – Fundamentals and Applications **9** (3), 225-234 (July 2011).
- 1.103. F. Ay, I. Iñurrategui, D. Gekus, S. Aravazhi, and M. Pollnau,
"Integrated lasers in crystalline double tungstates with focused-ion-beam nanostructured photonic cavities",
Laser Physics Letters **8** (6), 423-430 (June 2011).
- 1.102. J. Yang, T. Lamprecht, K. Wörhoff, A. Driessen, F. Horst, B.J. Offrein, F. Ay, and M. Pollnau,
"Integrated optical backplane amplifier",
IEEE Journal of Selected Topics in Quantum Electronics **17** (3), 609-616 (May 2011).
- 1.101. R. Osellame, H.J.W.M. Hoekstra, G. Cerullo, and M. Pollnau,
"Femtosecond laser microstructuring: an enabling tool for optofluidic lab-on-chips",
Laser & Photonics Reviews **5** (3), 442-463 (May 2011). **Invited Paper.**
- 1.100. J.D.B. Bradley and M. Pollnau,
"Erbium-doped integrated waveguide amplifiers and lasers",
Laser & Photonics Reviews **5** (3), 368-403 (May 2011). **Invited Paper.**
- 1.99. N. Ismail, F. Sun, G. Sengo, K. Wörhoff, A. Driessen, R.M. de Ridder, and M. Pollnau,
"Improved arrayed-waveguide-grating layout avoiding systematic phase errors",
Optics Express **19** (9), 8781-8794 (April 2011).

- 1.98. V.D. Nguyen, B.I. Akca, K. Wörhoff, R.M. de Ridder, M. Pollnau, T.G. van Leeuwen, and J. Kalkman, *"Spectral domain optical coherence tomography imaging with an integrated optics spectrometer"*, Optics Letters **36** (7), 1293-1295 (April 2011).
- 1.97. L.J. Kauppinen, S.M.C. Abdulla, M. Dijkstra, M.J. de Boer, E. Berenschot, G.J.M. Krijnen, M. Pollnau, and R.M. de Ridder, *"Micromechanically tuned ring resonator in silicon on insulator"*, Optics Letters **36** (7), 1047-1049 (April 2011).
- 1.96. S.D. Jackson, M. Pollnau, and J. Li, *"Diode pumped erbium cascade fiber lasers"*, IEEE Journal of Quantum Electronics **47** (4), 471-478 (April 2011).
- 1.95. C. Dongre, M. Pollnau, and H.J.W.M. Hoekstra, *"All-numerical noise filtering of fluorescence signals for achieving ultra-low limit of detection in biomedical applications"*, Analyst **136** (6), 1248-1251 (March 2011).
- 1.94. K. van Dalzen, S. Aravazhi, D. Gekus, K. Wörhoff, and M. Pollnau, *"Efficient $KY_{1-x}Gd_xLu_y(WO_4)_2:Tm^{3+}$ channel waveguide lasers"*, Optics Express **19** (6), 5277-5282 (March 2011).
- 1.93. N. Ismail, F. Sun, K. Wörhoff, A. Driessen, R.M. de Ridder, and M. Pollnau, *"Excitation and light collection from highly scattering media with integrated waveguides"*, IEEE Photonics Technology Letters **23** (5), 278-280 (March 2011).
- 1.92. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau, *"Highly efficient, low-threshold monolithic distributed-Bragg-reflector channel waveguide laser in $Al_2O_3:Yb^{3+}$ "*, Optics Letters **36** (5), 603-605 (March 2011).
- 1.91. N. Ismail, F. Civitci, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen, *"Efficiency of integrated waveguide probes for the detection of light backscattered from weakly scattering media"*, Applied Optics **50** (6), 935-942 (February 2011).
- 1.90. C. Dongre, J. van Weerd, G.A.J. Besselink, R. Martínez Vázquez, R. Osellame, G. Cerullo, R. van Weeghel, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau, *"Modulation-frequency encoded multi-color fluorescent DNA analysis in an optofluidic chip"*, Lab on a Chip **11** (4), 679-683 (February 2011).
- 1.89. L. Agazzi, J.D.B. Bradley, M. Dijkstra, F. Ay, G. Roelkens, R. Baets, K. Wörhoff, and M. Pollnau, *"Monolithic integration of erbium-doped amplifiers with silicon-on-insulator waveguides"*, Optics Express **18** (26), 27703-27711 (December 2010).
- 1.88. D. Gekus, S. Aravazhi, K. Wörhoff, and M. Pollnau, *"High-power, broadly tunable, and low-quantum-defect $KGd_{1-x}Lu_x(WO_4)_2:Yb^{3+}$ channel waveguide lasers"*, Optics Express **18** (25), 26107-26112 (December 2010).
- 1.87. J. Yang, K. van Dalzen, K. Wörhoff, F. Ay, and M. Pollnau, *"High-gain $Al_2O_3:Nd^{3+}$ channel waveguide amplifiers at 880 nm, 1060 nm, and 1330 nm"*, Applied Physics B **101** (1-2), 119-127 (October 2010).
- 1.86. C. Dongre, J. van Weerd, N. Bellini, R. Osellame, G. Cerullo, R. van Weeghel, H.J.W.M. Hoekstra, and M. Pollnau, *"Dual-point dual-wavelength fluorescence monitoring of DNA separation in a lab on a chip"*, Biomedical Optics Express **1** (2), 729-735 (September 2010).

- 1.85. J. Yang, M.B.J. Diemeer, C. Grivas, G. Sengo, A. Driessen, and M. Pollnau,
"Steady-state lasing in a solid polymer",
Laser Physics Letters **7** (9), 650-656 (September 2010).
- 1.84. N. Ismail, B.I. Akca, F. Sun, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen,
"Integrated approach to laser delivery and confocal signal detection",
Optics Letters **35** (16), 2741-2743 (August 2010).
- 1.83. C. Dongre, J. van Weerd, G.A.J. Besselink, R. van Weeghel, R. Martínez Vázquez, R. Osellame, G. Cerullo, M. Cretich, M. Chiari, H.J.W.M. Hoekstra, and M. Pollnau,
"High-resolution electrophoretic separation and integrated-waveguide excitation of fluorescent DNA molecules in a lab on a chip",
Electrophoresis **31** (15), 2584-2588 (August 2010).
- 1.82. E.H. Bernhardt, H.A.G.M. van Wolferen, L. Agazzi, M.R.H. Khan, C.G.H. Roeloffzen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Ultra-narrow-linewidth, single-frequency distributed feedback waveguide laser in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ on silicon",
Optics Letters **35** (14), 2394-2396 (July 2010).
- 1.81. J. Yang, M.B.J. Diemeer, G. Sengo, M. Pollnau, and A. Driessen,
"Nd-doped polymer waveguide amplifiers",
IEEE Journal of Quantum Electronics **46** (7), 1043-1050 (July 2010).
- 1.80. C. Grivas, J. Yang, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Continuous-wave Nd-doped polymer lasers",
Optics Letters **35** (12), 1983-1985 (June 2010).
- 1.79. A. Crespi, Y. Gu, B. Ngamson, H.J.W.M. Hoekstra, C. Dongre, M. Pollnau, R. Ramponi, H.H. van den Vlekert, P. Watts, G. Cerullo, and R. Osellame,
"Three-dimensional Mach-Zehnder interferometer in a microfluidic chip for spatially-resolved label-free detection",
Lab on a Chip **10** (9), 1167-1173 (May 2010).
- 1.78. D. Geskus, S. Aravazhi, C. Grivas, K. Wörhoff, and M. Pollnau,
"Microstructured $\text{KY}(\text{WO}_4)_2:\text{Gd}^{3+}, \text{Lu}^{3+}, \text{Yb}^{3+}$ channel waveguide laser",
Optics Express **18** (9), 8853-8858 (April 2010).
- 1.77. J.D.B. Bradley, R. Stoffer, A. Bakker, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau,
"Integrated $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ zero-loss optical amplifier and power splitter with 40-nm bandwidth",
IEEE Photonics Technology Letters **22** (5), 278-280 (March 2010).
- 1.76. J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, K. Wörhoff, and M. Pollnau,
"Gain bandwidth of 80 nm and 2 dB/cm peak gain in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ optical amplifiers on silicon",
Journal of the Optical Society of America B **27** (2), 187-196 (February 2010).
- 1.75. J.D.B. Bradley, R. Stoffer, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau,
"Integrated $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ ring laser on silicon with wide wavelength selectivity",
Optics Letters **35** (1), 73-75 (January 2010).
- 1.74. R. Valiente, M. Millot, F. Rodríguez, J. González, J.M. Broto, S. George, S. García-Revilla, Y. Romanyuk, and M. Pollnau,
" Er^{3+} luminescence as a sensor of high pressure and strong external magnetic fields",
High Pressure Research **29** (4), 748-753 (November 2009).
- 1.73. J.D.B. Bradley, M. Costa e Silva, M. Gay, L. Bramerie, A. Driessen, K. Wörhoff, J.C. Simon, and M. Pollnau,
"170 GBit/s transmission in an erbium-doped waveguide amplifier on silicon",
Optics Express **17** (24), 22201-22208 (November 2009).

- 1.72. D. Gekus, S. Aravazhi, E. Bernhardt, C. Grivas, S. Harkema, K. Hametner, D. Günther, K. Wörhoff, and M. Pollnau,
"Low-threshold, highly efficient Gd^{3+} , Lu^{3+} co-doped $KY(WO_4)_2:Yb^{3+}$ planar waveguide lasers",
 Laser Physics Letters **6** (11), 800-805 (November 2009).
- 1.71. H. Kühn, S. Heinrich, A. Kahn, K. Petermann, J.D.B. Bradley, K. Wörhoff, M. Pollnau, and G. Huber,
"Monocrystalline $Yb^{3+}:(Gd,Lu)_2O_3$ channel waveguide laser at 976.8 nm",
 Optics Letters **34** (18), 2718-2720 (September 2009).
- 1.70. K. Wörhoff, J.D.B. Bradley, F. Ay, D. Gekus, T.P. Blauwendraat, and M. Pollnau,
"Reliable low-cost fabrication of low-loss $Al_2O_3:Er^{3+}$ waveguides with 5.4-dB optical gain",
 IEEE Journal of Quantum Electronics **45** (5), 454-461 (May 2009).
- 1.69. A. Kahn, S. Heinrich, H. Kühn, K. Petermann, J.D.B. Bradley, K. Wörhoff, M. Pollnau, and G. Huber,
"Low threshold monocrystalline $Nd:(Gd, Lu)_2O_3$ channel waveguide laser",
 Optics Express **17** (6), 4412-4418 (March 2009).
- 1.68. J. Yang, M.B.J. Diemeer, D. Gekus, G. Sengo, M. Pollnau, and A. Driessen,
"Neodymium-complex-doped photodefined polymer channel waveguide amplifiers",
 Optics Letters **34** (4), 473-475 (February 2009).
- 1.67. R. Martínez Vázquez, R. Osellame, M. Cretich, M. Chiari, C. Dongre, H.J.W.M. Hoekstra, M. Pollnau, H. van den Vlekert, R. Ramponi, and G. Cerullo,
"Optical sensing in microfluidic lab-on-a-chip by femtosecond-laser-written waveguides",
 Analytical and Bioanalytical Chemistry **393** (4), 1209-1216 (February 2009).
- 1.66. R. Martínez Vázquez, R. Osellame, D. Nolli, C. Dongre, H.H. van den Vlekert, R. Ramponi, M. Pollnau, and G. Cerullo,
"Integration of femtosecond laser written optical waveguides in a lab-on-chip",
 Lab on a Chip **9** (1), 91-96 (January 2009).
- 1.65. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, M. Pollnau, R. Martínez Vázquez, R. Osellame, G. Cerullo, R. Ramponi, R. van Weeghel, G.A.J. Besselink, and H.H. van den Vlekert,
"Fluorescence monitoring of microchip capillary electrophoresis separation with monolithically integrated waveguides",
 Optics Letters **33** (21), 2503-2505 (November 2008).
- 1.64. A. Kahn, H. Kühn, S. Heinrich, K. Petermann, J.D.B. Bradley, K. Wörhoff, M. Pollnau, Y. Kuzminykh, and G. Huber,
"Amplification in epitaxially grown $Er:(Gd, Lu)_2O_3$ waveguides for active integrated optical devices",
 Journal of the Optical Society of America B **25** (11), 1850-1853 (November 2008).
- 1.63. S. García-Revilla, R. Valiente, Y.E. Romanyuk, and M. Pollnau,
"Temporal dynamics of upconversion luminescence in Er^{3+} , Yb^{3+} co-doped crystalline $KY(WO_4)_2$ thin films",
 Journal of Luminescence **128** (5-6), 934-936 (May 2008).
- 1.62. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Fabrication of low-loss channel waveguides in Al_2O_3 and Y_2O_3 layers by inductively coupled plasma reactive ion etching",
 Applied Physics B **89** (2-3), 311-318 (November 2007).
- 1.61. M. Pollnau, C. Grivas, L. Laversenne, J.S. Wilkinson, R.W. Eason, and D.P. Shepherd,
"Ti:Sapphire waveguide lasers",
 Laser Physics Letters **4** (8), 560-571 (August 2007). **Invited Paper.**
- 1.60. C.N. Borca, V. Apostolopoulos, F. Gardillou, H.G. Limberger, M. Pollnau, and R.P. Salathé,
"Buried channel waveguides in Yb-doped $KY(WO_4)_2$ crystals fabricated by femtosecond laser irradiation",
 Applied Surface Science **253** (19), 8300-8303 (July 2007).

- 1.59. M. Pollnau, Y.E. Romanyuk, F. Gardillou, C.N. Borca, U. Griebner, S. Rivier, and V. Petrov, *"Double tungstate lasers: From bulk toward on-chip integrated waveguide devices"*, IEEE Journal of Selected Topics in Quantum Electronics **13** (3), 661-671 (May 2007). **Invited Paper.**
- 1.58. W.C.L. Hopman, F. Ay, W. Hu, V.J. Gadgil, L. Kuipers, M. Pollnau, and R.M. de Ridder, *"Focused ion beam scan routine, dwell time and dose optimizations for submicrometre period planar photonic crystal components and stamps in silicon"*, Nanotechnology **18** (19), 195305 (May 2007).
- 1.57. S. Rivier, X. Mateos, V. Petrov, U. Griebner, Y.E. Romanyuk, C.N. Borca, F. Gardillou, and M. Pollnau, *"Tm:KY(WO₄)₂ waveguide laser"*, Optics Express **15** (9), 5885-5892 (April 2007).
- 1.56. F. Gardillou, Y.E. Romanyuk, C.N. Borca, R.P. Salathé, and M. Pollnau, *"Lu, Gd codoped KY(WO₄)₂:Yb epitaxial layers: towards integrated optics based on KY(WO₄)₂"*, Optics Letters **32** (5), 488-490 (March 2007).
- 1.55. M. Pollnau and Y.E. Romanyuk, *"Optical waveguides in laser crystals"*, Comptes Rendus Physique **8** (2), 123-137 (March 2007). **Invited Paper.**
- 1.54. C. Grivas, D.P. Shepherd, R.W. Eason, L. Laversenne, P. Moretti, C.N. Borca, and M. Pollnau, *"Room-temperature continuous-wave operation of Ti:sapphire buried channel-waveguide lasers fabricated via proton implantation"*, Optics Letters **31** (23), 3450-3452 (December 2006).
- 1.53. Y.E. Romanyuk, C.N. Borca, M. Pollnau, S. Rivier, V. Petrov, and U. Griebner, *"Yb-doped KY(WO₄)₂ planar waveguide laser"*, Optics Letters **31** (1), 53-55 (January 2006).
- 1.52. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, and M. Pollnau, *"Single-transverse-mode Ti:sapphire rib waveguide laser"*, Optics Express **13** (1), 210-215 (January 2005).
- 1.51. L. Laversenne, P. Hoffmann, M. Pollnau, P. Moretti, and J. Mugnier, *"Designable buried waveguides in sapphire by proton implantation"*, Applied Physics Letters **85** (22), 5167-5169 (November 2004).
- 1.50. Y.E. Romanyuk, I. Utke, D. Ehrentraut, V. Apostolopoulos, M. Pollnau, S. García-Revilla, and R. Valiente, *"Low-temperature liquid-phase epitaxy and optical waveguiding of rare-earth-ion doped KY(WO₄)₂ thin layers"*, Journal of Crystal Growth **269** (2-4), 377-384 (September 2004).
- 1.49. C. Grivas, T.C. May-Smith, D.P. Shepherd, R.W. Eason, M. Pollnau, and M. Jelinek, *"Broadband single-transverse-mode fluorescence sources based on ribs fabricated in pulsed laser deposited Ti:sapphire waveguides"*, Applied Physics A **79** (4-6), 1195-1198 (September 2004).
- 1.48. D. Ehrentraut, Y.E. Romanyuk, and M. Pollnau, *"Flux growth and liquid-phase epitaxy of Mn⁶⁺-doped barium sulfate"*, Journal of Ceramic Processing Research **5** (3), 256-260 (August 2004).
- 1.47. V. Apostolopoulos, L. Laversenne, T. Colomb, C. Depeursinge, R.P. Salathé, M. Pollnau, R. Osellame, G. Cerullo, and P. Laporta, *"Femtosecond-irradiation-induced refractive-index changes and channel waveguiding in bulk Ti³⁺:Sapphire"*, Applied Physics Letters **85** (7), 1122-1124 (August 2004).

- 1.46. Y.E. Romanyuk, D. Ehrentraut, M. Pollnau, S. García-Revilla, and R. Valiente,
"Low-temperature flux growth of sulfates, molybdates, and tungstates of Ca, Sr, and Ba and investigation of doping with Mn^{6+} ",
Applied Physics A **79** (3), 613-618 (August 2004).
- 1.45. A. Crunteanu, G. Jänchen, P. Hoffmann, M. Pollnau, Ch. Buchal, A. Petraru, R.W. Eason, and D.P. Shepherd,
"Three-dimensional structuring of sapphire by sequential He^+ ion-beam implantation and wet chemical etching",
Applied Physics A **76** (7), 1109-1112 (May 2003).
- 1.44. M. Pollnau,
"Broadband luminescent materials in waveguide geometry",
Journal of Luminescence **102-103**, 797-801 (May 2003).
- 1.43. A. Crunteanu, P. Hoffmann, M. Pollnau, and Ch. Buchal,
"Comparative study on methods to structure sapphire",
Applied Surface Science **208-209**, 322-326 (March 2003).
- 1.42. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, M. Pollnau, A. Crunteanu, and M. Jelinek,
"Performance of Ar^+ -milled Ti:Sapphire rib waveguides as single transverse-mode broadband fluorescence sources",
IEEE Journal of Quantum Electronics **39** (3), 501-507 (March 2003).
- 1.41. M. Pollnau,
"Analysis of heat generation and thermal lensing in erbium 3- μm lasers",
IEEE Journal of Quantum Electronics **39** (2), 350-357 (February 2003).
- 1.40. D. Ehrentraut, M. Pollnau, and S. Kück,
"Epitaxial growth and spectroscopic investigation of $BaSO_4:Mn^{6+}$ layers",
Applied Physics B **75** (1), 59-62 (July 2002).
- 1.39. A. Crunteanu, M. Pollnau, G. Jänchen, C. Hibert, P. Hoffmann, R.P. Salathé, R.W. Eason, C. Grivas, and D.P. Shepherd,
"Ti:sapphire rib channel waveguide fabricated by reactive ion etching of a planar waveguide",
Applied Physics B **75** (1), 15-17 (July 2002).
- 1.38. M. Pollnau,
"Decorrelation of luminescent decay in energy-transfer upconversion",
Journal of Alloys and Compounds **341** (1-2), 51-55 (July 2002).
- 1.37. S. García-Revilla, F. Rodríguez, I. Hernández, R. Valiente, and M. Pollnau,
"Optical spectroscopic study of $Al_2O_3:Ti^{3+}$ under hydrostatic pressure",
High Pressure Research **22** (1), 127-130 (April 2002).
- 1.36. A.M. Kowalevich, T. Ko, I. Hartl, J.G. Fujimoto, M. Pollnau, and R.P. Salathé,
"Ultrahigh resolution optical coherence tomography using a superluminescent light source",
Optics Express **10** (7), 349-353 (April 2002).
- 1.35. M. Pollnau and S.D. Jackson,
"Energy recycling versus lifetime quenching in erbium-doped 3- μm fiber lasers",
IEEE Journal of Quantum Electronics **38** (2), 162-169 (February 2002).
- 1.34. S. García-Revilla, F. Rodríguez, R. Valiente, and M. Pollnau,
"Optical spectroscopy of $Al_2O_3:Ti^{3+}$ single crystal under hydrostatic pressure. The influence on the Jahn-Teller coupling",
Journal of Physics: Condensed Matter **14** (3), 447-459 (January 2002).

- 1.33. D. Ehrentraut and M. Pollnau,
"Flux growth of baryte-type BaSO₄ from chloridic alkaline metal solvents",
Journal of Crystal Growth **234** (2-3), 533-538 (January 2002).
- 1.32. B.C. Dickinson, P.S. Golding, M. Pollnau, T.A. King, and S.D. Jackson,
"Investigation of a 791-nm pulsed-pumped 2.7- μ m Er-doped ZBLAN fibre laser",
Optics Communications **191** (3-6), 315-321 (May 2001).
- 1.31. M. Pollnau, R.P. Salathé, T. Bhutta, D.P. Shepherd, and R.W. Eason,
"Continuous-wave broadband emitter based on a transition-metal-ion-doped waveguide",
Optics Letters **26** (5), 283-285 (March 2001).
- 1.30. M. Pollnau and S.D. Jackson,
"Erbium 3- μ m fiber lasers",
IEEE Journal of Selected Topics in Quantum Electronics **7** (1), 30-40 (January 2001). **Invited Paper.**
Correction, — **8** (4), 956 (July 2002).
- 1.29. R. Burlot-Loison, M. Pollnau, K. Krämer, P. Egger, J. Hulliger, and H.U. Güdel,
"Laser-relevant spectroscopy and upconversion mechanisms of Er³⁺ in Ba₂YCl₇ pumped at 800 nm",
Journal of the Optical Society of America B **17** (12), 2055-2067 (December 2000).
- 1.28. S.D. Jackson, T.A. King, and M. Pollnau,
"Modelling of high-power diode-pumped erbium 3- μ m fibre lasers",
Journal of Modern Optics **47** (11), 1987-1994 (September 2000).
- 1.27. P.S. Golding, S.D. Jackson, T.A. King, and M. Pollnau,
"Energy-transfer processes in Er³⁺-doped and Er³⁺,Pr³⁺-codoped ZBLAN glasses",
Physical Review B **62** (2), 856-864 (July 2000).
- 1.26. H.U. Güdel and M. Pollnau,
"Near-infrared to visible photon upconversion processes in lanthanide doped chloride, bromide and iodide lattices",
Journal of Alloys and Compounds **303-304**, 307-315 (May 2000).
- 1.25. S.D. Jackson, T.A. King, and M. Pollnau,
"Efficient high power operation of erbium 3 μ m fibre laser diode-pumped at 975 nm",
Electronics Letters **36** (3), 223-224 (February 2000).
- 1.24. M. Pollnau, D.R. Gamelin, S.R. Lüthi, H.U. Güdel, and M.P. Hehlen,
"Power dependence of upconversion luminescence in lanthanide and transition-metal-ion systems",
Physical Review B **61** (5), 3337-3346 (February 2000).
- 1.23. S.D. Jackson, T.A. King, and M. Pollnau,
"Diode-pumped 1.7-W erbium 3- μ m fiber laser",
Optics Letters **24** (16), 1133-1135 (August 1999).
- 1.22. S.R. Lüthi, M. Pollnau, H.U. Güdel, and M.P. Hehlen,
"Near-infrared to visible upconversion in Er³⁺ doped Cs₃Lu₂Cl₉, Cs₃Lu₂Br₉, and Cs₃Y₂I₉ excited at 1.54 μ m",
Physical Review B **60** (1), 162-178 (July 1999).
- 1.21. P.J. Hardman, W.A. Clarkson, G.J. Friel, M. Pollnau, and D.C. Hanna,
"Energy-transfer upconversion and thermal lensing in high-power end-pumped Nd:YLF laser crystals",
IEEE Journal of Quantum Electronics **35** (4), 647-655 (April 1999).
- 1.20. M. Pollnau, P.J. Hardman, M.A. Kern, W.A. Clarkson, and D.C. Hanna,
"Upconversion-induced heat generation and thermal lensing in Nd:YLF and Nd:YAG",
Physical Review B **58** (24), 16076-16092 (December 1998).

- 1.19. M. Pollnau, Ch. Ghisler, W. Lüthy, and H.P. Weber,
"Cross-sections of excited-state absorption at 800 nm in erbium-doped ZBLAN fiber",
Applied Physics B **67** (1), 23-28 (July 1998).
- 1.18. M. Pollnau, P.J. Hardman, W.A. Clarkson, and D.C. Hanna,
"Upconversion, lifetime quenching, and ground-state bleaching in $\text{Nd}^{3+}:\text{LiYF}_4$ ",
Optics Communications **147** (1-3), 203-211 (February 1998).
- 1.17. G.W. Ross, M. Pollnau, P.G.R. Smith, W.A. Clarkson, P.E. Britton, and D.C. Hanna,
"Generation of high-power blue light in periodically poled LiNbO_3 ",
Optics Letters **23** (3), 171-173 (February 1998).
- 1.16. M. Pollnau,
"The route toward a diode-pumped 1-W erbium 3- μm fiber laser",
IEEE Journal of Quantum Electronics **33** (11), 1982-1990 (November 1997).
- 1.15. M. Pollnau, Ch. Ghisler, W. Lüthy, H.P. Weber, J. Schneider, and U.B. Unrau,
"Three-transition cascade erbium laser at 1.7, 2.7, and 1.6 μm ",
Optics Letters **22** (9), 612-614 (May 1997).
- 1.14. M. Pollnau, R. Spring, S. Wittwer, W. Lüthy, and H.P. Weber,
"Investigations on the slope efficiency of a pulsed 2.8- μm $\text{Er}^{3+}:\text{LiYF}_4$ laser",
Journal of the Optical Society of America B **14** (4), 974-978 (April 1997).
- 1.13. S. Wittwer, M. Pollnau, R. Spring, W. Lüthy, H.P. Weber, R.A. McFarlane, Ch. Harder, and H.P. Meier,
"Performance of a diode-pumped $\text{BaY}_2\text{F}_8:\text{Er}^{3+}$ (7.5 at.%) laser at 2.8 μm ",
Optics Communications **132** (1-2), 107-110 (November 1996).
- 1.12. M. Pollnau, R. Spring, Ch. Ghisler, S. Wittwer, W. Lüthy, and H.P. Weber,
"Efficiency of erbium 3- μm crystal and fiber lasers",
IEEE Journal of Quantum Electronics **32** (4), 657-663 (April 1996).
- 1.11. M. Pollnau, W. Lüthy, H.P. Weber, K. Krämer, H.U. Güdel, and R.A. McFarlane,
"Excited-state absorption in $\text{Er}:\text{BaY}_2\text{F}_8$ and $\text{Cs}_3\text{Er}_2\text{Br}_9$ and comparison with $\text{Er}:\text{LiYF}_4$ ",
Applied Physics B **62** (4), 339-344 (April 1996).
- 1.10. M. Pollnau, W. Lüthy, H.P. Weber, T. Jensen, G. Huber, A. Cassanho, H.P. Jenssen, and R.A. McFarlane,
"Investigation of diode-pumped 2.8- μm laser performance in $\text{Er}:\text{BaY}_2\text{F}_8$ ",
Optics Letters **21** (1), 48-50 (January 1996).
- 1.9. M. Pollnau, E. Heumann, T. Danger, and G. Huber,
"Experimental determination of radiative-transition rates and quantum efficiencies in $\text{Er}^{3+}:\text{YAlO}_3$ ",
Optics Communications **118** (3-4), 250-254 (July 1995).
- 1.8. M. Pollnau, Ch. Ghisler, G. Bunea, M. Bunea, W. Lüthy, and H.P. Weber,
"150 mW unsaturated output power at 3 μm from a single-mode-fiber erbium cascade laser",
Applied Physics Letters **66** (26), 3564-3566 (June 1995).
- 1.7. M. Pollnau, W. Lüthy, and H.P. Weber,
"Population mechanisms of the green $\text{Er}^{3+}:\text{LiYF}_4$ laser",
Journal of Applied Physics **77** (12), 6128-6134 (June 1995).
- 1.6. S. Bedö, M. Pollnau, W. Lüthy, and H.P. Weber,
"Saturation of the 2.71 μm laser output in erbium doped ZBLAN fibers",
Optics Communications **116** (1-3), 81-86 (April 1995).

- 1.5. Ch. Ghisler, M. Pollnau, G. Bunea, M. Bunea, W. Lüthy, and H.P. Weber,
"Up-conversion cascade laser at 1.7 μm with simultaneous 2.7 μm lasing in erbium ZBLAN fibre",
 Electronics Letters **31** (5), 373-374 (March 1995).
- 1.4. M. Pollnau, Th. Graf, J.E. Balmer, W. Lüthy, and H.P. Weber,
"Explanation of the cw operation of the Er^{3+} 3- μm crystal laser",
 Physical Review A **49** (5), 3990-3996 (May 1994).
- 1.3. M. Pollnau, E. Heumann, and G. Huber,
"Stimulated emission and excited-state absorption at room temperature on the 550 nm-laser transition in Er^{3+} doped YAlO_3 ",
 Journal of Luminescence **60&61**, 842-845 (April 1994).
- 1.2. M. Pollnau, E. Heumann, and G. Huber,
"Time-resolved spectra of excited-state absorption in Er^{3+} doped YAlO_3 ",
 Applied Physics A **54** (5), 404-410 (May 1992).
- 1.1. M. Pollnau, E. Heumann, and G. Huber,
"Time-resolved measurement of excited-state populations in atomic systems",
 physica status solidi (a) **130** (2), K121-123 (April 1992).

2. PROCEEDINGS

- 2.49. S.A. Vázquez-Córdova, Y.S. Yong, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Optical gain around 1.5 μm in erbium-doped waveguide amplifiers",
 International Conference on Transparent Optical Networks, Budapest, Hungary, 2015, Proceedings, Paper Th.A5.4.
 DOI: 10.1109/ICTON.2015.7193702.
- 2.48. M. Pollnau,
"Rare-earth-ion-doped waveguide lasers on a silicon chip",
 Optical Components and Materials XII, edited by S. Jiang and M.J.F. Digonnet, Proceedings of the SPIE, Vol. **9359** (SPIE, Bellingham, WA 2015), Paper 935910.
 DOI: 10.1117/12.2077474.
- 2.47. K. van Dalzen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"On the efficiency of Tm-doped 2- μm lasers",
 Solid State Lasers XXIV: Technology and Devices, edited by W.A. Clarkson and R.K. Shori, Proceedings of the SPIE, Vol. **9342** (SPIE, Bellingham, WA 2015), Paper 93421U.
 DOI: 10.1117/12.2077490.
- 2.46. S.A. Vázquez-Córdova, E.H. Bernhardt, K. Wörhoff, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Spiral amplifiers in $\alpha\text{-Al}_2\text{O}_3\text{:Er}$ on a silicon chip with 20 dB internal net gain",
 Integrated Optics: Devices, Materials, and Technologies XIX, edited by J.E. Broquin and G. Nunzi Conti, Proceedings of the SPIE, Vol. **9365** (SPIE, Bellingham, WA 2015), Paper 93650M.
 DOI: 10.1117/12.2077503.
- 2.45. M. Pollnau, M. Hammer, C. Dongre, and H.J.W.M. Hoekstra,
"DNA separation and fluorescent detection in an optofluidic chip with sub-base-pair resolution",
 Microfluidics, BioMEMS, and Medical Microsystems XIII, edited by B.L. Gray and H. Becker, Proceedings of the SPIE, Vol. **9320** (SPIE, Bellingham, WA 2015), Paper 93200J.
 DOI: 10.1117/12.2077515.

- 2.44. M. Pollnau,
"Ultranarrow-linewidth lasers on a silicon chip and their applications",
International Conference on Transparent Optical Networks, Graz, Austria, 2014, Proceedings, Paper Mo.B.1.
DOI: 10.1109/ICTON.2014.6876265.
- 2.43. S.A. Vázquez-Córdova, E.H. Bernhardt, K. Wörhoff, S.M. García-Blanco, and M. Pollnau,
"Erbium-doped spiral amplifiers with 20 dB gain on a silicon chip",
Silicon Photonics and Photonic Integrated Circuits IV, edited by L. Vivien, S. Honkanen, L. Pavesi, S. Pelli,
and J.H. Shin, Proceedings of the SPIE, Vol. **9133** (SPIE, Bellingham, WA 2014), Paper 913308.
DOI: 10.1117/12.2052298.
- 2.42. M. Eichhorn and M. Pollnau,
"Coherence manifestation in a continuous-wave laser",
Laser Sources and Applications II, edited by J.I. Mackenzie, H. Jelínková, T. Taira, and M.A. Ahmed,
Proceedings of the SPIE, Vol. **9135** (SPIE, Bellingham, WA 2014), Paper 91350A.
DOI: 10.1117/12.2052081.
- 2.41. T. Dubbink, S.A. Sefunc, M. Pollnau, and S.M. García-Blanco,
"Study of sharp bends in anisotropic potassium double tungstate waveguides",
International Conference on Transparent Optical Networks, Cartagena, Spain, 2013, Proceedings, Paper
Th.B2.4.
DOI: 10.1109/ICTON.2013.6603056.
- 2.40. K. van Dalzen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Highly efficient channel waveguide lasers at 2 μm ",
International Conference on Transparent Optical Networks, Cartagena, Spain, 2013, Proceedings, Paper
Tu.D2.4.
DOI: 10.1109/ICTON.2013.6602851.
- 2.39. B.I. Akca, B. Považay, L. Chang, A. Alex, K. Wörhoff, R.M. de Ridder, W. Drexler, and M. Pollnau,
"Advanced integrated spectrometer designs for miniaturized optical coherence tomography systems",
Optical Coherence Tomography and Coherence Techniques VI, edited by B.E. Bouma and R.A. Leitgeb,
Proceedings of OSA Biomedical Optics-SPIE, Vol. **8802** (SPIE, Bellingham, WA 2013), Paper 880202.
DOI: 10.1117/12.2032504.
- 2.38. E.H. Bernhardt, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
*"Rare-earth-ion-doped ultra-narrow-linewidth lasers on a silicon chip and applications to intra-laser-cavity
optical sensing"*,
Solid State Lasers XXII: Technology and Devices, edited by W.A. Clarkson and R.K. Shori, Proceedings of
the SPIE, Vol. **8599** (SPIE, Bellingham, WA 2013), Paper 859909.
DOI: 10.1117/12.2012520.
- 2.37. S.M. García-Blanco, M.A. Sefunc, M.H. van Voorden, and M. Pollnau,
*"Loss compensation in metal-loaded hybrid plasmonic waveguides using Yb^{3+} potassium double tungstate
gain materials"*,
International Conference on Transparent Optical Networks, Coventry, United Kingdom, 2012, Proceedings,
Paper Tu.A5.2.
DOI: 10.1109/ICTON.2012.6254494.
- 2.36. M. Pollnau, N. Ismail, B.I. Akca, K. Wörhoff, and R.M. de Ridder,
"Biophotonic sensors on a silicon chip for Raman spectroscopy and optical coherence tomography",
Silicon Photonics VII, edited by J. Kubby and G.T. Reed, Proceedings of the SPIE, Vol. **8266** (SPIE,
Bellingham, WA 2012), paper 826602.

- 2.35. S.M. García-Blanco, M. Pollnau, and S.I. Bozhevolnyi,
"Theoretical study of loss compensation in long-range dielectric loaded surface plasmon polariton waveguides",
Proceedings of the International Conference on Micro- and Nano-photonic Materials and Devices (Bel Studio, Warsaw, 2012), pp. 85-88.
- 2.34. K. Wörhoff, N. Ismail, B.I. Akca, M. Pollnau, and R.M. de Ridder,
"Silicon oxynitride technology for integrated optical solutions in biomedical applications",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Proceedings, Paper Th.A4.6.
DOI: 10.1109/ICTON.2011.5970855.
- 2.33. S.M. García-Blanco, D. Geskus, K. van Dalzen, F. Ay, S. Aravazhi, and M. Pollnau,
"Monoclinic double tungstate waveguide amplifiers and microlasers",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Proceedings, Paper We.A6.5.
DOI: 10.1109/ICTON.2011.5971062.
- 2.32. K. Wörhoff, E.H. Bernhardt, J.D.B. Bradley, J. Yang, L. Agazzi, F. Ay, R.M. de Ridder, and M. Pollnau,
"Rare-earth-ion doped amplifiers and lasers integrated on silicon",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Proceedings, Paper Tu.C1.1.
DOI: 10.1109/ICTON.2011.5970947.
- 2.31. F. Ay, V.J. Gadgil, D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Application of focused ion beam technology for fabrication of photonic nanostructures",
Technical Proceedings CD of the 2011 NSTI Nanotechnology Conference & Expo – NanoTech 2011, Vol. 2 (CRC Press, New York, NY 2011), pp. 200-203. ISBN 978-1-4398-7139-3.
- 2.30. F. Ay, J. Yang, T. Lamprecht, K. Wörhoff, S.M. García-Blanco, A. Driessen, F. Horst, B.J. Offrein, and M. Pollnau,
"Nd-doped waveguide amplifiers for heterogeneous integration in optical backplanes",
Optoelectronic Integrated Circuits XIII, edited by L.A. Eldada and E.H. Lee, Proceedings of the SPIE, Vol. **7942** (SPIE, Bellingham, WA 2011), paper 79420Q.
- 2.29. M. Pollnau, J.D.B. Bradley, F. Ay, E. Bernhardt, R.M. de Ridder, and K. Wörhoff,
"On-chip integrated lasers in $Al_2O_3:Er$ on silicon",
Optoelectronic Integrated Circuits XII, edited by L.A. Eldada and E.H. Lee, Proceedings of the SPIE, Vol. **7605** (SPIE, Bellingham, WA 2010), paper 76050M.
- 2.28. N. Ismail, F. Sun, F. Civitci, K. Wörhoff, R. M. de Ridder, M. Pollnau, and A. Driessen,
"Efficiency of integrated waveguide probes in the detection of fluorescence and backscattered light",
Optical Fibers and Sensors for Medical Diagnostics and Treatment Applications X, edited by I. Gannot, Proceedings of the SPIE, Vol. **7559** (SPIE, Bellingham, WA 2010), paper 755903.
- 2.27. K. Wörhoff, J.D.B. Bradley, L. Agazzi, and M. Pollnau,
"Rare-earth-ion-doped Al_2O_3 for integrated optical amplification",
Integrated Optics: Devices, Materials, and technologies XIV, edited by J.E. Broquin and C.M. Greiner, Proceedings of the SPIE, Vol. **7604** (SPIE, Bellingham, WA 2010), paper 760408.
- 2.26. R. Martínez Vázquez, R. Osellame, A. Crespi, C. Dongre, H.J.W.M. Hoekstra, M. Pollnau, H.H. van den Vlekert, R. van Weeghel, P. Watts, R. Ramponi, and G. Cerullo,
"Three-dimensional photonic devices fabricated by ultrafast lasers for optical sensing in lab-on-a-chip",
Commercial and Biomedical Applications of Ultrafast Lasers IX, edited by J. Neev, S. Nolte, A. Heisterkamp, and R.P. Trebino, Proceedings of the SPIE, Vol. **7203** (SPIE, Bellingham, WA 2009), paper 720313.

- 2.25. M. Pollnau,
"Waveguide lasers in $KY(WO_4)_2$ and $Ti:sapphire$ ",
15th International School on Quantum Electronics: Laser Physics and Applications, edited by T. Dreischuh, E. Taskova, E. Borisova, and A. Serafetinides, Proceedings of the SPIE, Vol. **7027** (SPIE, Bellingham, WA 2008), paper 702704.
- 2.24. F. Ay, A. Uranga, J.D.B. Bradley, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Focused ion beam nano-structuring of Bragg gratings in Al_2O_3 channel waveguides",
Proceedings of the First International Workshop on FIB for Photonics, edited by R.M. de Ridder, F. Ay, and L.J. Kauppinen (University of Twente, Enschede, 2008), pp. 48-50.
- 2.23. J. Yang, M.B.J. Diemeer, L.T.H. Hilderink, M. Pollnau, and A. Driessen,
"Study of the luminescence properties of $Nd(TTA)_3phen$ -doped 6-FDA/epoxy waveguides",
Organic Optoelectronics and Photonics III, edited by P.L. Heremans, M. Muccini, and E.A. Meulenkaamp, Proceedings of the SPIE, Vol. **6999** (SPIE, Bellingham, WA 2008), pp. 699925/1-11.
- 2.22. K. Wörhoff, J.D.B. Bradley, F. Ay, D. Geskus, T. Blauwendraat, and M. Pollnau,
"Optimization of $Al_2O_3:Er^{3+}$ waveguide technology for active integrated optical devices",
Silicon Photonics and Photonic Integrated Circuits, edited by G.C. Righini, S.K. Honkanen, L. Pavesi, and L. Vivien, Proceedings of the SPIE, Vol. **6996** (SPIE, Bellingham, WA 2008), pp. 699618/1-8.
- 2.21. M. Pollnau,
"Dielectric waveguide lasers",
Proceedings of the International Conference on Lasers, Applications, and Technologies, Minsk, Belarus, 2007, V.A. Orlovich, V. Panchenko, and I.A. Scherbakov, eds., Proceedings of the SPIE, Vol. **6731** (SPIE, Bellingham, WA 2007), paper 67310Y.
- 2.20. J.D.B. Bradley, F. Ay, T. Blauwendraat, K. Wörhoff, and M. Pollnau,
"Rare-earth-ion-doped Al_2O_3 waveguides for active integrated optical devices",
Proceedings of the International Conference on Lasers, Applications, and Technologies, Minsk, Belarus, 2007, V.A. Orlovich, V. Panchenko, and I.A. Scherbakov, eds., Proceedings of the SPIE, Vol. **6731** (SPIE, Bellingham, WA 2007), paper 67310A.
- 2.19. H.G. Limberger and M. Pollnau,
"LPHYS'06 at Ecole Polytechnique Fédérale de Lausanne, Switzerland",
The Proceedings of the Fifteenth International Laser Physics Workshop (LPHYS'06), Lausanne, Switzerland, Laser Physics **117** (2), Preface (2007).
- 2.18. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Reactive ion etching of Y_2O_3 films applying F^- , Cl^- , and Cl/Br -based inductively coupled plasmas",
ECS Transactions **3** (11), 117-124 (2006).
- 2.17. K. Wörhoff, F. Ay, and M. Pollnau,
"Optimization of low-loss Al_2O_3 waveguide fabrication for application in active integrated optical devices",
ECS Transactions **3** (11), 17-26 (2006).
- 2.16. M. Pollnau,
"Upconversion luminescence transients",
Workshop on Advances in the Study of Luminescent Materials, O. Forte, ed. (International School of Atomic and Molecular Spectroscopy, Erice, 2006), Proceedings, pp. 16-17.
- 2.15. S. Bourquin, L. Laversenne, S. Rivier, T. Lasser, R.P. Salathé, M. Pollnau, C. Grivas, D.P. Shepherd, and R.W. Eason,
"Parallel broadband fluorescent light source for optical coherence tomography",
in Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine IX, V.V. Tuchin, J.A. Izatt, and J.G. Fugimoto, eds., Proceedings of the SPIE, Vol. **5690**, pp. 209-213 (2005).

- 2.14. L. Laversenne, M. Pollnau, S. Bigotta, A. Toncelli, M. Tonelli, and A.I. Zagumennyi,
"Super-quadratic dependence of upconversion luminescence transients excited by energy-transfer upconversion",
Proceedings of International Conference on Luminescence and its Applications, A.S. Pradhan, S.V. Godbole, A.G. Page, and K.V.R. Murthy, eds. (Luminescence Society of India, 2004), pp. 338-339.
- 2.13. L. Laversenne, A. Crunteanu, and M. Pollnau,
"Novel broadband luminescent light sources for interferometry",
Proceedings of International Conference on Luminescence and its Applications, A.S. Pradhan, S.V. Godbole, A.G. Page, and K.V.R. Murthy, eds. (Luminescence Society of India, 2004), pp. 49-52.
- 2.12. M. Pollnau,
"Dynamics of solid-state coherent light sources",
20th Course on Frontiers of Optical Spectroscopy: Investigating Extreme Physical Conditions with Advanced Optical Techniques, O. Forte and X. Chen, eds. (International School of Atomic and Molecular Spectroscopy, Erice, 2003), Proceedings, pp. 18-19.
- 2.11. A. Crunteanu, M. Pollnau, G. Jänchen, C. Hibert, P. Hoffmann, R.P. Salathé, R.W. Eason, and D.P. Shepherd,
"Laser-assisted microstructuring for Ti:sapphire channel-waveguide fabrication",
ALT'02 International Conference on Advanced Laser Technologies, H.P. Weber, V.I. Konov, and T. Graf, eds., Proceedings of the SPIE, Vol. **5147**, pp. 363-369 (2003).
- 2.10. M. Pollnau,
"Spectroscopy of erbium 3- μ m lasers",
Workshop on The Status and Prospects of Luminescence Research, B. Di Bartolo, ed. (International School of Atomic and Molecular Spectroscopy, Erice, 2002), Proceedings, pp. 16-17.
- 2.9. M. Pollnau,
"Fractional energy-transfer upconversion: A new view on upconversion luminescence",
Workshop on The Status and Prospects of Luminescence Research, B. Di Bartolo, ed. (International School of Atomic and Molecular Spectroscopy, Erice, 2002), Proceedings, p. 9.
- 2.8. P.S. Golding, S.D. Jackson, T.A. King, and M. Pollnau,
"Determination of energy transfer parameters in Er^{3+} -doped and Er^{3+}, Pr^{3+} -codoped ZBLAN glasses",
OSA Trends in Optics and Photonics, Vol. **34**, Advanced Solid-State Lasers, H. Injeyan, U. Keller, and C. Marshall, eds. (Optical Society of America, Washington, DC 2000), pp. 548-554.
- 2.7. M. Pollnau, W. Lüthy, H.P. Weber, K. Krämer, H.U. Güdel, and R.A. McFarlane,
"Excited-state dynamics in the low-phonon materials $Er^{3+}:BaY_2F_8$ and $Cs_3Er_2Br_9$ ",
OSA Trends in Optics and Photonics on Advanced Solid-State Lasers, S.A. Payne and C.R. Pollock, eds. (Optical Society of America, Washington, DC 1996), Vol. **1**, pp. 493-497.
- 2.6. R. Spring, M. Pollnau, S. Wittwer, W. Lüthy, and H.P. Weber,
"Slope efficiency of a pulsed 2.8- μ m $Er^{3+}:LiYF_4$ laser",
OSA Trends in Optics and Photonics on Advanced Solid-State Lasers, S.A. Payne and C.R. Pollock, eds. (Optical Society of America, Washington, DC 1996), Vol. **1**, pp. 309-311.
- 2.5. M. Pollnau, Ch. Ghisler, G. Bunea, M. Bunea, W. Lüthy, and H.P. Weber,
"Erbium 3 μ m fiber laser in the power range for surgery",
in Biomedical Optoelectronics in Clinical Chemistry and Biotechnology, S. Andersson-Engels, M. Corti, I. Kertész, T.A. King, N. Kroó, R. Pratesi, S. Seeger, and H.P. Weber, eds., Proceedings of the SPIE, Vol. **2629**, pp. 234-244 (1996).

- 2.4. M. Pollnau, R. Spring, S. Wittwer, W. Lüthy, and H.P. Weber,
"Compact erbium 3- μ m crystal lasers for medical applications",
 in Biomedical Optoelectronics in Clinical Chemistry and Biotechnology, S. Andersson-Engels, M. Corti,
 I. Kertész, T.A. King, N. Kroó, R. Pratesi, S. Seeger, and H.P. Weber, eds., Proceedings of the SPIE,
 Vol. **2629**, pp. 180-187 (1996).
- 2.3. M. Pollnau, W. Lüthy, and H.P. Weber,
"The possibilities and limits of avalanche lasing on the green $Er^{3+}:LiYF_4$ transition",
 OSA Proceedings on Advanced Solid-State Lasers, B.H.T. Chai and S.A. Payne, eds. (Optical Society of
 America, Washington, DC 1995), Vol. **24**, pp. 523-527.
- 2.2. M. Pollnau, S. Bedö, W. Lüthy, and H.P. Weber,
"On the saturation of the 791 nm pumped erbium 3 μ m fiber laser",
 OSA Proceedings on Advanced Solid-State Lasers, B.H.T. Chai and S.A. Payne, eds. (Optical Society of
 America, Washington, DC 1995), Vol. **24**, pp. 388-391.
- 2.1. M. Pollnau, W. Lüthy, and H.P. Weber,
*"Influence of normal and inverse upconversion processes on the continuous wave operation of the Er^{3+} 3 μ m
 crystal laser"*,
 OSA Proceedings on Advanced Solid-State Lasers, T.Y. Fan and B.H.T. Chai, eds. (Optical Society of
 America, Washington, DC 1994), Vol. **20**, pp. 163-167.

3. CONTRIBUTIONS TO INTERNATIONAL SUMMER/WINTER SCHOOLS

- 3.42. M. Pollnau,
"Spectroscopic processes in rare-earth ions and their influence on laser performance",
 XVIIIth International Krutyn Summer School 2016 on "Lanthanide-doped materials: Fabrication,
 spectroscopy, and their applications to lasers", Krutyn, Masurian Lake District, Poland, 2016, Scientific
 Program. **Invited Lecture**. Accepted.
- 3.41. M. Pollnau,
"The laser linewidth",
 XVIIIth International Krutyn Summer School 2016 on "Lanthanide-doped materials: Fabrication,
 spectroscopy, and their applications to lasers", Krutyn, Masurian Lake District, Poland, 2016, Scientific
 Program. **Invited Lecture**. Accepted.
- 3.40. M. Pollnau,
"Fundamentals of lasers",
 XVIIIth International Krutyn Summer School 2016 on "Lanthanide-doped materials: Fabrication,
 spectroscopy, and their applications to lasers", Krutyn, Masurian Lake District, Poland, 2016, Scientific
 Program. **Invited Lecture**. Accepted.
- 3.39. M. Pollnau,
"Laser linewidth and spectral coherence",
 Advanced Optics and Photonics Winter School 2016 on "Lasers and Laser Applications", Romme, Sweden,
 2016. **Invited Lecture**. Accepted.
- 3.38. M. Pollnau,
"Laser resonators",
 Advanced Optics and Photonics Winter School 2016 on "Lasers and Laser Applications", Romme, Sweden,
 2016. **Invited Lecture**. Accepted.
- 3.37. M. Pollnau,
"Dual-wavelength narrow-linewidth lasers and intra-laser-cavity nano-particle sensing",
 International School of Atomic and Molecular Spectroscopy on *Nano-Optics: Principles Enabling Basic
 Research and Applications*, Erice, Italy, 2015. **Invited Lecture**.

- 3.36. M. Pollnau,
"Spontaneous emission in nano-size lasers: Coherence and power thresholds, threshold-less lasing",
International School of Atomic and Molecular Spectroscopy on *Nano-Optics: Principles Enabling Basic Research and Applications*, Erice, Italy, 2015. **Invited Lecture.**
- 3.35. M. Pollnau,
"Spontaneous emission in continuous-wave lasers: Coherence time, Q -factor, and linewidth",
International School of Atomic and Molecular Spectroscopy on *Nano-Optics: Principles Enabling Basic Research and Applications*, Erice, Italy, 2015. **Invited Lecture.**
- 3.34. M. Pollnau,
"A rare-earth-doped narrow-linewidth laser",
XVIIth International Krutyn Summer School 2015 on "Breaking Through Experimental, Theoretical and Applications of Advanced Luminescent Lanthanide-based Materials", Krutyn, Masurian Lake District, Poland, 2015, Scientific Program. **Invited Lecture.**
- 3.33. M. Pollnau,
"An efficient rare-earth-doped waveguide amplifier",
XVIIth International Krutyn Summer School 2015 on "Breaking Through Experimental, Theoretical and Applications of Advanced Luminescent Lanthanide-based Materials", Krutyn, Masurian Lake District, Poland, 2015, Scientific Program. **Invited Lecture.**
- 3.32. M. Pollnau,
"Radiative decay time and emission cross section: The Füchtbauer-Ladenburg equation",
XVIIth International Krutyn Summer School 2015 on "Breaking Through Experimental, Theoretical and Applications of Advanced Luminescent Lanthanide-based Materials", Krutyn, Masurian Lake District, Poland, 2015, Scientific Program. **Invited Lecture.**
- 3.31. M. Pollnau,
"High-gain amplifiers and highly efficient lasers in lanthanide-doped potassium double tungstates",
XVIth International Krutyn Summer School 2014 on "Lanthanide-based Photonic Materials and Structures: Breakthrough Applications and Cutting Edge Systems", Krutyn, Masurian Lake District, Poland, 2014, Scientific Program. **Invited Lecture.**
- 3.30. M. Pollnau,
"Lanthanide-doped ultranarrow-linewidth lasers on a silicon chip and intra-laser-cavity optical sensing",
XVIth International Krutyn Summer School 2014 on "Lanthanide-based Photonic Materials and Structures: Breakthrough Applications and Cutting Edge Systems", Krutyn, Masurian Lake District, Poland, 2014, Scientific Program. **Invited Lecture.**
- 3.29. M. Pollnau,
"Lanthanide-doped amplifiers on a silicon chip",
XVIth International Krutyn Summer School 2014 on "Lanthanide-based Photonic Materials and Structures: Breakthrough Applications and Cutting Edge Systems", Krutyn, Masurian Lake District, Poland, 2014, Scientific Program. **Invited Lecture.**
- 3.28. M. Pollnau,
"Continuous-wave Lasers: Implementation in rare-earth-doped waveguides",
Summer School on *Frontiers of Solid-State Light Sources*, EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources, Neuchâtel, Switzerland, 2014. **Invited Lecture.**
- 3.27. M. Pollnau,
"Continuous-wave Lasers: Theory",
Summer School on *Frontiers of Solid-State Light Sources*, EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources, Neuchâtel, Switzerland, 2014. **Invited Lecture.**

- 3.26. M. Pollnau,
"Optical gain in long-range plasmonic waveguides",
International School of Atomic and Molecular Spectroscopy on *Nano-Structures for Optics and Photonics: Optical Strategies for Enhancing Sensing, Imaging, Communication, and Energy Conversion*, Erice, Italy, 2013. **Invited Lecture.**
- 3.25. M. Pollnau,
"Intra-laser-cavity nano-particle sensing",
International School of Atomic and Molecular Spectroscopy on *Nano-Structures for Optics and Photonics: Optical Strategies for Enhancing Sensing, Imaging, Communication, and Energy Conversion*, Erice, Italy, 2013. **Invited Lecture.**
- 3.24. M. Pollnau,
"The Q-factor and linewidth of a continuous-wave lasing micro-cavity",
International School of Atomic and Molecular Spectroscopy on *Nano-Structures for Optics and Photonics: Optical Strategies for Enhancing Sensing, Imaging, Communication, and Energy Conversion*, Erice, Italy, 2013. **Invited Lecture.**
- 3.23. M. Pollnau,
"Intra-laser-cavity sensing with a dual-wavelength $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ laser",
XIVth International Krutyn Summer School 2013 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2013, Scientific Program (Bel Studio, Warsaw, 2013). ISBN 978-83-7798-084-2. **Invited Lecture.**
- 3.22. M. Pollnau,
"Rare-earth-ion-doped lasers",
XIVth International Krutyn Summer School 2013 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2013, Scientific Program (Bel Studio, Warsaw, 2013). ISBN 978-83-7798-084-2. **Invited Lecture.**
- 3.21. M. Pollnau,
"The operation principle of a continuous-wave laser",
XIVth International Krutyn Summer School 2013 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2013, Scientific Program (Bel Studio, Warsaw, 2013). ISBN 978-83-7798-084-2. **Invited Lecture.**
- 3.20. M. Pollnau,
"Lasing resonators and intra-laser-cavity optical sensing",
7th Optoelectronics and Photonics Winter School 2013 on "Physics and Applications of Optical Resonators", Levico Terme, Trento, Italy, 2013. **Invited Lecture.**
- 3.19. M. Pollnau,
"Amplifiers and lasers in rare-earth-ion-doped optical waveguides",
XIth International Krutyn Summer School 2012 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2012, Scientific Program (Bel Studio, Warsaw, 2012). ISBN 978-83-7798-050-7. **Invited Lecture.**
- 3.18. M. Pollnau,
"Energy-transfer processes in rare-earth-ion-doped luminescent materials",
XIth International Krutyn Summer School 2012 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2012, Scientific Program (Bel Studio, Warsaw, 2012). ISBN 978-83-7798-050-7. **Invited Lecture.**
- 3.17. M. Pollnau,
"Excited-state absorption and stimulated emission in rare-earth-ion-doped luminescent materials",
XIth International Krutyn Summer School 2012 on "Cutting-Edge Luminescent Materials: Shifting the frontiers", Krutyn, Masurian Lake District, Poland, 2012, Scientific Program (Bel Studio, Warsaw, 2012). ISBN 978-83-7798-050-7. **Invited Lecture.**

- 3.16. M. Pollnau,
"Integrated-Bragg-grating ultra-narrow-linewidth lasers",
International School of Atomic and Molecular Spectroscopy on *Nano-Optics for Enhancing Light-Matter Interactions on a Molecular Scale: Plasmonics, Photonic Crystals, Metamaterials and Sub-Wavelength Resolution*, Erice, Italy, 2011. **Invited Lecture.**
- 3.15. M. Pollnau,
"Light amplification at the nano-scale",
International School of Atomic and Molecular Spectroscopy on *Nano-Optics for Enhancing Light-Matter Interactions on a Molecular Scale: Plasmonics, Photonic Crystals, Metamaterials and Sub-Wavelength Resolution*, Erice, Italy, 2011. **Invited Lecture.**
- 3.14. M. Pollnau,
"Photonic-crystal bio-sensors",
International School of Atomic and Molecular Spectroscopy on *Nano-Optics for Enhancing Light-Matter Interactions on a Molecular Scale: Plasmonics, Photonic Crystals, Metamaterials and Sub-Wavelength Resolution*, Erice, Italy, 2011. **Invited Lecture.**
- 3.13. M. Pollnau,
"Optical waveguide fabrication by femtosecond-laser irradiation and ion-beam implantation",
International School on Quantum Electronics, Burgas, Bulgaria, 2008, Book of Abstracts, p. 9, paper L-4. **Invited Lecture.**
- 3.12. M. Pollnau,
"Rare-earth-ion-doped integrated optical devices",
International School of Atomic and Molecular Spectroscopy on *Frontier Developments in Optics and Spectroscopy*, Erice, Italy, 2007. **Invited Lecture.**
- 3.11. M. Pollnau,
"Upconversion spectroscopy of rare-earth ions",
International School of Atomic and Molecular Spectroscopy on *Frontier Developments in Optics and Spectroscopy*, Erice, Italy, 2007. **Invited Lecture.**
- 3.10. M. Pollnau,
"Fundamental spectroscopy of rare-earth ions in dielectric materials",
International School of Atomic and Molecular Spectroscopy on *Frontier Developments in Optics and Spectroscopy*, Erice, Italy, 2007. **Invited Lecture.**
- 3.9. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Al₂O₃ and Y₂O₃ waveguides as building blocks for active integrated photonic devices",
ePIXnet Winter School on Applications of Photonic Integration, Pontresina, Switzerland, 2007.
- 3.8. M. Pollnau,
"Novel materials and coherent light sources for integrated optics",
ePIXnet Winter School on Optoelectronic Integration, Technology and Applications, Pontresina, Switzerland, 2006, Presentation Wed4. **Invited Lecture.**
- 3.7. M. Pollnau,
"Waveguided light sources and their applications",
NATO Advanced Science Institute on *New Developments in Optics and Related Fields: Modern Techniques, Materials and Applications*, Erice, Italy, 2005. **Invited Lecture.**
- 3.6. M. Pollnau,
"Waveguide fabrication methods in crystalline dielectric materials",
NATO Advanced Science Institute on *New Developments in Optics and Related Fields: Modern Techniques, Materials and Applications*, Erice, Italy, 2005. **Invited Lecture.**

- 3.5. M. Pollnau,
"Spectroscopy of rare-earth ions in dielectric solids",
NATO Advanced Science Institute on *New Developments in Optics and Related Fields: Modern Techniques, Materials and Applications*, Erice, Italy, 2005. **Invited Lecture.**
- 3.4. Y.E. Romanyuk, I. Utke, and M. Pollnau,
"Rare-earth-ion doped KY(WO₄)₂ thin layer growth by low-temperature liquid-phase epitaxy",
12th International Summer School on Crystal Growth, Berlin, Germany, 2004, Program and Abstracts,
p. 113, paper P5-13.
- 3.3. M. Pollnau,
"Coherent light sources for interferometry",
NATO Advanced Science Institute on *Frontiers of Optical Spectroscopy*, Erice, Italy, 2003. **Invited Lecture.**
- 3.2. M. Pollnau,
"Mid-infrared solid-state lasers",
NATO Advanced Science Institute on *Frontiers of Optical Spectroscopy*, Erice, Italy, 2003. **Invited Lecture.**
- 3.1. M. Pollnau,
"Upconversion luminescence dynamics",
NATO Advanced Science Institute on *Frontiers of Optical Spectroscopy*, Erice, Italy, 2003. **Invited Lecture.**

4. CONTRIBUTIONS TO INTERNATIONAL CONFERENCES

- 4.354. M. Pollnau and D. Geskus,
"Highly efficient amplifiers and lasers in potassium double tungstate waveguides",
French-German Oxide-Crystal-/Dielectrics-/Lasercrystal-Workshop, Saint-Louis, France, 2015.
- 4.353. M. Pollnau and M. Eichhorn,
"Spectral coherence in lasers: The simplest (and the only correct) way of understanding",
French-German Oxide-Crystal-/Dielectrics-/Lasercrystal-Workshop, Saint-Louis, France, 2015. **Keynote Lecture.**
- 4.352. M. Pollnau,
"Inverted photo-defined polymer-waveguide continuous-wave lasers",
International Conference on Photochemistry, Jeju Island, South Korea, 2015, Book of Abstracts, Topic
"Physical Photochemistry", paper PP-INV-09, p. 37. **Invited Paper.**
- 4.351. S.A. Vázquez-Córdova, Y.S. Yong, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Optical gain around 1.5 μ m in erbium-doped waveguide amplifiers",
International Conference on Transparent Optical Networks, Budapest, Hungary, 2015, Programme, Session
"PICA W III", Paper Th.A5.4. **Invited Paper.**
- 4.350. M. Pollnau,
"Rare-earth-doped lasers on a silicon chip",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2015, Conference Digest, p. 157, paper
CK-12.1. **Tutorial Lecture.**
- 4.349. Y.S. Yong, S. Aravazhi, S.A. Vázquez-Córdova, S.M. García-Blanco, and M. Pollnau,
"1050 dB/cm gain in a 57.5at.% Yb-doped KGd(WO₄)₂ thin film at 981 nm",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2015, Conference Digest, p. 111, paper
CE-7.3.

- 4.348. D. Geskus, Y.S. Yong, E.H. Bernhardi, L. Agazzi, S.M. García-Blanco, S. Aravazhi, and M. Pollnau, *"Concentration dependence of optical gain in Yb³⁺-doped potassium double tungstate channel waveguides"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2015, Conference Digest, p. 106, paper CJ-6a.3.
- 4.347. M. Pollnau and M. Eichhorn, *"The Schawlow-Townes linewidth – a threefold approximation"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2015, Conference Digest, p. 88, paper CA-P.39.
- 4.346. Y.S. Yong, S. Aravazhi, S.A. Vázquez-Córdova, S.M. García-Blanco, and M. Pollnau, *"Highly Yb-doped KGd(WO₄)₂ thin-film amplifier"*, Conference on Lasers and Electro-Optics, San José, California, 2015, Technical Digest (Optical Society of America, Washington, DC 2015), paper STh1G.5.
- 4.345. M. Pollnau and M. Eichhorn, *"Laser eigenvalue, coherence time, Q-factor, and linewidth"*, Conference on Lasers and Electro-Optics, San José, California, 2015, Technical Digest (Optical Society of America, Washington, DC 2015), paper JTh2A.93.
- 4.344. M. Pollnau, *"On-chip integrated, rare-earth-doped high-gain amplifiers and narrow-linewidth lasers"*, Energy, Materials and Nanotechnology Optoelectronics Meeting, Beijing, China, 2015, Program and Abstracts, pp. 39-40, paper A03. **Keynote Lecture.**
- 4.343. M. Pollnau, *"Quantum and coherence aspects of continuous-wave lasers near and below laser threshold"*, Energy, Materials and Nanotechnology Meeting on Quantum Technology, Beijing, China, 2015, Abstract and Program Book, p. 40, paper C04. **Keynote Lecture.**
- 4.342. M. Pollnau, *"Rare-earth-ion-doped waveguide lasers on a silicon chip"*, OPTO, Photonics West, San Francisco, California, 2015, Technical Programme, Conference "Optical Components and Materials XII", Session 8 *"Rare-Earth Doped Materials and Lasers II"*, p. 287, paper 9359-35. **Invited Paper.**
- 4.341. K. van Dalzen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau, *"On the efficiency of Tm-doped 2-μm lasers"*, LASE, Photonics West, San Francisco, California, 2015, Technical Programme, Conference "Solid State Lasers XXIV: Technology and Devices", p. 227, paper 9342-69.
- 4.340. S.A. Vázquez-Córdova, E.H. Bernhardi, K. Wörhoff, J.L. Herek, S.M. García-Blanco, and M. Pollnau, *"Spiral amplifiers in α-Al₂O₃:Er on a silicon chip with 20 dB internal net gain"*, OPTO, Photonics West, San Francisco, California, 2015, Technical Programme, Conference "Integrated Optics: Devices, Materials, and Technologies XIX", Session 5 *"On Chip Active Devices"*, p. 309, paper 9365-21.
- 4.339. M. Pollnau, M. Hammer, C. Dongre, and H.J.W.M. Hoekstra, *"DNA separation and fluorescent detection in an optofluidic chip with sub-base-pair resolution"*, BIOS, Photonics West, San Francisco, California, 2015, Technical Programme, Conference "Microfluidics, BioMEMS, and Medical Microsystems XIII", Session 5 *"Medical Devices I"*, p. 136, paper 9320-19.
- 4.338. M. Pollnau, M. Hammer, C. Dongre, and H.J.W.M. Hoekstra, *"Sub-base-pair resolution during DNA separation in an optofluidic chip"*, International Conference on Micro- and Nano-Engineering, Lausanne, Switzerland, 2014, Program, p. 26.

- 4.337. M. Pollnau,
"Fast luminescence quenching and its impact on decay curves, pump absorption, optical gain, and lasing",
Workshop on Complex Luminescence Phenomena in Inorganic Materials, Erice, Italy, 2014, Abstracts.
Invited Paper.
- 4.336. H.J.W.M. Hoekstra, M. Hammer, C. Dongre, and M. Pollnau,
"Sub-base-pair resolution by electrophoretic separation and fluorescent detection of DNA molecules in an optofluidic chip",
International Conference on Luminescence, Wroclaw, Poland, 2014, paper I-44. **Invited Paper.**
- 4.335. K. van Daltsen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"1.84- μ m thulium-doped channel waveguide laser approaching the theoretical limit of 86% slope efficiency",
International Conference on Luminescence, Wroclaw, Poland, 2014, paper O-28.
- 4.334. E.H. Bernhardt, L. Agazzi, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Spectroscopy and ultra-narrow-linewidth lasers in rare-earth-doped amorphous Al_2O_3 waveguides on a silicon chip",
International Conference on Luminescence, Wroclaw, Poland, 2014, paper O-25.
- 4.333. M. Pollnau,
"Ultrannarrow-linewidth lasers on a silicon chip and their applications",
International Conference on Transparent Optical Networks, Graz, Austria, 2014, Programme, Session
"Plenary II", Paper 1. **Plenary Lecture.**
- 4.332. E.H. Bernhardt, K.O. van der Werf, A.J.F. Hollink, K. Wörhoff, V. Subramaniam, and M. Pollnau,
"Intra-laser-cavity sensing with a dual-wavelength distributed-feedback laser",
European Conference on Integrated Optics, Nice, France, 2014, paper We4bR4.
- 4.331. M. Pollnau, M. Hammer, C. Dongre, and H.J.W.M. Hoekstra,
"Sub-base-pair resolution during DNA separation in an optofluidic chip",
European Conference on Integrated Optics, Nice, France, 2014, paper We4bR2.
- 4.330. S.A. Vázquez-Córdova, E.H. Bernhardt, K. Wörhoff, S.M. García-Blanco, and M. Pollnau,
"High-gain spiral amplifiers in $\alpha-Al_2O_3:Er$ on a silicon chip",
European Conference on Integrated Optics, Nice, France, 2014, paper Tu3aR2.
- 4.329. K. van Daltsen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"1.6-W, highly efficient laser at 2 μ m in a potassium double tungstate channel waveguide",
European Conference on Integrated Optics, Nice, France, 2014, paper Tu3aR1.
- 4.328. M. Pollnau,
"Ultra-high gain and highly efficient lasing in rare-earth-ion-doped double tungstate channel waveguides",
International Workshop on Photoluminescence in Rare-Earths: Photonic Materials and Devices, San Sebastian, Spain, 2014, Book of Abstracts, paper P-4.
- 4.327. M. Pollnau,
"Rare-earth-ion-doped dielectric waveguides on a silicon chip: Fabrication, spectroscopy, amplification, and lasing",
International Workshop on Photoluminescence in Rare-Earths: Photonic Materials and Devices, San Sebastian, Spain, 2014, Book of Abstracts, paper I-5. **Invited Paper.**
- 4.326. S.A. Vázquez-Córdova, E.H. Bernhardt, K. Wörhoff, S.M. García-Blanco, and M. Pollnau,
"Erbium-doped spiral amplifiers with 20 dB gain on a silicon chip",
Photonics Europe, Brussels, Belgium, 2014, Technical Programme, Conference "Silicon Photonics and Photonic Integrated Circuits", Session 2 "Light Emission and Amplification I", p. 80, paper 9133-9.

- 4.325. M. Eichhorn and M. Pollnau,
"Coherence and power thresholds of a continuous-wave laser",
Photonics Europe, Brussels, Belgium, 2014, Technical Programme, Conference "Laser Sources and Applications", Session 2 "Frequency Combs and Fundamentals", p. 90, paper 9135-9.
- 4.324. M. Pollnau,
"Dielectric waveguide amplifiers and lasers",
PHOTOPTICS, International Conference on Photonics, Optics, and Laser Technology, Lisbon, Portugal, 2014, Proceedings, page IS-11; PECCS, International Conference on Pervasive and Embedded Computing and Communication Systems, Lisbon, Portugal, 2014, Proceedings, page IS-13. **Joint Keynote Lecture.**
- 4.323. M. Pollnau,
"Impurity-doped micro-lasers",
Energy, Materials and Nanotechnology Fall Meeting, Orlando, Florida, 2013, Program and Abstracts, pp. 61-62, paper A35. **Invited Paper.**
- 4.322. K. van Dalen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Thulium-doped channel waveguide laser with 1.6 W of output power and exceeding 80% slope efficiency",
Advanced Solid-State Lasers Congress, Paris, France, 2013 (Optical Society of America, Washington, DC 2013), paper ATu1A.8.
- 4.321. M. Pollnau, E.H. Bernhardt, K. Wörhoff, and R.M. de Ridder,
"Dual-wavelength narrow-linewidth lasers and their applications",
Advanced Solid-State Lasers Congress, Paris, France, 2013 (Optical Society of America, Washington, DC 2013), paper ATu1A.6. **Invited Paper.**
- 4.320. F. Ay and M. Pollnau,
"Focused-ion-beam nano-structuring of photonic cavities in dielectric materials",
Energy Materials Nanotechnology East Meeting, Beijing, China, 2013, Program and Abstracts, pp. 38-39, paper B1-7. **Invited Paper.**
- 4.319. M. Pollnau,
"Fundamental lessons on upconversion spectroscopy in rare-earth ions",
International Workshop on Advanced Spectroscopy and Optical Materials, Gdansk, Poland, 2013, Book of Abstracts, p. 18, paper KL1. **Keynote Lecture.**
- 4.318. T. Dubbink, M.A. Sefunc, M. Pollnau, and S.M. García-Blanco,
"Study of sharp bends in anisotropic potassium double tungstate waveguides",
International Conference on Transparent Optical Networks, Cartagena, Spain, 2013, Conference Program, Paper Th.B2.4. **Invited Paper.**
- 4.317. M. Pollnau, K. van Dalen, C. Grivas, S. Aravazhi, and S.M. García-Blanco,
"Highly efficient channel waveguide lasers at 2 μm ",
International Conference on Transparent Optical Networks, Cartagena, Spain, 2013, Conference Program, Paper Tu.D2.4. **Invited Paper.**
- 4.316. L. Chang, N. Ismail, R.M. de Ridder, M. Pollnau, and K. Wörhoff,
"Integrated polymer microlenses for two-dimensional collimation of light from single-mode optical waveguides",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CK-10.6.
- 4.315. B.I. Akca, G. Sengo, M. Pollnau, A. Driessen, K. Wörhoff, and R.M. de Ridder,
"Flat-focal-field integrated spectrometer using a field-flattening lens",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CK-10.3.

- 4.314. B.I. Akca, C.R. Doerr, G. Sengo, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Broad-spectral-range synchronized flat-top arrayed-waveguide grating applied in a 225-channel cascaded spectrometer",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CK-10.2.
- 4.313. K. van Dalen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Thulium-doped channel waveguide laser with 1.6 W of output power and exceeding 80% slope efficiency",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, **postdeadline paper** PD-A.4.
- 4.312. B.I. Akca, B. Považay, A. Alex, K. Wörhoff, R.M. de Ridder, W. Drexler, and M. Pollnau,
"Miniature spectrometer and beam splitter for an integrated optical coherence tomography system",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CL-6.1.
- 4.311. S. Aravazhi, D. Gekus, K. van Dalen, S.A. Vázquez-Córdova, C. Grivas, U. Griebner, S.M. García-Blanco, and M. Pollnau,
"Engineering refractive index and doping level of $KY_{1-x-y-z}Gd_xLu_yYb_z(WO_4)_2$ layers for a cladding-side-pumped channel waveguide laser",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CE-6.1.
Invited Paper.
- 4.310. B.I. Akca, B. Považay, A. Alex, K. Wörhoff, R.M. de Ridder, W. Drexler, and M. Pollnau,
"Toward spectral-domain optical coherence tomography on a silicon chip",
European Conferences on Biomedical Optics, Munich, Germany, 2013, Conference Program, p. 32, paper EM3B.1.
- 4.309. E.H. Bernhardt, K.O. van der Werf, A.J.F. Hollink, K. Wörhoff, R.M. de Ridder, V. Subramaniam, and M. Pollnau,
"On-chip microparticle detection and sizing using a dual-wavelength waveguide laser",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2013, Conference Digest, paper CL-P.9.
- 4.308. M. Pollnau and M. Eichhorn,
"Theory of lasing resonators: Quality factor and line width",
International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling, Enschede, The Netherlands, 2013, Proceedings, paper O-2.1. **Invited Paper.**
- 4.307. E.H. Bernhardt, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
"Rare-earth-ion-doped ultra-narrow-linewidth lasers on a silicon chip and applications to intra-laser-cavity optical sensing",
LASE, Photonics West, San Francisco, California, 2013, Advance Technical Programme, Conference "Solid State Lasers XXII: Technology and Devices", Session 2 "Waveguide Lasers II", p. 153, paper 8599-8.
- 4.306. K. van Dalen, D. Gekus, S.M. García-Blanco, and M. Pollnau,
"Highly efficient channel waveguide lasers at 1 μ m and 2 μ m in refractive-index-engineered potassium double tungstates",
LASE, Photonics West, San Francisco, California, 2013, Advance Technical Programme, Conference "Solid State Lasers XXII: Technology and Devices", Session 1 "Waveguide Lasers I", p. 153, paper 8599-2.
- 4.305. M. Pollnau, C. Dongre, S.V. Pham, E.H. Bernhardt, K. Wörhoff, R.M. de Ridder, and H.J.W.M. Hoekstra,
"Optical bio-sensors in microfluidic chips",
MRS Fall Meeting, Boston, Massachusetts, 2012, Symposium XX "Materials and Concepts for Biomedical Sensing", Program & Exhibit Guide (Materials Research Society, Warrendale, PA 2012), p. 486, and CD of Abstracts, paper XX9.01. **Invited Paper.**

- 4.304. L. Agazzi, K. Wörhoff, and M. Pollnau,
"Upconversion spectroscopy of erbium in amorphous aluminum oxide microstructures",
MRS Fall Meeting, Boston, Massachusetts, 2012, Symposium CC "Optically Active Nanostructures",
Program & Exhibit Guide (Materials Research Society, Warrendale, PA 2012), p. 362, and CD of Abstracts,
paper CC5.02.
- 4.303. B.I. Akca, N. Ismail, L. Chang, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Towards Raman spectroscopy on a microchip",
SciX – The Great SCientific eXchange, Kansas City, Missouri, 2012, session "Emerging Raman Techniques
and Applications", Final Program Abstracts, p. 117, No. 138.
- 4.302. M.R.H. Khan, E.H. Bernhardt, D.A.I. Marpaung, M. Burla, R.M. de Ridder, K. Wörhoff, M. Pollnau, and
C.G.H. Roeloffzen,
"Highly stable microwave carrier generation using a dual-frequency distributed feedback laser",
IEEE International Topical Meeting on Microwave Photonics, Space Research and Technology Centre of the
European Space Agency, Noordwijk, The Netherlands (IEEE Photonics Society, New York, 2012), pp. 1-4.
- 4.301. M. Pollnau, K. van Dalen, E.H. Bernhardt, D. Gekus, K. Wörhoff, R.M. de Ridder, and S.M. García-
Blanco,
"Fabrication, operation, and applications of efficient dielectric waveguide lasers",
International Conference on Advanced Laser Technologies, Thun, Switzerland, 2012, Book of Abstracts, pp.
150-151, paper Tu-1B-2-IN. **Invited Paper.**
- 4.300. D. Gekus, C. Grivas, S. Aravazhi, U. Griebner, S.M. García-Blanco, and M. Pollnau,
"Diode-side-pumped channel waveguide laser",
EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources,
Stockholm, Sweden, 2012, Conference Digest, Europhysics Conference Abstract Vol. **36 E** (European
Physical Society, Mulhouse, 2012), paper WeP.5.
- 4.299. K. van Dalen, H.A.G.M. van Wolferen, M. Dijkstra, S. Aravazhi, E.H. Bernhardt, S.M. García-Blanco, and
M. Pollnau,
"Towards integrated channel waveguide lasers in monoclinic double tungstates",
EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources,
Stockholm, Sweden, 2012, Conference Digest, Europhysics Conference Abstract Vol. **36 E** (European
Physical Society, Mulhouse, 2012), paper ThP.30.
- 4.298. S.M. García-Blanco, M.A. Sefunc, M.H. van Voorden, and M. Pollnau,
*"Loss compensation in metal-loaded hybrid plasmonic waveguides using Yb^{3+} potassium double tungstate
gain materials"*,
International Conference on Transparent Optical Networks, Coventry, United Kingdom, 2012, Conference
Program, Paper Tu.A5.2. **Invited Paper.**
- 4.297. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Waveguide Bragg gratings for the realization of high-quality monolithic cavities",
Conference on Bragg Gratings, Photosensitivity and Poling in Glass Waveguides, Colorado Springs,
Colorado, 2012 (Optical Society of America, Washington, DC 2012), paper BM3D.1. **Invited Paper.**
- 4.296. L. Agazzi, K. Wörhoff, and M. Pollnau,
"Energy-transfer processes in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ waveguide amplifiers",
Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of
America, Washington, DC 2012), paper CF3A.3.
- 4.295. L. Chang, B.I. Akca, G. Sengo, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
*"High-performance spectral-domain optical low-coherence reflectometry with an integrated arrayed-
waveguide grating"*,
Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of
America, Washington, DC 2012), paper JTh2A.34.

- 4.294. B.I. Akca, C.R. Doerr, M. Pollnau, and R.M. de Ridder,
"Broad spectral range synchronized flat-top arrayed waveguide grating",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper CTh1C.4.
- 4.293. E.H. Bernhardt, M.R.H. Khan, C.G.H. Roeloffzen, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Optical generation of microwave signals with a dual-phase-shifted $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ distributed-feedback laser",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper JW2A.36.
- 4.292. M. Eichhorn and M. Pollnau,
"The Q-factor of a continuous-wave laser",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper JW2A.29.
- 4.291. K. van Dalen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Highly efficient $\text{KY}_{1-x-y}\text{Gd}_x\text{Lu}_y(\text{WO}_4)_2:\text{Tm}^{3+}$ channel waveguide lasers",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper CTu2D.5.
- 4.290. L. Agazzi, E.H. Bernhardt, K. Wörhoff, and M. Pollnau,
"The impact of lifetime quenching on relaxation oscillations in solid-state lasers",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper CTu1D.6.
- 4.289. E.H. Bernhardt, K.O. van der Werf, A.J.F. Hollink, K. Wörhoff, R.M. de Ridder, V. Subramaniam, and M. Pollnau,
"Evanescent-field intra-cavity sensing with a dual-wavelength distributed-feedback laser",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper CM3B.5.
- 4.288. D. Geskus, S. Aravazhi, E.H. Bernhardt, L. Agazzi, S.M. García-Blanco, and M. Pollnau,
"150 dB/cm gain over 55 nm wavelength range near 1 μm in an Yb^{3+} waveguide amplifier",
 Conference on Lasers and Electro-Optics, San José, California, 2012, Technical Digest (Optical Society of America, Washington, DC 2012), paper CM1A.6.
- 4.287. S.M. García-Blanco, M. Pollnau, and S.I. Bozhevolnyi,
"Loss compensation in long-range dielectric-loaded surface plasmon-polariton waveguides",
 Proceedings of the 3rd International Conference on Metamaterials, Photonic Crystals and Plasmonics, Paris, France, 2012, Session "Plasmon amplification and lasing I", paper 751. **Invited Paper.**
- 4.286. N. Ismail, L. Chang, G. Sengo, R.M. de Ridder, M. Pollnau, and K. Wörhoff,
"Polymer microlenses for collimating light from single-mode silicon oxynitride optical waveguides",
 European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 188.
- 4.285. L. Agazzi, K. Wörhoff, and M. Pollnau,
"Fast quenching processes and their impact on 1.5- μm amplifier performance in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ waveguides",
 European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 84.
- 4.284. F. Civitci, G. Sengo, A. Driessen, M. Pollnau, H.J.W.M. Hoekstra, and A.J. Annema,
"45° light turning mirrors for hybrid integration of silica optical waveguides and photo-detectors",
 European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 152.
- 4.283. B.I. Akca, L. Chang, G. Sengo, K. Wörhoff, M. Pollnau, R.M. de Ridder, V.D. Nguyen, J. Kalkman, and T.G. van Leeuwen,
"Integrated AWG spectrometer for on-chip optical coherence tomography",
 European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 46.

- 4.282. N. Ismail, K. Wörhoff, A. Driessen, R.M. de Ridder, M. Pollnau, L.P. Choo-Smith, A.C. Baclig, P.J. Caspers, and G.J. Puppels,
"Arrayed waveguide grating for polarized Raman spectroscopy of human teeth",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 75.
- 4.281. D. Geskus, S. Aravazhi, E.H. Bernhardt, L. Agazzi, S.M. García-Blanco, and M. Pollnau,
"Ultra-high, broadband gain in a lattice-engineered, Yb-doped double tungstate channel waveguide",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 109.
- 4.280. K. van Dalzen, S. Aravazhi, S.M. García-Blanco, M. Pollnau, and C. Grivas,
"Thulium channel waveguide laser with 70% slope efficiency in a monoclinic double tungstate",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 118.
- 4.279. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, M. Pollnau, M.R.H. Khan, and C.G.H. Roeloffzen,
"Dual-wavelength $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ distributed feedback waveguide laser for microwave signal generation",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 69.
- 4.278. L. Chang, B.I. Akca, G. Sengo, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Polarization-independent optical low-coherence reflectometry with a non-birefringent arrayed-waveguide grating",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 169.
- 4.277. S.V. Pham, M. Dijkstra, A.J.F. Hollink, R.M. de Ridder, G.J.M. Krijnen, P.V. Lambeck, M. Pollnau, and H.J.W.M. Hoekstra,
"Grated waveguide optical cavity for sensing",
European Conference on Integrated Optics, Sitges/Barcelona, Spain, 2012, paper 114.
- 4.276. L. Agazzi, E.H. Bernhardt, K. Wörhoff, and M. Pollnau,
"Luminescence quenching in rare-earth-ion-doped Al_2O_3 lasers and its influence on relaxation oscillation frequency",
Advanced Solid-State Photonics Conference, San Diego, California, 2012 (Optical Society of America, Washington, DC 2012), paper AT4A.18.
- 4.275. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Stable microwave generation in a dual-phase-shifted $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ distributed-feedback waveguide laser",
Advanced Solid-State Photonics Conference, San Diego, California, 2012 (Optical Society of America, Washington, DC 2012), paper AM5A.6.
- 4.274. K. van Dalzen, S. Aravazhi, C. Grivas, S.M. García-Blanco, and M. Pollnau,
"Thulium channel waveguide laser with 69.7% efficiency",
Advanced Solid-State Photonics Conference, San Diego, California, 2012 (Optical Society of America, Washington, DC 2012), paper AM5A.3.
- 4.273. M. Pollnau, D. Geskus, E.H. Bernhardt, K. van Dalzen, K. Wörhoff, and R.M. de Ridder,
"Highly efficient solid-state waveguide lasers",
Advanced Solid-State Photonics Conference, San Diego, California, 2012, (Optical Society of America, Washington, DC 2012), paper AM5A.1. **Invited Paper.**
- 4.272. S.M. García-Blanco, D. Geskus, K. van Dalzen, S. Aravazhi, and M. Pollnau,
"Rare-earth activated potassium double tungstate waveguide amplifiers and lasers",
OPTO, Photonics West, San Francisco, California, 2012, Advance Technical Programme, Conference "Integrated Optics: Devices, Materials, and Technologies XVI", Session 2 "Amplifiers and Lasers", p. 224, paper 8264-7. **Invited Paper.**

- 4.271. M. Pollnau, N. Ismail, B.I. Akca, K. Wörhoff, and R.M. de Ridder,
"Biophotonic sensors on a silicon chip for Raman spectroscopy and optical coherence tomography",
 OPTO, Photonics West, San Francisco, California, 2012, Advance Technical Programme, Conference
 "Silicon Photonics VII", Session 1 "Lab-on-a-Chip I", p. 229, paper 8266-1. **Invited Paper.**
- 4.270. S.M. García-Blanco, M. Pollnau, and S.I. Bozhevolnyi,
"Theoretical study of loss compensation in long-range dielectric loaded surface plasmon polariton waveguides",
 International Conference on Micro- and Nano-photonic Materials and Devices, Trento, Italy, 2012.
- 4.269. D. Gekus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Wavelength-dependent optical gain in a $\text{KGd}_x\text{Lu}_{1-x}(\text{WO}_4)_2\text{:Yb}^{3+}$ waveguide amplifier",
 IEEE Photonics Conference, Arlington, Virginia, 2011, p. 845-846, paper ThV3.
- 4.268. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Ultra-narrow-linewidth distributed feedback lasers in $\text{Al}_2\text{O}_3\text{:Er}^{3+}$ and $\text{Al}_2\text{O}_3\text{:Yb}^{3+}$ ",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 65, paper 5420-CT-6.
- 4.267. L. Agazzi, J.D.B. Bradley, K. Wörhoff, and M. Pollnau,
" $\text{Al}_2\text{O}_3\text{:Er}^{3+}$ amplifiers: The impact of fast spectroscopic quenching processes",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 65, paper 5420-CT-5.
- 4.266. K. van Dalzen, D. Gekus, F. Ay, K. Wörhoff, S. Aravazhi, and M. Pollnau,
"High-power Yb- and Tm-doped double tungstate channel waveguide lasers",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 65, paper 5420-CT-4.
- 4.265. D. Gekus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Giant optical gain in rare-earth-ion-doped thin films and waveguides",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 59, paper 4630-CT-4.
- 4.264. J. Yang, T. Lamprecht, K. Wörhoff, A. Driessen, F. Horst, B.J. Offrein, F. Ay, and M. Pollnau,
"Integrated waveguide amplifiers for optical backplanes",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 57, paper 4630-CT-1.
- 4.263. B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Towards spectral-domain optical coherence tomography on a silicon chip",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 56, paper 4430-CT-5.
- 4.262. L.J. Kauppinen, S.M.C. Abdulla, M. Dijkstra, M.J. de Boer, E. Berenschot, G.J.M. Krijnen, M. Pollnau, and
 R.M. de Ridder,
"Micromechanically tuned ring resonator in silicon on insulator",
 International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim,
 Sydney, Australia, 2011, Conference Handbook, p. 52, paper 4240-IT-7. **Invited Paper.**
- 4.261. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Monolithic distributed Bragg reflector cavities in Al_2O_3 with quality factors exceeding one million",
 Conference on Lasers and Electro-Optics Pacific Rim, Sydney, Australia, 2011, Conference Handbook, p. 52,
 paper 4240-CT-6.

- 4.260. N. Ismail, K. Wörhoff, L.P. Choo-Smith, A.C. Baclig, P.J. Caspers, G.J. Puppels, A. Driessen, R.M. de Ridder, and M. Pollnau,
"On-chip Raman spectrometer for the detection of early dental caries",
International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim, Sydney, Australia, 2011, Conference Handbook, p. 76, paper 2700-PO-64.
- 4.259. S.V. Pham, M. Dijkstra, A.J.F. Hollink, R.M. de Ridder, H.A.G.M. van Wolferen, G.J.M. Krijnen, M. Pollnau, and H.J.W.M. Hoekstra,
"Grated waveguide cavity for label-free protein and mechano-optical gas sensing",
International Quantum Electronics Conference and Conference on Lasers and Electro-Optics Pacific Rim, Sydney, Australia, 2011, Conference Handbook, p. 29, paper 2250-CT-7.
- 4.258. S.M. García-Blanco, D. Geskus, K. van Daltsen, S. Aravazhi, and M. Pollnau,
"Rare-earth-ion-doped double tungstates: A promising gain material for integrated optics",
International Symposium on Modern Optics and its Applications, Bandung, Indonesia, 2011, Program Book and Abstracts, pp. 69-70, paper IP-12. **Invited Paper.**
- 4.257. M. Pollnau,
"Integrated optics – guiding light into the future",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 13, paper PS4. **Plenary Lecture.**
- 4.256. S.V. Pham, M. Dijkstra, A.J.F. Hollink, R.M. de Ridder, M. Pollnau, and H.J.W.M. Hoekstra,
"Si₃N₄ grated waveguide optical cavity based sensors for bulk-index concentration, label-free protein, and mechano-optical gas sensing",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 30, paper 3.6.1. **Invited Paper.**
- 4.255. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Efficient and ultra-narrow-linewidth integrated waveguide lasers in Al₂O₃:Yb and Al₂O₃:Er",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 33, paper 4.5.3. **Invited Paper.**
- 4.254. K. van Daltsen, D. Geskus, F. Ay, K. Wörhoff, S. Aravazhi, and M. Pollnau,
"High-power Yb- and Tm-doped double tungstate channel waveguide lasers",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 33, paper 4.4.4.
- 4.253. L. Agazzi, J.D.B. Bradley, J. Yang, F. Ay, K. Wörhoff, and M. Pollnau,
"Er³⁺- and Nd³⁺-doped Al₂O₃ amplifiers on a silicon chip",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 32, paper 4.2.5.
- 4.252. D. Geskus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Giant optical gain in a rare-earth-ion-doped waveguide amplifier",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 32, paper 4.2.4. **Invited Paper.**
- 4.251. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Continuous-wave polymer lasers",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 32, paper 4.2.1. **Invited Paper.**
- 4.250. B.I. Akca, K. Wörhoff, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, R.M. de Ridder, and M. Pollnau,
"Towards spectral-domain optical coherence tomography on a silicon chip",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 28, paper 3.1.3.

- 4.249. C. Dongre, J. van Weerd, G.A.J. Besselink, R. Osellame, R. Martínez Vázquez, G. Cerullo, R. van Weeghel, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"Modulation-frequency encoded multi-color fluorescent DNA analysis in an optofluidic chip",
International Laser Physics Workshop, Sarajevo, Bosnia and Herzegovina, 2011, Program, p. 28, paper 3.1.1.
Invited Paper.
- 4.248. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Continuous-wave lasing in a solid polymer",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 75, paper FQQ1. **Invited Paper.**
- 4.247. K. van Dalssen, S. Aravazhi, D. Geskus, K. Wörhoff, and M. Pollnau,
"Efficient Tm^{3+} lasers in double tungstate channel waveguides",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 65, paper ThII2.
- 4.246. D. Geskus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Ultra-high gain in an Yb^{3+} -doped dielectric waveguide",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 60, paper ThDD6.
- 4.245. H.J.W.M. Hoekstra, C. Dongre, and M. Pollnau,
"Modulation-frequency encoded multi-wavelength fluorescence analysis",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 15, paper TuL2.
- 4.244. L. Agazzi, J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Presence of fast quenching mechanisms in $Al_2O_3:Er^{3+}$ ",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 10, paper MH6.
- 4.243. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"High-Q distributed-Bragg-grating laser cavities",
International Conference on Luminescence & Optical Spectroscopy of Condensed Matter, Ann Arbor, Michigan, 2011, Conference Program, p. 12, paper MI2.
- 4.242. K. Wörhoff, N. Ismail, B.I. Akca, M. Pollnau, and R.M. de Ridder,
"Silicon oxynitride technology for integrated optical solutions in biomedical applications",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Conference Program, p. 24, Paper Th.A4.6.
- 4.241. S.M. García-Blanco, D. Geskus, K. van Dalssen, F. Ay, S. Aravazhi, and M. Pollnau,
"Monoclinic double tungstate waveguide amplifiers and microlasers",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Conference Program, p. 19, Paper We.A6.5. **Invited Paper.**
- 4.240. K. Wörhoff, E.H. Bernhardt, J.D.B. Bradley, J. Yang, L. Agazzi, F. Ay, R.M. de Ridder, and M. Pollnau,
"Rare-earth-ion doped amplifiers and lasers integrated on silicon",
International Conference on Transparent Optical Networks, Stockholm, Sweden, 2011, Conference Program, p. 15, Paper Tu.C1.1. **Invited Paper.**
- 4.239. F. Ay, V.J. Gadgil, D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Application of focused ion beam technology for fabrication of photonic nanostructures",
NSTI Nanotechnology Conference & Expo – Nanotech, Boston, Massachusetts, 2011, Conference Program, p.116, paper TU1.142.

- 4.238. V.D. Nguyen, B.I. Akca, K. Wörhoff, R.M. de Ridder, M. Pollnau, T.G. van Leeuwen, and J. Kalkman, *"Spectral-domain optical coherence tomography with an arrayed waveguide grating spectrometer"*, European Conferences on Biomedical Optics, Munich, Germany, 2011, Technical Programme, p. 50, paper 8091-25.
- 4.237. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau, *"Distributed feedback channel waveguide lasers in erbium- and ytterbium-doped Al_2O_3 on silicon"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CJ10.4.
- 4.236. N. Ismail, F. Sun, K. Wörhoff, A. Driessen, R.M. de Ridder, and M. Pollnau, *"Integrated arrayed waveguide grating spectrometer for measuring Raman spectra"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CH5.4.
- 4.235. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau, *"Distributed Bragg reflector high-Q cavities and lasers in Al_2O_3 on silicon"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CE5.2.
- 4.234. L.J. Kauppinen, S.M.C. Abdulla, G.J.M. Krijnen, M. Pollnau, and R.M. de Ridder, *"Electromechano-optically tuned ring resonator in silicon on insulator, monolithically integrated with a microcantilever"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CE5.1.
- 4.233. F. Ay, D. Geskus, I. Iñurrategui, S. Aravazhi, and M. Pollnau, *"Focused-ion-beam nanostructured photonic cavities for integrated lasers in crystalline double tungstate channel waveguides"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CK8.3.
- 4.232. L. Agazzi, K. Wörhoff, and M. Pollnau, *"Excitation quenching in Er^{3+} -doped Al_2O_3 amplifiers"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CE3.4.
- 4.231. S. Aravazhi, D. Geskus, K. van Dalzen, D. Günther, and M. Pollnau, *"Growth and characterization of highly Yb^{3+} -doped $KY(WO_4)_2$ thin layers"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CE3.2.
- 4.230. B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, and M. Pollnau, *"Integrated spectrometers for spectral-domain optical coherence tomography"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CL/EB5.4.
- 4.229. N. Ismail, F. Civitci, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen, *"Integrated waveguide probes for efficient backscattered-light collection from thin samples"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CL/EB.P.13.
- 4.228. D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau, *"Broadly tunable and low-quantum-defect Yb^{3+} -doped double tungstate channel waveguide lasers"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CA7.4.
- 4.227. D. Geskus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau, *"Giant gain in a rare-earth-ion-doped waveguide"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CJ2.5.
- 4.226. S.V. Pham, M. Dijkstra, A.J.F. Hollink, R.M. de Ridder, M. Pollnau, and H.J.W.M. Hoekstra, *"Compact integrated optical sensors based on a Si_3N_4 grating waveguide optical cavity"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CK2.1.

- 4.225. K. van Dalen, S. Aravazhi, D. Geskus, K. Wörhoff, and M. Pollnau,
"Efficient Gd^{3+} , Lu^{3+} co-doped $KY(WO_4)_2:Tm^{3+}$ channel waveguide lasers",
 Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2011, Conference Digest, paper CA1.5.
- 4.224. M. Pollnau, C. Dongre, and H.J.W.M. Hoekstra,
"Multi-color fluorescent DNA analysis in an optofluidic chip",
 1st European Optical Society Conference on Optofluidics, Munich, Germany, 2011, paper 4306. **Invited Paper.**
- 4.223. N. Ismail, F. Sun, G. Sengo, K. Wörhoff, A. Driessen, R.M. de Ridder, and M. Pollnau,
"Broadband polarization-insensitive arrayed waveguide gratings for Raman spectroscopy",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper CFN4.
- 4.222. D. Geskus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"Giant optical gain in a rare-earth-ion-doped waveguide",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), **postdeadline paper** PDPA12.
- 4.221. S.V. Pham, M. Dijkstra, H.A.G.M. van Wolferen, M. Pollnau, G.J.M. Krijnen, and H.J.W.M. Hoekstra,
"A novel mechano-optical sensor based on read-out with a Si_3N_4 grating waveguide",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper CThQ4.
- 4.220. D. Geskus, K. van Dalen, S. Aravazhi, K. Wörhoff, and M. Pollnau,
" Yb^{3+} and Tm^{3+} doped $KGd_xLu_{1-x-y}(WO_4)_2$ channel waveguide lasers",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper CWP4.
- 4.219. B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Toward miniaturized optical coherence tomography",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper CWB3.
- 4.218. B.I. Akca, N. Ismail, F. Sun, A. Driessen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"High-resolution integrated spectrometers in silicon-oxynitride",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper JWA65.
- 4.217. L. Agazzi, K. Wörhoff, and M. Pollnau,
"Non-saturable absorption and its impact on amplifier performance in $Al_2O_3:Er^{3+}$ ",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper JWA59.
- 4.216. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"High-Q monolithic distributed Bragg reflector cavities in Al_2O_3 channel waveguides",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2011, Technical Digest (Optical Society of America, Washington, DC 2011), paper CME4.
- 4.215. D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"High-power, broadly tunable, and low-quantum-defect Yb^{3+} -doped double tungstate channel waveguide lasers",
 Advanced Solid-State Photonics Conference, Istanbul, Turkey, 2011 (Optical Society of America, Washington, DC 2011), paper ATuD6.

- 4.214. E.H. Bernhardt, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Highly efficient distributed feedback waveguide laser in $\text{Al}_2\text{O}_3:\text{Yb}^{3+}$ on silicon",
Advanced Solid-State Photonics Conference, Istanbul, Turkey, 2011 (Optical Society of America, Washington, DC 2011), paper ATuD7.
- 4.213. F. Ay, J. Yang, T. Lamprecht, K. Wörhoff, S.M. García-Blanco, A. Driessen, F. Horst, B.J. Offrein, and M. Pollnau,
"Nd-doped waveguide amplifiers for heterogeneous integration in optical backplanes",
OPTO, Photonics West, San Francisco, California, 2011, Technical Abstract Summaries, Conference "Optoelectronic Integrated Circuits XIII", Session 8, p. 224, paper 7942-25.
- 4.212. F. Ay, J. Yang, T. Lamprecht, K. Wörhoff, B.J. Offrein, and M. Pollnau,
"Optical waveguide amplifiers for heterogeneous integration in optical backplanes",
IEEE Photonics Society Annual Meeting, Denver, Colorado, 2010, Conference Proceedings (IEEE Photonics Society, New York, 2010), pp. 110-111. **Invited Paper.**
- 4.211. C. Dongre, J. van Weerd, G.A.J. Besselink, R. Martínez Vázquez, R. Osellame, G. Cerullo, R. van Weeghel, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"Advances in fluorescent detection of molecules in an optofluidic chip",
Proceedings of the European Optical Society Annual Meeting, Paris, France, 2010, TOM 1: "Biophotonics - Advanced Trapping and Optofluidics in Life Sciences", Session "Microfluidic devices and systems", paper 3437.
- 4.210. D. Geskus, S. Aravazhi, C. Grivas, K. Wörhoff, and M. Pollnau,
"Microstructured channel waveguide lasers in $\text{KY}(\text{WO}_4)_2:\text{Gd}^{3+},\text{Lu}^{3+},\text{Yb}^{3+}$ ",
Frontiers in Optics/Laser Science, Annual Meeting of the Optical Society of America, Rochester, New York, 2010, paper FWD3.
- 4.209. M. Pollnau, J.D.B. Bradley, J. Yang, E.H. Bernhardt, R.M. de Ridder, and K. Wörhoff,
"Rare-earth-ion doped waveguide amplifiers and lasers in alumina and polymers",
Frontiers in Optics/Laser Science, Annual Meeting of the Optical Society of America, Rochester, New York, 2010, paper FWD1. **Invited Paper.**
- 4.208. C. Dongre, H.J.W.M. Hoekstra, and M. Pollnau,
"Electrophoretic separation and detection of a few DNA molecules in an optofluidic chip",
Frontiers in Optics/Laser Science, Annual Meeting of the Optical Society of America, Rochester, New York, 2010, paper FMJ6.
- 4.207. M. Pollnau,
"Mid-infrared lasers: Challenges imposed by the population dynamics of the gain system",
Workshop on Mid-Infrared Fiber Laser Technology, Saint-Louis, France, 2010, paper 2. **Invited Paper.**
- 4.206. D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"High-power $\text{KY}(\text{WO}_4)_2:\text{Yb}^{3+}$ channel waveguide lasers",
European Workshop on Double Tunstate Lasers, Hamburg, Germany, 2010, Book of Abstracts, p. 10, paper A5. **Invited Paper.**
- 4.205. K. van Dalzen, S. Aravazhi, D. Geskus, K. Wörhoff, and M. Pollnau,
"Lattice matching and microstructuring of $\text{Gd}^{3+}, \text{Lu}^{3+}$ co-doped $\text{KY}(\text{WO}_4)_2:\text{Tm}^{3+}$ channel waveguide lasers",
European Workshop on Double Tunstate Lasers, Hamburg, Germany, 2010, Book of Abstracts, p. 9, paper A4. **Invited Paper.**
- 4.204. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"1.7-kHz-linewidth distributed feedback laser in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ ",
EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources, Hamburg, Germany, 2010, Conference Digest, Europhysics Conference Abstract Vol. **34C** (European Physical Society, Mulhouse, 2010), paper FrB7.

- 4.203. D. Gekus, S. Aravazhi, C. Grivas, K. Wörhoff, and M. Pollnau,
"Highly efficient KY(WO₄)₂:Gd³⁺,Lu³⁺,Yb³⁺ channel waveguide laser",
EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources,
Hamburg, Germany, 2010, Conference Digest, Europhysics Conference Abstract Vol. **34C** (European
Physical Society, Mulhouse, 2010), paper WeP12.
- 4.202. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Nd³⁺-doped polymer waveguide amplifiers and lasers",
EPS-QEOD Europhoton Conference on Solid-State, Fibre, and Waveguide Coherent Light Sources,
Hamburg, Germany, 2010, Conference Digest, Europhysics Conference Abstract Vol. **34C** (European
Physical Society, Mulhouse, 2010), paper WeP15.
- 4.201. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Continuous-wave polymer lasers",
IV International Workshop on Photonic and Electronic Materials, San Sebastian, Spain, 2010, Scientific
Program and Workshop Abstracts, p. 51.
- 4.200. D. Gekus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Highly efficient Gd, Lu co-doped KYW:Yb³⁺ planar and channel waveguide lasers",
IV International Workshop on Photonic and Electronic Materials, San Sebastian, Spain, 2010, Scientific
Program and Workshop Abstracts, p. 50.
- 4.199. L. Agazzi, K. Wörhoff, M. Pollnau, A. Kahn, M. Fechner, K. Petermann, and G. Huber,
"Upconversion spectroscopy of Al₂O₃:Er³⁺",
IV International Workshop on Photonic and Electronic Materials, San Sebastian, Spain, 2010, Scientific
Program and Workshop Abstracts, p. 49.
- 4.198. M. Pollnau, J.D.B. Bradley, E.H. Bernhardt, F. Ay, R.M. de Ridder, and K. Wörhoff,
"Integrated amplifiers and lasers in Al₂O₃:Er³⁺ thin films on a silicon chip",
IV International Workshop on Photonic and Electronic Materials, San Sebastian, Spain, 2010, Scientific
Program and Workshop Abstracts, p. 44. **Invited Paper.**
- 4.197. F. Ay, R.M. de Ridder, and M. Pollnau,
"Focused ion beam nano-structuring for applications in photonics",
Proceedings of the International Workshop on Cleanroom Training, UNAM, Ankara, Turkey, 2010 (Bilkent
University Press, Bilkent, 2010), p. 384. **Invited Paper.**
- 4.196. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"High-quality distributed phase-shift, distributed feedback cavities in Al₂O₃ waveguides",
Conference on Bragg Gratings, Photosensitivity and Poling in Glass Waveguides, Karlsruhe, Germany, 2010
(Optical Society of America, Washington, DC 2010), paper BMB5.
- 4.195. J. Yang, K. van Daltsen, K. Wörhoff, F. Ay, and M. Pollnau,
"High-gain Al₂O₃:Nd³⁺ integrated waveguide amplifiers",
European Materials Research Society Meeting, Strasbourg, France, 2010, Symposium K: "Rare Earth Doped
Materials for Optical Based Technologies", Session 14, Paper 9, pp. 53-55.
- 4.194. S. Aravazhi, D. Gekus, K. Wörhoff, and M. Pollnau,
"Gd³⁺, Lu³⁺ co-doped KY(WO₄)₂:Yb³⁺ planar waveguide lasers at 1025 and 980 nm",
European Materials Research Society Meeting, Strasbourg, France, 2010, Symposium K: "Rare Earth Doped
Materials for Optical Based Technologies", Session 14, Paper 8, pp. 52-53.
- 4.193. E.H. Bernhardt, K. Wörhoff, J.D.B. Bradley, R.M. de Ridder, and M. Pollnau,
"Integrated Al₂O₃:Er³⁺ microring and distributed feedback lasers on silicon",
European Materials Research Society Meeting, Strasbourg, France, 2010, Symposium K: "Rare Earth Doped
Materials for Optical Based Technologies", Session 1, Paper 4, pp. 5-6.

- 4.192. N. Ismail, A.C. Baclig, P.J. Caspers, F. Sun, K. Wörhoff, R. M. de Ridder, M. Pollnau, and A. Driessen, *"Design of low-loss arrayed waveguide gratings for applications in integrated Raman spectroscopy"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CFA7.
- 4.191. J. Yang, F. Ay, T. Lamprecht, F. Horst, B.J. Offrein, A. Driessen, K. Wörhoff, and M. Pollnau, *"Al₂O₃:Nd³⁺ waveguide amplifiers for use in optical backplanes"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CWP4.
- 4.190. L. Agazzi, J.D.B. Bradley, G. Roelkens, R. Baets, F. Ay, K. Wörhoff, and M. Pollnau, *"Wafer-scale monolithic integration of Al₂O₃:Er amplifiers with Si waveguides"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper JWA92.
- 4.189. I. Akca, N. Ismail, F. Sun, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, A. Driessen, K. Wörhoff, M. Pollnau, and R.M. de Ridder, *"Integrated arrayed waveguide grating spectrometer for on-chip optical coherence tomography"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper JWA66.
- 4.188. J.D.B. Bradley, M. Costa e Silva, M. Gay, L. Bramerie, A. Driessen, K. Wörhoff, J.C. Simon, and M. Pollnau, *"170 Gbit/s transmission in Al₂O₃:Er integrated amplifiers"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper ATuB5.
- 4.187. C. Dongre, J. van Weerd, G.A.J. Besselink, R. Martínez Vázquez, R. Osellame, G. Cerullo, R. van Weeghel, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau, *"High-resolution, multi-wavelength fluorescent DNA analysis in an optofluidic chip"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CTuN7.
- 4.186. C. Grivas, J. Yang, M.B.J. Diemeer, A. Driessen, and M. Pollnau, *"Continuous-wave solid-state polymer laser"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CTuU6.
- 4.185. E.H. Bernhardt, H.A.G.M. van Wolferen, L. Agazzi, M.R.H. Khan, C.G.H. Roeloffzen, K. Wörhoff, M. Pollnau, and R.M. de Ridder, *"Low-threshold, single-frequency distributed-feedback waveguide laser in Al₂O₃:Er³⁺ on silicon"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CTuU4.
- 4.184. D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau, *"High-gain KY(WO₄)₂:Yb³⁺ planar waveguide laser at the zero-phonon line"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CTuU3.
- 4.183. C. Dongre, M. Pollnau, and H.J.W.M. Hoekstra, *"Modulation-frequency encoding/decoding for parallel detection in biophotonic sensing"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CTuB1.
- 4.182. J. Yang, M.B.J. Diemeer, G. Sengo, M. Pollnau, and A. Driessen, *"Characterization of Nd-doped polymer waveguide amplifiers near 1060 and 870 nm"*, Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CMQ6.

- 4.181. F. Ay, E.H. Bernhardt, L. Agazzi, J.D.B. Bradley, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Characterization of Bragg gratings in Al_2O_3 waveguides fabricated by focused ion beam milling and laser interference lithography",
 Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CMQ4.
- 4.180. J.D.B. Bradley, R. Stoffer, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau,
"Widely wavelength-selective integrated ring laser in $Al_2O_3:Er$ ",
 Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CMQ2.
- 4.179. A. Crespi, Y. Gu, B. Ngamson, C. Dongre, H.J.W.M. Hoekstra, H.H. van den Vlekkert, P. Watts, M. Pollnau, G. Cerullo, and R. Osellame,
"Label-free detection in a lab-on-a-chip with a three-dimensional Mach-Zehnder interferometer",
 Conference on Lasers and Electro-Optics, San José, California, 2010, Technical Digest (Optical Society of America, Washington, DC 2010), paper CMH1.
- 4.178. V.D. Nguyen, T.G. van Leeuwen, J. Kalkman, B.I. Akca, N. Ismail, F. Sun, A. Driessen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"SiON integrated optics elliptic couplers for Fizeau-based optical coherence tomography",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThP23.
- 4.177. B.I. Akca, N. Ismail, F. Sun, A. Driessen, K. Wörhoff, M. Pollnau, R.M. de Ridder, V.D. Nguyen, J. Kalkman, and T.G. van Leeuwen,
"Integrated AWG spectrometer for on-chip optical coherence tomography and Raman spectroscopy",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper WeB1.
- 4.176. L. Agazzi, J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
" $Al_2O_3:Er^{3+}$ waveguide amplifiers at $1.5 \mu m$ ",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThE2.
- 4.175. E.H. Bernhardt, H.A.G.M. van Wolferen, L. Agazzi, M.R.H. Khan, C.G.H. Roeloffzen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Single-frequency, narrow-linewidth distributed feedback waveguide laser in $Al_2O_3:Er^{3+}$ on silicon",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThE1.
- 4.174. J.D.B. Bradley, L. Agazzi, F. Ay, K. Wörhoff, M. Pollnau, and R. Stoffer,
"Widely wavelength-selective $Al_2O_3:Er^{3+}$ ring laser",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThE3.
- 4.173. I. Iñurrategi, F. Ay, D. Geskus, S. Aravazhi, V. Gadgil, K. Wörhoff, and M. Pollnau,
"Bragg gratings in crystalline waveguides fabricated by focused ion beam milling",
 Proceedings of the 2nd International Workshop on FIB for Photonics, Cambridge, United Kingdom, 2010 (Bristol University, Bristol, 2010), pp. 8-9.
- 4.172. C. Dongre, H.J.W.M. Hoekstra, M. Pollnau, R. Martínez Vázquez, R. Osellame, G. Cerullo, J. van Weerd, R. van Weeghel, G.A.J. Besselink, and H.H. van den Vlekkert,
"Multi-wavelength fluorescence sensing with integrated waveguides in an optofluidic chip",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThB2.
- 4.171. N. Ismail, B.I. Akca, F. Sun, K. Wörhoff, R. M. de Ridder, M. Pollnau, and A. Driessen,
"Arrayed-waveguide-grating light collector for on-chip spectroscopy",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper WeB5.
- 4.170. K. van Dalzen, J. Yang, F. Ay, K. Wörhoff, and M. Pollnau,
"Nd-doped aluminum oxide integrated amplifiers at 880 nm, 1060 nm, and 1330 nm",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper ThP34.

- 4.169. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Continuous-wave lasers in polymer waveguides",
 European Conference on Integrated Optics, Cambridge, United Kingdom, 2010, paper WeE3.
- 4.168. D. Geskus, S. Aravazhi, E. Bernhardt, C. Grivas, K. Wörhoff, and M. Pollnau,
"Low-threshold and highly efficient Gd^{3+} , Lu^{3+} co-doped $KY(WO_4)_2:Yb^{3+}$ planar waveguide lasers",
 Advanced Solid-State Photonics Conference, San Diego, California, 2010 (Optical Society of America, Washington, DC 2010), paper ATuB2.
- 4.167. M. Pollnau, J.D.B. Bradley, F. Ay, E. Bernhardt, R.M. de Ridder, and K. Wörhoff,
"On-chip integrated lasers in $Al_2O_3:Er$ on silicon",
 OPTO, Photonics West, San Francisco, California, 2010, Advance Technical Programme, Conference
 "Optoelectronic Integrated Circuits XII", Session 7, p. 713, paper 7605-20. **Invited Paper.**
- 4.166. N. Ismail, F. Sun, F. Civitci, K. Wörhoff, R. M. de Ridder, M. Pollnau, and A. Driessen,
"Efficiency of integrated waveguide probes in the detection of fluorescence and backscattered light",
 BiOS, Photonics West, San Francisco, California, 2010, Advance Technical Programme, Conference "Optical
 Fibers and Sensors for Medical Diagnostics and Treatment Applications X", Session 1, p. 163, paper 7559-2.
- 4.165. K. Wörhoff, J.D.B. Bradley, L. Agazzi, and M. Pollnau,
"Rare-earth-ion-doped Al_2O_3 for integrated optical amplification and lasing",
 OPTO, Photonics West, San Francisco, California, 2010, Technical Abstract Summaries, Conference
 "Integrated Optics: Devices, Materials, and Technologies XIV", Session 2, p. 698, paper 7604-07. **Invited Paper.**
- 4.164. S. Aravazhi, D. Geskus, D. Günther, K. Wörhoff, and M. Pollnau,
"Growth, characterization, and waveguide lasing of Yb^{3+} , Lu^{3+} , Gd^{3+} co-doped $KY(WO_4)_2$ thin layers",
 International Commission for Optics Topical Meeting on Emerging Trends & Novel Materials in Photonics,
 Delphi, Greece, 2009, Conference Program & Book of Abstracts, p. 142.
- 4.163. F. Ay, L.J. Kauppinen, J.D.B. Bradley, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
*"Focused ion beam milled on-chip resonator nanostructures for applications in rare-earth-ion-doped Al_2O_3
 active waveguides"*,
 in IEEE LEOS Annual Meeting Conference Proceedings, Belek-Antalya, Turkey, 2009 (IEEE Photonics
 Society, New York, 2009), paper TuDD5, pp. 379-380.
- 4.162. N. Ismail, F. Sun, F. Civitci, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen,
*"Use of integrated optical waveguide probes as an alternative to fiber probes for sensing of light
 backscattered from small volumes"*,
 European Optical Society Topical Meeting on Optical Microsystems, Capri, Italy, 2009, On-site Programme,
 p. 33.
- 4.161. D. Geskus, S. Aravazhi, E. Bernhardt, C. Grivas, K. Wörhoff, and M. Pollnau,
"Highly efficient Gd , Lu co-doped $KY(WO_4)_2:Yb^{3+}$ planar waveguide laser",
 European Optical Society Topical Meeting on Lasers, Capri, Italy, 2009, On-site Programme, p. 27.
- 4.160. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Nd-complex-doped polymer channel waveguide laser",
 European Optical Society Topical Meeting on Lasers, Capri, Italy, 2009, On-site Programme, p. 27.
- 4.159. J.D.B. Bradley, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau,
"High-performance $Al_2O_3:Er^{3+}$ integrated optical amplifiers",
 International Laser Physics Workshop, Barcelona, Spain, 2009, Book of Abstracts, paper 8.3.5.
- 4.158. M. Pollnau, J.D.B. Bradley, L. Agazzi, E. Bernhardt, F. Ay, K. Wörhoff, and R.M. de Ridder,
" $Al_2O_3:Er^{3+}$ as a new platform for active integrated optics",
 International Conference on Transparent Optical Networks, São Miguel, Azores, Portugal, 2009, Paper
 We.D2.1. **Invited Paper.**

- 4.157. C. Dongre, J. van Weerd, R. van Weeghel, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. Dekker, G.A.J. Besselink, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"Multi-point, multi-wavelength fluorescence monitoring of DNA separation in a lab-on-a-chip with monolithically integrated femtosecond-laser-written waveguides",
European Conference on Biomedical Optics, Munich, Germany, 2009, Conference Digest, paper TuJ2.
- 4.156. V.D. Nguyen, J. Kalkman, N. Ismail, F. Sun, K. Wörhoff, A. Driessen, M. Pollnau, and T.G. van Leeuwen,
"Design and characterization of SiON integrated optics components for optical coherence tomography",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CL.P.14 THU.
- 4.155. J. Yang, M.B.J. Diemeer, G. Sengo, M. Pollnau, and A. Driessen,
"Nd-doped polymer waveguide amplifiers at 850-930 nm",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CJ7.5 THU.
- 4.154. J.D.B. Bradley, M. Gay, J.C. Simon, K. Wörhoff, and M. Pollnau,
"40 Gbit/s transmission in a silicon-compatible $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ integrated optical amplifier",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CI4.3 TUE.
- 4.153. D. Geskus, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Low-threshold laser in a high-index-contrast double tungstate waveguide",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CE4.1 TUE.
- 4.152. F. Ay, J.D.B. Bradley, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Optical performance investigation of focused ion beam nanostructured integrated Fabry-Perot microcavities in Al_2O_3 ",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CK.P.1 MON.
- 4.151. J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, K. Wörhoff, and M. Pollnau,
"Higher gain in 977-nm-pumped $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ integrated optical amplifiers",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CE1.4 MON.
- 4.150. L. Agazzi, J.D.B. Bradley, F. Ay, A. Kahn, H. Scheife, G. Huber, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
"Energy migration governs upconversion losses in Er^{3+} -doped integrated amplifiers",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2009, Conference Digest, paper CE1.3 MON.
- 4.149. J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, K. Wörhoff, and M. Pollnau,
"2.0 dB/cm gain in an $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ waveguide on silicon",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2009, Technical Digest (Optical Society of America, Washington, DC 2009), paper CThCC2.
- 4.148. R. Martínez Vázquez, R. Osellame, M. Cretich, M. Chiari, C. Dongre, H.J.W.M. Hoekstra, H. van den Vlekert, R. Ramponi, M. Pollnau, and G. Cerullo,
"Optical sensing by femtosecond laser written waveguides in microfluidic chip for capillary electrophoresis",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2009, Technical Digest (Optical Society of America, Washington, DC 2009), paper CThP4.
- 4.147. A. Kahn, H. Kühn, S. Heinrich, K. Petermann, G. Huber, J.D.B. Bradley, K. Wörhoff, and M. Pollnau,
"Low threshold channel waveguide laser in a monocrystalline $\text{Nd}:(\text{Gd}, \text{Lu})_2\text{O}_3$ film",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2009, Technical Digest (Optical Society of America, Washington, DC 2009), paper CTuP7.

- 4.146. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, G.A.J. Besselink, H.H. van den Vlekert, and M. Pollnau,
"Fluorescence monitoring of microchip capillary electrophoresis separation with monolithically integrated optical waveguides",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2009, Technical Digest (Optical Society of America, Washington, DC 2009), paper CTuM5.
- 4.145. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, G.A.J. Besselink, H.H. van den Vlekert, and M. Pollnau,
"Fluorescence monitoring of capillary electrophoresis separation of biomolecules with monolithically integrated optical waveguides",
European Lab-on-a-Chip Congress, Stockholm, Sweden, 2009, CD of abstracts, Poster 1.
- 4.144. R. Martínez Vázquez, R. Osellame, M. Cretich, C. Dongre, H. Hoekstra, H. van den Vlekert, R. Ramponi, M. Pollnau, M. Chiari, and G. Cerullo,
"Optical sensing in microchip capillary electrophoresis by femtosecond laser written waveguides",
23rd International Symposium on Microscale Bioseparations, Boston, Massachusetts, 2009, Final Program and Abstract Book, p. 250.
- 4.143. R. Martínez Vázquez, R. Osellame, C. Dongre, H.J.W.M. Hoekstra, M. Pollnau, H.H. van den Vlekert, R. van Weeghel, P. Watts, R. Ramponi, and G. Cerullo,
"Three-dimensional photonic devices fabricated by ultrafast lasers for optical sensing in lab-on-a-chip",
LASE, Photonics West, San Jose, California, 2009, Advance Technical Programme, Conference "Laser Applications in Microelectronic and Optoelectronic Manufacturing XIV", Session JT1 "Femtosecond Laser Processing", p. 175, paper 7203-35.
- 4.142. M. Pollnau, C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, G.A.J. Besselink, and H.H. van den Vlekert,
"Monitoring of DNA molecules in a lab on a chip with femtosecond laser written waveguides",
39th Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah, 2009, Session "Medical and Bio-Physics", p. 213. **Invited Paper.**
- 4.141. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, G.A.J. Besselink, H.H. van den Vlekert, and M. Pollnau,
"Fluorescence monitoring of capillary electrophoresis separation in a lab on a chip with monolithically integrated optical waveguides",
photonics 4 life Scientific Meeting, Brussels, Belgium, 2008.
- 4.140. M. Pollnau,
"Sapphire and other dielectric waveguide devices",
2008 IEEE LEOS Annual Meeting, Newport Beach, California, 2008, Conference Proceedings, paper WE5. **Invited Paper.**
- 4.139. R. Martínez Vázquez, D. Nolli, R. Osellame, C. Dongre, M. Pollnau, G. Cerullo, and R. Ramponi,
"Integration of femtosecond laser written waveguides for optical detection in microfluidic chips",
Proceedings of the European Optical Society Annual Meeting, Paris, France, 2008, TOM 1: "Biophotonics", Session 8 "Biosensors and Biochips".
- 4.138. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, D. Nolli, R. Martínez Vázquez, R. Osellame, G. Cerullo, R. van Weeghel, G.A.J. Besselink, and M. Pollnau,
"Monitoring of fluorescently labelled DNA during capillary electrophoresis in a lab-on-a-chip with integrated waveguides",
Proceedings of the European Optical Society Annual Meeting, Paris, France, 2008, TOM 1: "Biophotonics", Session 8 "Biosensors and Biochips".

- 4.137. J. Yang, M.B.J. Diemeer, D. Geskus, G. Sengo, M. Pollnau, and A. Driessen,
"Demonstration of net gain at 1060 nm in a Nd-complex-doped, photo-defined polymer channel waveguide",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Paris, France, 2008, Conference Digest, **postdeadline paper** TUoE.4.
- 4.136. A. Kahn, H. Kühn, S. Heinrich, T. Gün, F. Tellkamp, K. Petermann, J.D.B. Bradley, F. Ay, K. Wörhoff, M. Pollnau, Y. Kuzminykh, Y. Luo, P. Hoffmann, and G. Huber,
"In-band pumping of epitaxially grown $\text{Er}:(\text{Gd}, \text{Lu})_2\text{O}_3$ waveguides for active integrated optical devices",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Paris, France, 2008, Conference Digest, paper THoD.2.
- 4.135. K. Wörhoff, J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, A. Kahn, H. Scheife, K. Petermann, G. Huber, and M. Pollnau,
"Energy-transfer upconversion in $\text{Al}_2\text{O}_3:\text{Er}^{3+}$ thin layers",
International Workshop on Advanced Spectroscopy and Optical Materials, Gdansk, Poland, 2008, Abstracts, paper 6-O-3.
- 4.134. L. Agazzi, J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Spectroscopy and gain in $\text{Al}_2\text{O}_3:\text{Er}$ waveguides",
International Conference on Luminescence and Optical Spectroscopy of Condensed Matter, Lyon, France, 2008, Book of Abstracts, paper TuA2-O2.
- 4.133. A. Driessen and M. Pollnau,
"Rare-earth-ion-doped materials and resonant structures for active integrated optics",
International Laser Physics Workshop, Trondheim, Norway, 2008, Book of Abstracts, p. 477. **Invited Paper.**
- 4.132. F. Ay, A. Uranga, J.D.B. Bradley, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Focused ion beam nano-structuring of Bragg gratings in Al_2O_3 channel waveguides",
The FIB for Photonics Workshop, Eindhoven, The Netherlands, 2008, Session 4, Paper 2.
- 4.131. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, D. Nolli, R. Martínez Vázquez, R. Osellame, G. Cerullo, G.A.J. Besselink, and M. Pollnau,
"Fluorescence sensing with femtosecond laser written waveguides in a capillary electrophoresis chip for monitoring molecular separation",
Proceedings of the 14th European Conference on Integrated Optics, Eindhoven, The Netherlands, 2008, paper WeF2, pp. 107-110.
- 4.130. R. Osellame, R. Martínez Vázquez, C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Ramponi, M. Pollnau, and G. Cerullo,
"Femtosecond laser fabrication for the integration of optical sensors in microfluidic lab-on-chip devices",
International Conference on Ultrafast Phenomena, Stresa, Italy, 2008, Conference Digest (Europhysics Conference Abstract Vol. 32C), paper TUE2P.3.
- 4.129. L. Agazzi, J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
" $\text{Al}_2\text{O}_3:\text{Er}$ waveguide amplifiers for Si-technology compatible integrated optical applications",
ePIXnet Spring School on Technology for Photonics Integration, Portoferraio/Elba, Italy, 2008, Book of Abstracts, p. 66.
- 4.128. J.D.B. Bradley, L. Agazzi, D. Geskus, T. Blauwendraat, F. Ay, K. Wörhoff, and M. Pollnau,
"Investigation of optical gain in $\text{Al}_2\text{O}_3:\text{Er}$ channel waveguide amplifiers",
Conference on Lasers and Electro-Optics, San José, California, 2008, Technical Digest (Optical Society of America, Washington, DC 2008), paper JTua30.
- 4.127. D. Geskus, J.D.B. Bradley, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Poor man's channel waveguide laser: $\text{KY}(\text{WO}_4)_2:\text{Yb}$ ",
Conference on Lasers and Electro-Optics, San José, California, 2008, Technical Digest (Optical Society of America, Washington, DC 2008), paper CTuS4.

- 4.126. A. Kahn, T. Gün, B. Ileri, H. Kühn, K. Petermann, G. Huber, J.D.B. Bradley, F. Ay, K. Wörhoff, M. Pollnau, Y. Luo, and P. Hoffmann,
"Mono-crystalline rare earth doped (Gd, Lu)₂O₃ waveguiding films produced by pulsed laser deposition and structured by reactive ion etching",
Conference on Lasers and Electro-Optics, San José, California, 2008, Technical Digest (Optical Society of America, Washington, DC 2008), paper CTuS1.
- 4.125. R. Osellame, R. Martínez Vázquez, R. Ramponi, G. Cerullo, C. Dongre, R. Dekker, H.J.W.M. Hoekstra, and M. Pollnau,
"Integrated optical sensing in a lab-on-chip by femtosecond laser written waveguides",
Conference on Lasers and Electro-Optics, San José, California, 2008, Technical Digest (Optical Society of America, Washington, DC 2008), paper CMHH3.
- 4.124. M. Pollnau,
"Er-doped aluminium oxide waveguide amplifiers",
Workshop on Sensitized Er Doped Waveguide Amplifier/Laser, Levico Terme - Trento, Italy, 2008, Book of Abstracts, p. 14. **Invited Paper.**
- 4.123. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, D. Nolli, R. Martínez Vázquez, R. Osellame, P. Laporta, G. Cerullo, G.A.J. Besselink, R. van Weeghel, and M. Pollnau,
"Femtosecond laser written waveguides for fluorescence sensing of analyte flow during capillary electrophoresis",
European Conference on Optical Chemical and Biosensors, Dublin, Ireland, 2008, Book of Abstracts, pp. 116-117, paper P014.
- 4.122. K. Wörhoff, J.D.B. Bradley, F. Ay, D. Geskus, T. Blauwendraat, and M. Pollnau,
"Optimization of Al₂O₃:Er waveguide technology for active integrated optical devices",
Photonics Europe, Strasbourg, France, 2008, Technical Programme, Conference "Silicon Photonics and Photonic Integrated Circuits", Session 10 "Active Waveguides and Devices II", p. 43, paper 6996-43.
- 4.121. J.D.B. Bradley, D. Geskus, T. Blauwendraat, F. Ay, K. Wörhoff, M. Pollnau, A. Kahn, H. Scheife, K. Petermann, and G. Huber,
"Growth, micro-structuring, spectroscopy, and optical gain in as-deposited Al₂O₃:Er waveguides",
Advanced Solid-State Photonics Conference, Nara, Japan, 2008 (Optical Society of America, Washington, DC 2008), paper WB10.
- 4.120. R. Osellame, R. Martínez Vázquez, R. Ramponi, G. Cerullo, C. Dongre, R. Dekker, H.J.W.M. Hoekstra, and M. Pollnau,
"Femtosecond laser microfabrication of optical waveguides in commercial microfluidic lab-on-a-chip",
BIOS, Photonics West, San Jose, California, 2008, Advance Technical Programme, Conference 6886 "Microfluidics, BioMEMS, and Medical Microsystems VI", Session 4 "BioMEMS Devices and Microfabrication Technologies I", p. 432, paper 6886-14.
- 4.119. F. Ay, J.D.B. Bradley, W.C.L. Hopman, V.J. Gadgil, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
"Focused-ion-beam nano-structuring of Al₂O₃ dielectric layers for photonic applications",
International Conference on Micro- and Nano-Engineering, Copenhagen, Denmark, 2007, Book of Abstracts, pp. 627-628.
- 4.118. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Reactive ion etching of low-loss channel waveguides in Al₂O₃ and Y₂O₃ layers",
International Conference on Micro- and Nano-Engineering, Copenhagen, Denmark, 2007, Book of Abstracts, pp. 375-376.
- 4.117. F. Ay, J.D.B. Bradley, D. Geskus, K. Wörhoff, and M. Pollnau,
"Towards rare-earth-ion-doped Al₂O₃ active integrated optical devices",
International Symposium on Modern Optics and its Applications, Bandung, Indonesia, 2007, Program and Abstracts, pp. 63-66. **Invited Paper.**

- 4.116. S. García-Revilla, R. Valiente, Y.E. Romanyuk, and M. Pollnau,
"Temporal dynamics of upconversion luminescence in Er^{3+} , Yb^{3+} -codoped $KY(WO_4)_2$ thin films",
International Conference on Dynamical Processes in Excited States of Solids, Segovia, Spain, 2007, paper We-P4-26.
- 4.115. S. García-Revilla, R. Valiente, Y.E. Romanyuk, and M. Pollnau,
"Probability of cooperative upconversion: Tb^{3+} , Yb^{3+} versus Dy^{3+} , Yb^{3+} co-doped compounds",
International Conference on Dynamical Processes in Excited States of Solids, Segovia, Spain, 2007, paper We-P4-25.
- 4.114. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Low-loss rib waveguides in Al_2O_3 layers for active integrated optical devices",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2007, Conference Digest, paper CE7-6-THU.
- 4.113. M. Pollnau,
"Dielectric waveguide lasers",
International Conference on Lasers, Applications, and Technologies, Minsk, Belarus, 2007, Conference Program, paper L01/VI-2. **Invited Paper.**
- 4.112. F. Ay, J.D.B. Bradley, T. Blauwendraat, K. Wörhoff, and M. Pollnau,
"Rare-earth-ion-doped Al_2O_3 waveguides for active integrated optical devices",
International Conference on Lasers, Applications, and Technologies, Minsk, Belarus, 2007, Conference Program, paper L01/II-3.
- 4.111. Y. Luo, F. Gardillou, C.N. Borca, D. Coric, Y.E. Romanyuk, M. Pollnau, P. Hoffmann, and R.P. Salathé,
"Measurement of propagation loss in rare-earth-ion-doped potassium yttrium double tungstate (KYW) waveguides by optical low coherence reflectometry",
European Materials Research Society Meeting, Strasbourg, France, 2007, Symposium C: Rare Earth Ion Doping for Photonics: Materials, Mechanisms and Devices, paper C-12-4.
- 4.110. M. Pollnau,
"Rare-earth-ion-doped double-tungstate waveguides",
European Materials Research Society Meeting, Strasbourg, France, 2007, Symposium C: Rare Earth Ion Doping for Photonics: Materials, Mechanisms and Devices, paper C-11-6. **Invited Paper.**
- 4.109. S. Rivier, X. Mateos, V. Petrov, U. Griebner, Y.E. Romanyuk, C.N. Borca, F. Gardillou, and M. Pollnau,
" $KY(WO_4)_2:Tm^{3+}$ planar waveguide laser",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2007, Technical Digest (Optical Society of America, Washington, DC 2007), paper CTuI6.
- 4.108. K. Wörhoff, J.D.B. Bradley, F. Ay, and M. Pollnau,
"Low-loss Al_2O_3 waveguides for active integrated optics",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2007, Technical Digest (Optical Society of America, Washington, DC 2007), paper CMW5.
- 4.107. W.C.L. Hopman, F. Ay, W. Hu, V.J. Gadgil, L. Kuipers, M. Pollnau, and R.M. de Ridder,
"Focused ion beam milling strategies of photonic crystal structures in silicon",
European Conference on Integrated Optics, Copenhagen, Denmark, 2007, Book of Abstracts, paper FA1.
- 4.106. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Reactive ion etching of Y_2O_3 films applying F^- , Cl^- , and Cl/Br -based inductively coupled plasmas",
International Conference of the Electro-Chemical Society, Cancun, Mexico, 2006, Meeting Abstracts (MA 2006-02, ISSN 1091-8213), Abstract 1350.

- 4.105. K. Wörhoff, F. Ay, and M. Pollnau,
"Optimization of low-loss Al_2O_3 waveguide fabrication for application in active integrated optical devices",
International Conference of the Electro-Chemical Society, Cancun, Mexico, 2006, Meeting Abstracts (MA 2006-02, ISSN 1091-8213), Abstract 1341.
- 4.104. F. Gardillou, Y.E. Romanyuk, C.N. Borca, R.P. Salathé, and M. Pollnau,
"Optical rib waveguide structures based on (Lu,Gd) co-doped $KY(WO_4)_2:Yb$ epitaxial layers",
European Conference on Optical Communication, Cannes, France, 2006, paper We2.6.2.
- 4.103. C. Grivas, D.P. Shepherd, R.W. Eason, L. Laversenne, P. Moretti, and M. Pollnau,
"Proton-implanted Ti:sapphire buried channel-waveguide lasers",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Pisa, Italy, 2006, Europhysics Conference Abstracts, Vol. **30J**, paper TuE6.
- 4.102. F. Ay, K. Wörhoff, J. Bradley, and M. Pollnau,
"Reliable fabrication of low-loss Al_2O_3 waveguides for active integrated optics",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Pisa, Italy, 2006, Europhysics Conference Abstracts, Vol. **30J**, paper TuC2.
- 4.101. F. Gardillou, C.N. Borca, Y.E. Romanyuk, C. Hibert, R.P. Salathé, and M. Pollnau,
"Optical channel waveguides in Yb-doped $KY(WO_4)_2$ epilayers",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Pisa, Italy, 2006, Europhysics Conference Abstracts, Vol. **30J**, paper TuA6.
- 4.100. F. Gardillou, Y.E. Romanyuk, M. Pavius, C.N. Borca, R.P. Salathé, and M. Pollnau,
"Focused-ion-beam nano-structured rib channel waveguides in $KY(WO_4)_2$ for laser applications",
International Laser Physics Workshop, Lausanne, Switzerland, 2006, Book of Abstracts, p. 210.
- 4.99. C.N. Borca, F. Gardillou, Y.E. Romanyuk, C. Hibert, M. Pollnau, and R.P. Salathé,
"Optical rib waveguides in Yb-doped $KY(WO_4)_2$ epilayers",
International Laser Physics Workshop, Lausanne, Switzerland, 2006, Book of Abstracts, p. 206. **Invited Paper.**
- 4.98. M. Pollnau,
"Upconversion luminescence transients",
Workshop on Advances in the Study of Luminescent Materials, International School of Atomic and Molecular Spectroscopy, Erice, Italy, 2006. **Invited Paper.**
- 4.97. L. Laversenne, C.N. Borca, M. Pollnau, P. Moretti, C. Grivas, D.P. Shepherd, and R.W. Eason,
"Ti:sapphire buried channel waveguide laser by proton implantation",
Conference on Lasers and Electro-Optics, Long Beach, California, 2006, Technical Digest (Optical Society of America, Washington, DC 2006), paper JWB47.
- 4.96. C.N. Borca, Y.E. Romanyuk, F. Gardillou, M. Pollnau, M.P. Bernal, and P. Moretti,
"Optical channel waveguides in $KY(WO_4)_2:Yb^{3+}$ ",
Conference on Lasers and Electro-Optics, Long Beach, California, 2006, Technical Digest (Optical Society of America, Washington, DC 2006), paper CMFF3.
- 4.95. M. Pollnau,
"Rare-earth-ion-doped continuous-wave 3- μ m lasers",
Mid-Infrared Coherent Sources Conference, Barcelona, Spain, 2005, Book of Summaries, paper Tu6. **Invited Paper.**
- 4.94. M. Pollnau,
"Optical waveguides in crystalline oxide materials: Growth, structuring, characterization, and applications",
International Symposium on Coherent Optical Science, Chofu, Tokyo, Japan, 2005, Session 3: Laser and Photonic Devices. **Invited Paper.**

- 4.93. Y.E. Romanyuk, C.N. Borca, M. Pollnau, and L.L. Kuandykov,
"Thin layers of $KY(WO_4)_2:Yb^{3+}$ for waveguide lasers",
 16th American Conference on Crystal Growth and Epitaxy, Big Sky Resort, Montana, 2005, Abstract Book,
 p. 51.
- 4.92. C.N. Borca, F. Zäh, C. Schnider, R.P. Salathé, M. Pollnau, and P. Moretti,
"Optical planar waveguides in $KY(WO_4)_2$ formed by ion-beam implantation",
 International Laser Physics Workshop, Kyoto, Japan, 2005, Book of Abstracts, p. 246.
- 4.91. Y.E. Romanyuk, C.N. Borca, M. Pollnau, S. Rivier, V. Petrov, and U. Griebner,
"High slope efficiency in epitaxially grown $KY(WO_4)_2:Yb^{3+}$ waveguide laser",
 International Laser Physics Workshop, Kyoto, Japan, 2005, Book of Abstracts, p. 243. **Invited Paper.**
- 4.90. C.N. Borca, F. Zäh, C. Schnider, R.P. Salathé, M. Pollnau, and P. Moretti,
"Fabrication of optical planar waveguides in $KY(WO_4)_2$ by He-ion implantation",
 Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2005, Conference Digest, paper CE6-3-FRI.
- 4.89. Y.E. Romanyuk, C.N. Borca, M. Pollnau, S. Rivier, V. Petrov, and U. Griebner,
"Surface and buried planar waveguide lasers based on $KY(WO_4)_2:Yb^{3+}$ ",
 Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2005, Conference Digest, paper CJ6-3-THU.
- 4.88. C.N. Borca, M. Pollnau, and P. Moretti,
"Fabrication of optical planar and channel waveguides in Yb^{3+} -doped $KY(WO_4)_2$ by He-ion implantation",
 European Materials Research Society Meeting, Strasbourg, France, 2005, Scientific Program, p. C9, paper C-VI.01.
- 4.87. Y.E. Romanyuk, C.N. Borca, M. Pollnau, U. Griebner, S. Rivier, and V. Petrov,
" $KY(WO_4)_2:Yb^{3+}$ waveguide laser",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2005, Technical Digest (Optical Society of America, Washington, DC 2005), paper CThI5.
- 4.86. M. Pollnau,
"Optical waveguides in hard crystalline materials",
 Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2005, Technical Digest (Optical Society of America, Washington, DC 2005), paper CWD3. **Invited Paper.**
- 4.85. M. Pollnau,
"Optical amplification in photonic integrated circuits",
 European Conference on Integrated Optics, Grenoble, France, 2005, Book of Abstracts, pp. 53-57. **Invited Paper.**
- 4.84. S. Bourquin, L. Laversenne, S. Rivier, T. Lasser, R.P. Salathé, M. Pollnau, C. Grivas, D.P. Shepherd, and R.W. Eason,
"Parallel broadband fluorescent light source for optical coherence tomography",
 BIOS, Photonics West, San Jose, California, 2005, Advance Technical Programme, Conference "Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine IX", Session 8 "New Light Sources", p. 40, paper 5690-36.
- 4.83. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, and M. Pollnau,
"Single transverse-mode laser operation of $Ti:sapphire$ rib waveguides",
 EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, **postdeadline paper PD5.**

- 4.82. Y.E. Romanyuk, V. Apostolopoulos, I. Utke, and M. Pollnau,
"Rare-earth-ion doped KY(WO₄)₂ optical waveguides grown by liquid-phase epitaxy",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper ThD6.
- 4.81. L. Laversenne, P. Hoffmann, M. Pollnau, and P. Moretti,
"Proton implanted buried planar and channel waveguides in sapphire and Ti:sapphire",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper ThD3.
- 4.80. Y. Kuzminykh, S. Bär, H. Scheife, G. Huber, V. Apostolopoulos, and M. Pollnau,
"Waveguiding thin Y₂O₃ films grown on sapphire substrates",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper ThC2.
- 4.79. V. Apostolopoulos, L. Laversenne, T. Colomb, C. Depeursinge, R.P. Salathé, M. Pollnau, R. Osellame, G. Cerullo, and P. Laporta,
"Femtosecond irradiation induced refractive-index changes and channel waveguiding in bulk Ti³⁺:sapphire",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper ThB4.
- 4.78. S. Rivier, L. Laversenne, S. Bourquin, R.P. Salathé, M. Pollnau, C. Grivas, D.P. Shepherd, R.W. Eason, M. Flury, I. Philipoussis, and H.P. Herzig,
"Coherent broadband light source for parallel optical coherence tomography",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper WeD5.
- 4.77. M. Pollnau, L. Laversenne, H.G. Limberger, S. Bigotta, A. Toncelli, and M. Tonelli,
"Superquadratic behavior of upconversion luminescence transients in rare-earth-ion doped laser crystals",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper TuD6.
- 4.76. S. García-Revilla, R. Valiente, Y.E. Romanyuk, and M. Pollnau,
"Optical spectroscopy of rare-earth ions doped KY(WO₄)₂ thin films",
EPS-QEOD Europhoton Conference on Solid-State and Fiber Coherent Light Sources, Lausanne, Switzerland, 2004, Europhysics Conference Abstracts, Vol. **28C**, paper TuC16.
- 4.75. Y.E. Romanyuk, I. Utke, D. Ehrentraut, M. Pollnau, S. García-Revilla, R. Valiente, and N.V. Kuleshov,
"Low-temperature liquid phase epitaxy of rare-earth-ion doped KY(WO₄)₂ thin layers",
12th International Conference on Vapor Growth and Epitaxy, Grenoble, France, 2004, Abstracts, p. 404.
- 4.74. M. Pollnau,
"Sapphire and Ti:sapphire buried waveguide structures",
International Laser Physics Workshop, Trieste, Italy, 2004, Book of Abstracts, p. 209. **Invited Paper.**
- 4.73. L. Laversenne, P. Hoffmann, M. Pollnau, and P. Moretti,
"Buried planar and channel waveguides in sapphire and Ti:sapphire by proton implantation",
Integrated Photonics Research Topical Meeting, San Francisco, California, 2004, Technical Digest (Optical Society of America, Washington, DC 2004), paper IFF2.
- 4.72. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, and M. Pollnau,
"Ar⁺ beam etched Ti:sapphire rib waveguides: a route for the development of broadband fluorescence and channel laser sources",
Conference on Lasers and Electro-Optics, San Francisco, California, 2004, Technical Digest (Optical Society of America, Washington, DC 2004), paper CWA53.

- 4.71. L. Laversenne, P. Hoffmann, M. Pollnau, and P. Moretti,
"Buried planar and channel waveguides in sapphire and Ti:sapphire by proton implantation",
Conference on Lasers and Electro-Optics, San Francisco, California, 2004, Technical Digest (Optical Society of America, Washington, DC 2004), paper CTuU5.
- 4.70. V. Apostolopoulos, L. Laversenne, T. Colomb, C. Depeursinge, R.P. Salathé, M. Pollnau, R. Osellame, G. Cerullo, and P. Laporta,
"Femtosecond irradiation induced refractive-index changes and channel waveguiding in bulk Ti³⁺:sapphire",
Conference on Lasers and Electro-Optics, San Francisco, California, 2004, Technical Digest (Optical Society of America, Washington, DC 2004), paper CMY4.
- 4.69. L. Laversenne, M. Pollnau, S. Bigotta, A. Toncelli, M. Tonelli, and A.I. Zagumennyi,
"Super-quadratic dependence of upconversion luminescence transients excited by energy-transfer upconversion",
International Conference on Luminescence and its Applications, Bombay, India, 2004, Programme, p. 5.
- 4.68. L. Laversenne, A. Crunteanu, and M. Pollnau,
"Novel broadband luminescent light sources for interferometry",
International Conference on Luminescence and its Applications, Bombay, India, 2004, Programme, p. 6.
Invited Paper.
- 4.67. M. Pollnau,
"Ti:sapphire waveguide emitters as light sources for interferometry",
34th Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah, 2004, Session "Optical Communications". **Invited Paper.**
- 4.66. D. Ehrentraut, Y.E. Romanyuk, and M. Pollnau,
"Flux growth and liquid-phase epitaxy of Mn⁶⁺-doped sulfates, molybdates, and tungstates",
Advanced Crystal Growth Conference, Seoul, South Korea, 2003, Final Program & Abstracts, paper A22.
Invited Paper.
- 4.65. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, M. Pollnau, A. Crunteanu, and M. Jelinek,
"Single-transverse-mode broadband luminescence source based on a PLD grown Ti:sapphire waveguide in rib geometry",
International Conference on Laser Ablation, Hersonissos, Crete, Greece, 2003, paper ThPS90.
- 4.64. A. Aznar, D. Ehrentraut, Y.E. Romanyuk, R. Solé, M. Aguiló, P. Gerner, H.U. Güdel, and M. Pollnau,
"Liquid phase epitaxy and spectroscopic investigation of optically active KYb(WO₄)₂ thin layers",
International Conference on f-Elements, Geneva, Switzerland, 2003, Final Programme and Abstract Book, p. 111, paper PC-42.
- 4.63. L. Laversenne, M. Pollnau, S. Bigotta, A. Toncelli, and M. Tonelli,
"Super-quadratic behavior of luminescence decay excited by energy-transfer upconversion",
International Conference on f-Elements, Geneva, Switzerland, 2003, Final Programme and Abstract Book, p. 64, paper OP-13.
- 4.62. M. Pollnau,
"Impact of the spectroscopic properties of rare-earth ions on solid-state laser systems",
International Conference on f-Elements, Geneva, Switzerland, 2003, Final Programme and Abstract Book, p. 41, paper SL-19. **Invited Paper.**
- 4.61. M. Pollnau,
"Novel crystalline-waveguide broadband light sources for interferometry",
International Laser Physics Workshop, Hamburg, Germany, 2003, Book of Abstracts, p. 240. **Invited Paper.**

- 4.60. D. Ehrentraut, A. Aznar, R. Solé, M. Aguiló, P. Gerner, H.U. Güdel, and M. Pollnau, *"Liquid phase epitaxy and optical investigation of stoichiometric KYb(WO₄)₂ thin layers"*, International Symposium on Laser and Nonlinear Optical Materials, Keystone, Colorado, 2003, Abstract Book, pp. 169-170.
- 4.59. Y.E. Romanyuk, D. Ehrentraut, S. Kück, and M. Pollnau, *"Flux growth and liquid phase epitaxy of undoped and Mn⁶⁺-doped sulfates, tungstates, and molybdates"*, Fifteenth American Conference on Crystal Growth and Epitaxy, Keystone, Colorado, 2003, Abstract Book, pp. 82-83.
- 4.58. C. Grivas, D.P. Shepherd, T.C. May-Smith, R.W. Eason, M. Pollnau, A. Crunteanu, and M. Jelinek, *"Ti:sapphire rib waveguides as single-transverse-mode broadband fluorescence sources for optical coherence tomography applications"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2003, Europhysics Conference Abstracts Vol. **27E**, paper CG3-3-WED.
- 4.57. L. Laversenne, A. Crunteanu, P. Hoffmann, M. Pollnau, P. Moretti, and J. Mugnier, *"Proton implanted sapphire planar and channel waveguides"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2003, Europhysics Conference Abstracts Vol. **27E**, paper CG3-2-WED.
- 4.56. D. Ehrentraut and M. Pollnau, *"On the potential of BaSO₄:Mn⁶⁺ for broadly tunable laser emission in the near infrared spectral region"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2003, Europhysics Conference Abstracts Vol. **27E**, paper CG2-4-WED.
- 4.55. Y.E. Romanyuk, D. Ehrentraut, M. Pollnau, and S. Kück, *"Flux growth and liquid phase epitaxy of Mn⁶⁺-doped tungstates and molybdates"*, Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2003, Europhysics Conference Abstracts Vol. **27E**, paper CG2-1-WED.
- 4.54. Y.E. Romanyuk, D. Ehrentraut, A. Aznar, R. Solé, M. Aguiló, P. Gerner, H.U. Güdel, and M. Pollnau, *"Liquid phase epitaxy and optical investigation of KYb(WO₄)₂ thin layers"*, International Spring Workshop on Spectroscopy, Structure and Synthesis of Rare Earths Systems, Wrocław - Ładek Zdrój, Poland, 2003, Abstracts, paper O22.
- 4.53. L. Laversenne, M. Pollnau, S. Bigotta, A. Toncelli, and M. Tonelli, *"Dependence of upconversion on direct luminescence decay in energy-transfer upconversion"*, International Spring Workshop on Spectroscopy, Structure and Synthesis of Rare Earths Systems, Wrocław - Ładek Zdrój, Poland, 2003, Abstracts, paper O4.
- 4.52. M. Pollnau, *"Broadband waveguided light sources"*, International Spring Workshop on Spectroscopy, Structure and Synthesis of Rare Earths Systems, Wrocław - Ładek Zdrój, Poland, 2003, Abstracts, paper L8. **Invited Paper.**
- 4.51. L. Laversenne, A. Crunteanu, P. Hoffmann, M. Pollnau, P. Moretti, and J. Mugnier, *"Sapphire planar waveguides fabricated by H⁺ ion beam implantation"*, Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2003, Technical Digest (Optical Society of America, Washington, DC 2003), paper CThT7.
- 4.50. M. Pollnau, *"Novel broadband light sources for optical coherence tomography"*, 33rd Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah, 2003, Session "Field Effects". **Invited Paper.**

- 4.49. A. Crunteanu, G. Jänchen, P. Hoffmann, M. Pollnau, and C. Buchal,
"Structuring of sapphire by ion beam implantation and chemical wet etching",
Micro- and Nanoengineering International Conference, Lugano, Switzerland, 2002, Book of Abstracts,
pp. 218-219, paper MSF-P10.
- 4.48. A. Crunteanu, M. Pollnau, G. Jänchen, P. Hoffmann, R.P. Salathé, R.W. Eason, and D.P. Shepherd,
"Laser-assisted microstructuring for Ti:sapphire channel-waveguide fabrication",
International Conference on Advanced Laser Technologies, Adelboden, Switzerland, 2002, Technical Digest,
pp. 136-137.
- 4.47. M. Pollnau, D. Ehrentraut, and S. Kück,
"Epitaxial growth and spectroscopic investigation of hexavalent manganese in barium sulfate",
International Conference on Luminescence, Budapest, Hungary, 2002, Program and Abstracts, p. 136.
- 4.46. M. Pollnau, R.V. Fedosseev, and H.G. Limberger,
"Sub-quadratic dependence of visible upconversion on infra-red direct luminescence decay owing to static energy-transfer upconversion",
International Conference on Luminescence, Budapest, Hungary, 2002, Program and Abstracts, p. 98.
- 4.45. M. Pollnau,
"Broadband luminescent materials in waveguide geometry",
International Conference on Luminescence, Budapest, Hungary, 2002, Program and Abstracts, p. 13. **Invited Paper.**
- 4.44. D. Ehrentraut and M. Pollnau,
"Homoepitaxial growth of high-quality BaSO₄:Mn⁶⁺ using low-temperature liquid phase epitaxy",
Fourteenth American Conference on Crystal Growth and Epitaxy, Seattle, Washington, 2002, Abstract Book,
p. 65.
- 4.43. M. Pollnau,
"Spectroscopy of erbium 3-μm lasers",
Workshop on The Status and Prospects of Luminescence Research, International School of Atomic and
Molecular Spectroscopy, Erice, Italy, 2002. **Invited Paper.**
- 4.42. M. Pollnau,
"Fractional energy-transfer upconversion: A new view on upconversion luminescence",
Workshop on The Status and Prospects of Luminescence Research, International School of Atomic and
Molecular Spectroscopy, Erice, Italy, 2002. **Invited Paper.**
- 4.41. A. Crunteanu, P. Hoffmann, M. Pollnau, and Ch. Buchal,
"Structuring of sapphire by laser-assisted methods, ion-beam implantation, and chemical wet etching",
European Materials Research Society Meeting, Strasbourg, France, 2002, Scientific Program, p. D8, paper D-II.21.
- 4.40. D. Ehrentraut, M. Pollnau, and S. Kück,
"Liquid phase epitaxy, spectroscopic investigation, and broadband emission of BaSO₄:Mn⁶⁺ layers",
Conference on Lasers and Electro-Optics, Long Beach, California, 2002, OSA Trends in Optics and
Photonics, Vol. **73** (Optical Society of America, Washington, DC 2002), pp. 234-235, paper CTuK56.
- 4.39. A. Crunteanu, G. Jänchen, R.P. Salathé, P. Hoffmann, M. Pollnau, R.W. Eason, and D.P. Shepherd,
"Ti:sapphire rib channel waveguide fabricated by reactive ion etching of a planar waveguide",
Conference on Lasers and Electro-Optics, Long Beach, California, 2002, OSA Trends in Optics and
Photonics, Vol. **73** (Optical Society of America, Washington, DC 2002), p. 265, paper CTuP5.
- 4.38. D. Ehrentraut and M. Pollnau,
"Layer growth of high-quality BaSO₄:Mn⁶⁺ using liquid phase epitaxy",
Materials Research Society Spring Meeting, San Francisco, California, 2002, Abstracts (Materials Research
Society, Warrendale 2002), pp. 198-199, paper K5.3.

- 4.37. M. Pollnau,
"Fractional energy-transfer upconversion as a probe for rare-earth-ion distributions in the host",
32nd Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah, 2002, Session "Rare Earth Materials and Applications". **Invited Paper**.
- 4.36. S. García-Revilla, F. Rodríguez, R. Valiente, I. Hernández, and M. Pollnau,
"Spectroscopic study of laser crystal $Ti^{3+}:Al_2O_3$ under hydrostatic pressure in the 0-100 kbar range",
XXXIX European High Pressure Research Group Meeting, Santander, Spain, 2001, EHPRG '01 "Advances on High Pressure Research", p. 96.
- 4.35. M. Pollnau,
"3- μm fiber lasers",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 2001, Conference Digest (European Physical Society, Mulhouse, 2001), p. 147. **Invited Paper**.
- 4.34. M. Pollnau,
"Progress on erbium 3- μm fiber lasers",
International Conference on Excited States of Transition Elements, Wrocław - Ladek Zdrój, Poland, 2001, Abstracts, paper P58.
- 4.33. M. Pollnau,
"Decorrelation of luminescence signals in fractional energy-transfer upconversion",
International Conference on Excited States of Transition Elements, Wrocław - Ladek Zdrój, Poland, 2001, Abstracts, paper PL19. **Plenary Lecture**.
- 4.32. T. Bhutta, R.P. Salathé, D.P. Shepherd, R.W. Eason, and M. Pollnau,
"Ti:sapphire planar waveguide coherent broadband emitter",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 2001, OSA Trends in Optics and Photonics, Vol. **56** (Optical Society of America, Washington, DC 2001), pp. 581-582, paper CFH5.
- 4.31. M. Pollnau,
"Spectroscopy of energy-transfer processes between rare-earth ions in glasses and crystals",
31st Winter Colloquium on The Physics of Quantum Electronics, Snowbird, Utah, 2001, Session "Spectroscopy of Solids, with Applications". **Invited Paper**.
- 4.30. D. Coleman, P.S. Golding, T.A. King, S.D. Jackson, and M. Pollnau,
"Infra-red fibre lasers based on rare earth doped glasses",
8th International Symposium on Laser Spectroscopy, Daejeon, South Korea, 2000, paper PO-43.
- 4.29. M. Pollnau, P.S. Golding, S.D. Jackson, and T.A. King,
"Energy recycling versus lifetime quenching in erbium-doped 3- μm fiber lasers",
Conference on Lasers and Electro-Optics Europe, Nice, France, 2000, Technical Digest, p. 107, paper CTuK41.
- 4.28. P.S. Golding, S.D. Jackson, T.A. King, and M. Pollnau,
"Determination of energy transfer parameters in Er^{3+} -doped and Er^{3+}, Pr^{3+} -codoped ZBLAN glasses",
Advanced Solid-State Lasers Conference, Davos, Switzerland, 2000, Technical Digest (Optical Society of America, Washington, DC 2000), pp. 302-304.
- 4.27. S.D. Jackson, T.A. King, and M. Pollnau,
"Diode-pumped 1.7-W erbium 3- μm fiber laser",
Conference on Lasers and Electro-Optics Pacific Rim, Seoul, South Korea, 1999, Technical Digest, pp. 537-538, **postdeadline paper** PDA1.
- 4.26. M. Pollnau,
"Heat generation and thermal lensing in 2.8- μm $Er^{3+}:LiYF_4$ lasers",
Conference on Lasers and Electro-Optics Pacific Rim, Seoul, South Korea, 1999, Technical Digest, pp. 738-739, paper ThP2.

- 4.25. S.D. Jackson, T.A. King, and M. Pollnau,
"Order-of-magnitude power enhancement of an Er^{3+} 2.7- μ m ZBLAN laser utilizing lifetime quenching by energy transfer to Pr^{3+} ",
International Conference on Luminescence and Optical Spectroscopy of Condensed Matter, Osaka, Japan, 1999, Collected Abstracts, p. 107, **postdeadline paper** B04-1.
- 4.24. M. Pollnau and H.U. Güdel,
"Power dependence of upconversion luminescence",
International Conference on Luminescence and Optical Spectroscopy of Condensed Matter, Osaka, Japan, 1999, Collected Abstracts, p. 156, paper PC2-3.
- 4.23. S.D. Jackson, T.A. King, and M. Pollnau,
"High-power erbium 3- μ m fiber laser for medical applications",
Conference on Lasers and Electro-Optics Europe, Munich, Germany, 1999, Novel Lasers and Devices - Basic Aspects, OSA Technical Digest (Optical Society of America, Washington, DC 1999), **postdeadline paper** NPD6.
- 4.22. M. Pollnau, Ch. Ghisler, W. Lüthy, and H.P. Weber,
"Excited-state absorption in ZBLAN:Er³⁺: Implications for a diode-pumped 3- μ m fiber laser",
Conference on Lasers and Electro-Optics Europe, Glasgow, Scotland, 1998, Technical Digest, p. 375, paper CFF2.
- 4.21. P.J. Hardman, M. Pollnau, W.A. Clarkson, and D.C. Hanna,
"The influence of energy-transfer upconversion on thermal lensing in end-pumped Nd:YLF and Nd:YAG lasers",
Conference on Lasers and Electro-Optics Europe, Glasgow, Scotland, 1998, Technical Digest, p. 151, paper CWD2.
- 4.20. M. Pollnau, W.A. Clarkson, and D.C. Hanna,
"Thermal lensing in end-pumped Nd:YAG under lasing and non-lasing conditions",
Conference on Lasers and Electro-Optics, San Francisco, California, 1998, Vol. 6, OSA Technical Digest Series (Optical Society of America, Washington, DC 1998), pp. 100-101, paper CTuI1.
- 4.19. M. Pollnau, G.W. Ross, W.A. Clarkson, P.G.R. Smith, P.E. Britton, and D.C. Hanna,
"450 mW of blue (473 nm) power via second harmonic generation in periodically-poled lithium niobate",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 1997, Vol. 11, OSA Technical Digest Series (Optical Society of America, Washington, DC 1997), pp. 653-655, **postdeadline paper** CPD32.
- 4.18. J. Schneider, Ch. Frerichs, C. Carbonnier, U.B. Unrau, M. Pollnau, W. Lüthy, and H.P. Weber,
"Double cascade erbium fiber laser at 1.7 μ m, 2.7 μ m, and 1.6 μ m",
Conference on Lasers and Electro-Optics Europe, Hamburg, Germany, 1996, Technical Digest, p. 329, paper CFD6.
- 4.17. S. Wittwer, M. Pollnau, R. Spring, W. Lüthy, H.P. Weber, R.A. McFarlane, Ch. Harder, and H.P. Meier,
"An optimized diode-pumped BaY₂F₈:Er³⁺ (7.5 %) laser at 2.8 μ m",
Conference on Lasers and Electro-Optics Europe, Hamburg, Germany, 1996, Technical Digest, p. 260, paper CThI18.
- 4.16. M. Pollnau, J. Schneider, U.B. Unrau, W. Lüthy, and H.P. Weber,
"Pr³⁺ co-doped 2.8- μ m erbium fiber laser",
Conference on Lasers and Electro-Optics Europe, Hamburg, Germany, 1996, Technical Digest, p. 131, paper CTuL6.
- 4.15. M. Pollnau, W. Lüthy, and H.P. Weber,
"Erbium 3- μ m lasers: Concepts of energy recycling",
Conference on Lasers and Electro-Optics Europe, Hamburg, Germany, 1996, Technical Digest, p. 131, paper CTuL5.

- 4.14. M. Pollnau, W. Lüthy, H.P. Weber, K. Krämer, H.U. Güdel, and R.A. McFarlane,
"Excited-state dynamics in the low-phonon materials $\text{Er}^{3+}:\text{BaY}_2\text{F}_8$ and $\text{Cs}_3\text{Er}_2\text{Br}_9$ ",
Advanced Solid-State Lasers Conference, San Francisco, California, 1996, Technical Digest (Optical Society of America, Washington, DC 1996), pp. 326-328.
- 4.13. R. Spring, M. Pollnau, S. Wittwer, W. Lüthy, and H.P. Weber,
"Slope efficiency of a pulsed 2.8- μm $\text{Er}^{3+}:\text{LiYF}_4$ laser",
Advanced Solid-State Lasers Conference, San Francisco, California, 1996, Technical Digest (Optical Society of America, Washington, DC 1996), pp. 262-264.
- 4.12. M. Pollnau, Ch. Ghisler, G. Bunea, M. Bunea, W. Lüthy, and H.P. Weber,
"Erbium 3 μm fiber laser in the power range for surgery",
European Symposium on Biomedical Optics, Barcelona, Spain, 1995, Final Technical Programme, Conference on Lasers and Optoelectronic Systems, p. 40, paper 2629-42.
- 4.11. M. Pollnau, W. Lüthy, and H.P. Weber,
"Compact erbium 3- μm crystal lasers for medical applications",
European Symposium on Biomedical Optics, Barcelona, Spain, 1995, Final Technical Programme, Conference on Lasers and Optoelectronic Systems, p. 40, paper 2629-35.
- 4.10. Ch. Ghisler, M. Pollnau, W. Lüthy, and H.P. Weber,
"Cascade lasing in erbium fiber lasers",
Optical Society of America Annual Meeting, Portland, Oregon, 1995, Program, p. 85, paper TuU4.
- 4.9. M. Pollnau, Ch. Ghisler, G. Bunea, M. Bunea, W. Lüthy, and H.P. Weber,
"Breaking the power saturation of erbium 3 μm fiber lasers by upconversion cascade lasing",
Conference on Lasers and Electro-Optics, Baltimore, Maryland, 1995, Vol. **15**, OSA Technical Digest Series (Optical Society of America, Washington, DC 1995), **postdeadline paper** CPD28.
- 4.8. M. Pollnau, S. Bedö, W. Lüthy, and H.P. Weber,
"On the saturation of the 791 nm pumped erbium 3 μm fiber laser",
Advanced Solid-State Lasers Conference, Memphis, Tennessee, 1995, Technical Digest (Optical Society of America, Washington, DC 1995), pp. 174-176.
- 4.7. M. Pollnau, W. Lüthy, and H.P. Weber,
"The possibilities and limits of avalanche lasing on the green $\text{Er}^{3+}:\text{LiYF}_4$ transition",
Advanced Solid-State Lasers Conference, Memphis, Tennessee, 1995, Technical Digest (Optical Society of America, Washington, DC 1995), pp. 171-173.
- 4.6. M. Pollnau, E. Heumann, F. Heine, T. Danger, W. Lüthy, G. Huber, and H.P. Weber,
"Population mechanisms of the room-temperature 551 nm $\text{Er}:\text{LiYF}_4$ laser",
Conference on Lasers and Electro-Optics Europe, Amsterdam, The Netherlands, 1994, Technical Digest, pp. 130-131, paper CTuK65.
- 4.5. M. Pollnau, W. Lüthy, and H.P. Weber,
"The influence of normal and inverse upconversion processes on the cw operation of the Er^{3+} 3 μm crystal laser",
Advanced Solid-State Lasers Conference, Salt Lake City, Utah, 1994, Technical Digest (Optical Society of America, Washington, DC 1994), pp. 338-340.
- 4.4. M. Pollnau, E. Heumann, and G. Huber,
"Stimulated emission and excited-state absorption at room temperature on the 550 nm-laser transition in Er^{3+} doped YAlO_3 ",
International Conference on Luminescence, Storrs, Connecticut, 1993, Technical Digest, paper M3C-2.
- 4.3. M. Pollnau, E. Heumann, and G. Huber,
"Measurement of population densities by time-resolved excited-state absorption",
NATO Advanced Science Institutes Series on Solid State Lasers, Marciana Marina/Elba, Italy, 1992.

- 4.2. E. Heumann, M. Pollnau, and G. Huber,
"The influence of excited-state absorption in Er^{3+} doped $YAlO_3$ and YAG",
International Conference on Quantum Electronics, Vienna, Austria, 1992, Technical Digest Series, Vol. 9,
pp. 338-340.
- 4.1. E. Heumann, M. Pollnau, and G. Huber,
*"Spectral and time-resolved measurement of excited-state absorption and upconversion processes in Er^{3+}
doped materials"*,
Third International Meeting on Luminescence, Trassenheide/Usedom, Germany, 1991, Abstracts, p. 6.

5. CONTRIBUTIONS TO NATIONAL CONFERENCES

- 5.122. M. Pollnau,
"Rare-earth-doped waveguide lasers on a silicon chip",
Optics and Photonics Sweden, Stockholm, Sweden, 2015. **Invited Paper.**
- 5.121. D. Geskus, Y.S. Yong, E.H. Bernhardt, L. Agazzi, S.M. García-Blanco, S. Aravazhi, and M. Pollnau,
*"The influence of high doping concentrations on the optical gain of Yb^{3+} -doped potassium double tungstate
channel waveguides"*,
Optics and Photonics Sweden, Stockholm, Sweden, 2015.
- 5.120. S.M. Reijn, N. Ismail, E.H. Bernhardt, D. Geskus, and M. Pollnau,
"Active bio-sensors based on distributed-feedback grating resonators",
Optics and Photonics Sweden, Stockholm, Sweden, 2015.
- 5.119. P. Loiko, K. Yumashev, D. Geskus, and M. Pollnau,
"Engineering the refractive index in mixed crystalline waveguides",
Optics and Photonics Sweden, Stockholm, Sweden, 2015.
- 5.118. N. Ismail, D. Geskus, and M. Pollnau,
"Arrayed-waveguide gratings for spectroscopy on a silicon chip",
Optics and Photonics Sweden, Stockholm, Sweden, 2015.
- 5.117. C.C. Kores, N. Ismail, E.H. Bernhardt, D. Geskus, and M. Pollnau,
"The effect of grating chirp on the spectral response of distributed-feedback laser cavities",
Optics and Photonics Sweden, Stockholm, Sweden, 2015.
- 5.116. M. Pollnau,
"Rare-earth-doped waveguide lasers on a silicon chip",
Advanced Optics and Photonics Day, Kista, Sweden, 2015. **Keynote lecture.**
- 5.115. Y.S. Yong, S. Aravazhi, S.A. Vázquez-Córdova, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Optical amplification in an Yb -doped potassium double tungstate thin film",
Physics@FOM, Veldhoven, The Netherlands, 2015, paper P01.056.
- 5.114. S.A. Vázquez-Córdova, E.H. Bernhardt, K. Wörhoff, J.L. Herek, S.M. García-Blanco, and M. Pollnau,
"Erbium-doped dielectric waveguide amplifiers working in the telecom C-band",
Proceedings of the 2014 Annual Symposium of the IEEE Photonics Benelux Chapter, Enschede, The
Netherlands, 2014, pp. 63-66.
- 5.113. Y.S. Yong, S. Aravazhi, S.A. Vázquez-Córdova, S.M. García-Blanco, and M. Pollnau,
*"Gain characterization of a lattice-engineered potassium double tungstate thin film with 57.5at.% ytterbium
concentration"*,
Proceedings of the 2014 Annual Symposium of the IEEE Photonics Benelux Chapter, Enschede, The
Netherlands, 2014, pp. 59-62.

- 5.112. M. Pollnau,
"Want to become a professor? Turn left, then right, and through the forest, please!",
Doctoral Students Conference on Optics, Suhl, Germany, 2013, Proceedings, p. 9. **Pre-dinner talk.**
- 5.111. M. Pollnau,
"A fresh look at continuous-wave lasers: How they really work!",
Doctoral Students Conference on Optics, Suhl, Germany, 2013, Proceedings, p. 8. **Keynote lecture.**
- 5.110. L. Chang, B.I. Akca, F. Civitci, N. Ismail, R.M. de Ridder, K. Wörhoff, H.J.W.M. Hoekstra, and M. Pollnau,
"Biomedical optical instruments on a microchip",
The Sense of Contact Workshop, Soesterberg, The Netherlands, 2013, paper 7.
- 5.109. M.A. Sefunc, P.M. Muilwijk, R.T. Eachambadi, R.F. Russo, H.A.G.M. van Wolferen, G. Sengo, E.H. Bernhardt, M. Pollnau, and S.M. García-Blanco,
"Photonic integration and fabrication technologies for on-chip active nano-devices in double tungstate gain materials",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 323-326.
- 5.108. L. Chang, N. Ismail, R.M. de Ridder, M. Pollnau, and K. Wörhoff,
"On-chip reflowed polymer microlenses for collimating light from single-mode optical waveguides",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 243-246.
- 5.107. Y.S. Yong, S.A. Vázquez-Córdova, S.M. García-Blanco, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Design of high-gain, small-footprint ytterbium-doped potassium double tungstate waveguide amplifier for short-distance optical interconnects",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 239-242.
- 5.106. S.A. Vázquez-Córdova, Y.S. Yong, S. Aravazhi, K. Wörhoff, and M. Pollnau,
"Concentration quenching of luminescence lifetime in ytterbium-doped potassium double tungstate waveguide amplifiers",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 223-226.
- 5.105. S. Aravazhi, D. Giskus, K. van Daltsen, S.M. García-Blanco, and M. Pollnau,
"Refractive-index engineering and diode-side-pumped lasing of a rare-earth-ion-doped channel waveguide",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 215-218.
- 5.104. E.H. Bernhardt, M.R.H. Khan, C.G.H. Roeloffzen, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Photonic generation of microwave signals using dual-wavelength distributed-feedback waveguide lasers",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 101-104.
- 5.103. K. van Daltsen, H.A.G.M. van Wolferen, M. Dijkstra, S. Aravazhi, E.H. Bernhardt, S.M. García-Blanco, and M. Pollnau,
"Efficient channel waveguide lasers in monoclinic double tungstates: towards further integration with on-chip mirrors",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 97-100.
- 5.102. B.I. Akca, G. Sengo, M. Pollnau, A. Driessen, K. Wörhoff, and R.M. de Ridder,
"Flat-focal-field integrated spectrometer using a field-flattening lens",
Proceedings of the 2012 Annual Symposium of the IEEE Photonics Benelux Chapter, Mons, Belgium, 2012, pp. 29-32.

- 5.101. F. Ay, D. Geskus, S. Aravazhi, and M. Pollnau,
"Realization of on-chip lasers in crystalline double tungstate waveguides using focused-ion-beam nanostructuring",
Nano-TR-VIII Nanoscience and Nanotechnology Congress, Ankara, Turkey, 2012, Program, p. 21, paper OP-113.
- 5.100. M. Pollnau, J.D.B. Bradley, E.H. Bernhardt, L. Agazzi, D. Geskus, K. van Dalen, J. Yang, F. Ay, A. Driessen, S.M. García-Blanco, K. Wörhoff, and R.M. de Ridder,
"On-chip integrated amplifiers and lasers utilizing rare-earth-ion activation",
Nano-TR-VIII Nanoscience and Nanotechnology Congress, Ankara, Turkey, 2012, Program, p. 6. **Plenary lecture.**
- 5.99. L. Chang, B.I. Akca, R.M. de Ridder, K. Wörhoff, and M. Pollnau
"Performance improvement and birefringence investigation of a spectral-domain optical coherence tomography using a modified arrayed-waveguide grating",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 241-244.
- 5.98. F. Civitci, G. Sengo, M. Pollnau, A. Driessen, and H.J.W.M. Hoekstra,
"Light turning mirrors in SiON optical waveguides for hybrid integration with CMOS photo-detectors",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 105-108.
- 5.97. N. Ismail, L.P. Choo-Smith, K. Wörhoff, A. Driessen, A.C. Baclig, P.J. Caspers, G.J. Puppels, R.M. de Ridder, and M. Pollnau,
"Raman spectroscopy of human teeth using integrated optical spectrometers",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 65-68.
- 5.96. S.V. Pham, M. Dijkstra, H.A.G.M. van Wolferen, M. Pollnau, G.J.M. Krijnen, and H.J.W.M. Hoekstra,
"A novel mechano-optical sensor based on read-out with a Si₃N₄ grating waveguide",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 61-64.
- 5.95. E.H. Bernhardt, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"High-quality monolithic distributed Bragg reflector cavities and lasers in alumina channel waveguides",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 41-44.
- 5.94. D. Geskus, S. Aravazhi, S.M. García-Blanco, and M. Pollnau,
"1000 dB/cm gain in Yb³⁺-doped double tungstates",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 29-32.
- 5.93. K. van Dalen, S. Aravazhi, D. Geskus, S.M. García-Blanco, K. Wörhoff, and M. Pollnau,
"Efficient channel waveguide lasers based on thulium-doped double tungstates",
Proceedings of the 2011 Annual Symposium of the IEEE Photonics Benelux Chapter, Ghent, Belgium, 2011, pp. 25-28.
- 5.92. M. Pollnau, E.H. Bernhardt, J.D.B. Bradley, R.M. de Ridder, K. Wörhoff, J. Yang, M.B.J. Diemeer, and A. Driessen,
"Rare-earth-ion-doped lasers integrated on a silicon chip",
Joint Annual Meeting of the Swiss Physical Society and Austrian Physical Society, Lausanne, Switzerland, 2011, in Bulletin SPG/SSP, Vol. **28**, 2011, paper 214.

- 5.91. M. Pollnau, B.I. Akca, N. Ismail, C. Dongre, S.V. Pham, K. Wörhoff, R.M. de Ridder, and H.J.W.M. Hoekstra,
"Biophotonic sensors on a microchip for trace-gas detection, DNA and enzyme analysis, Raman spectroscopy, and optical coherence tomography",
 Joint Annual Meeting of the Swiss Physical Society and Austrian Physical Society, Lausanne, Switzerland, 2011, in Bulletin SPG/SSP, Vol. **28**, 2011, paper 213.
- 5.90. M. Pollnau, D. Giskus, K. van Dalen, S.M. García-Blanco, and S. Aravazhi,
"Highly efficient lasers and amplifiers in double tungstates",
 Joint Annual Meeting of the Swiss Physical Society and Austrian Physical Society, Lausanne, Switzerland, 2011, in Bulletin SPG/SSP, Vol. **28**, 2011, paper 627.
- 5.89. B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Toward miniaturized optical coherence tomography",
 The Sense of Contact Workshop, Zeist, The Netherlands, 2011, paper 11.
- 5.88. N. Ismail, F. Sun, K. Wörhoff, A. Driessen, R.M. de Ridder, and M. Pollnau,
"Integrated optical backscattered-light collectors for on-chip spectroscopy",
 The Sense of Contact Workshop, Zeist, The Netherlands, 2011, paper 8.
- 5.87. S.V. Pham, M. Dijkstra, A.J.F. Hollink, R.M. de Ridder, M. Pollnau, and H.J.W.M. Hoekstra,
"Compact integrated optical sensors using slow-light propagation in grating waveguide based cavities",
 The Sense of Contact Workshop, Zeist, The Netherlands, 2011, paper 4.
- 5.86. N. Ismail, K. Wörhoff, A.C. Baclig, P.J. Caspers, G.J. Puppels, L.P. Choo-Smith, A. Driessen, R.M. de Ridder, and M. Pollnau,
"Towards on-chip Raman spectroscopy systems for applications in health and medicine",
 Fotonica Evenement, Nieuwegein, The Netherlands, 2011.
- 5.85. K. van Dalen, S. Aravazhi, D. Giskus, K. Wörhoff, and M. Pollnau,
"Efficient double tungstate channel waveguide lasers at 2 μ m: toward early disease detection in human breath",
 Fotonica Evenement, Nieuwegein, The Netherlands, 2011.
- 5.84. E.H. Bernhardt, L. Agazzi, H.A.G.M. van Wolferen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Monolithic channel waveguide lasers in rare-earth-ion-doped alumina",
 Fotonica Evenement, Nieuwegein, The Netherlands, 2011.
- 5.83. B.I. Akca, V.D. Nguyen, J. Kalkman, T.G. van Leeuwen, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Towards a miniaturized optical coherence tomography system",
 Fotonica Evenement, Nieuwegein, The Netherlands, 2011.
- 5.82. F. Ay, D. Giskus, I. Iñurrategui, S. Aravazhi, V.J. Gadgil, K. Wörhoff, and M. Pollnau,
"Focused ion beam nanostructured gratings in crystalline KYW:Yb³⁺ channel waveguides",
 Proceedings of the 2010 Annual Symposium of the IEEE Photonics Benelux Chapter, Delft, The Netherlands, 2010, pp. 265-268.
- 5.81. L. Agazzi, J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau,
"Understanding Al₂O₃:Er³⁺ device performance",
 Proceedings of the 2010 Annual Symposium of the IEEE Photonics Benelux Chapter, Delft, The Netherlands, 2010, pp. 261-264.
- 5.80. B.I. Akca, N. Ismail, G. Sengo, F. Sun, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"High resolution silicon-oxynitride arrayed waveguide grating spectrometers",
 Proceedings of the 2010 Annual Symposium of the IEEE Photonics Benelux Chapter, Delft, The Netherlands, 2010, pp. 125-128.

- 5.79. E.H. Bernhardt, L. Agazzi, K. Wörhoff, R.M. de Ridder, and M. Pollnau,
"Narrow-linewidth distributed feedback channel waveguide laser in $Al_2O_3:Er^{3+}$ ",
Proceedings of the 2010 Annual Symposium of the IEEE Photonics Benelux Chapter, Delft, The Netherlands, 2010, pp. 85-88.
- 5.78. N. Ismail, A.C. Baclig, P.J. Caspers, G.J. Puppels, B.I. Akca, F. Sun, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen,
"Integrated optical confocal system for Raman spectroscopy",
Proceedings of the 2010 Annual Symposium of the IEEE Photonics Benelux Chapter, Delft, The Netherlands, 2010, pp. 57-60.
- 5.77. C. Dongre, J. van Weerd, R. van Weeghel, R. Martínez Vázquez, R. Osellame, G. Cerullo, G.A.J. Besselink, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"Multi-color fluorescent DNA analysis in an integrated optofluidic lab-on-a-chip",
The Sense of Contact Workshop, Zeist, The Netherlands, 2010, paper FHI.
- 5.76. E.H. Bernhardt, H.A.G.M. van Wolferen, L. Agazzi, M.R.H. Khan, C.G.H. Roeloffzen, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Ultra-narrow-linewidth, single-frequency distributed feedback waveguide laser in $Al_2O_3:Er^{3+}$ on silicon",
Fotonica Evenement, Nieuwegein, The Netherlands, 2010.
- 5.75. S. Aravazhi, D. Gekus, K. Wörhoff, and M. Pollnau,
"Thin film crystal growth of $KY(WO_4)_2$ ",
Dutch Association for Crystal Growth Annual Symposium, Almelo, The Netherlands, 2009.
- 5.74. E.H. Bernhardt, H.A.G.M. van Wolferen, M. Dijkstra, L. Agazzi, K. Wörhoff, M. Pollnau, and R.M. de Ridder,
"Designing an integrated $Al_2O_3:Er^{3+}$ distributed feedback laser",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 197-200.
- 5.73. K. van Dalzen, J. Yang, F. Ay, K. Wörhoff, and M. Pollnau,
"Neodymium-doped Al_2O_3 channel waveguide amplifiers",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 149-152.
- 5.72. S. Aravazhi, D. Gekus, K. Wörhoff, and M. Pollnau,
"Improved-index-contrast $KY(WO_4)_2:Gd, Lu, Yb$ epitaxial waveguides suitable for highly efficient waveguide lasing",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 133-136.
- 5.71. N. Ismail, F. Sun, F. Civitci, K. Wörhoff, R.M. de Ridder, M. Pollnau, and A. Driessen,
"Efficiency comparison between integrated optical waveguide probes and conventional fiber probes in the detection of backscattered light",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 105-108.
- 5.70. J. Yang, C. Grivas, M.B.J. Diemeer, A. Driessen, and M. Pollnau,
"Neodymium-complex-doped steady-state polymer waveguide lasers",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 61-64.
- 5.69. C. Dongre, J. van Weerd, G.A.J. Besselink, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"DNA separation and fluorescence monitoring by integrated waveguides in an optofluidic chip",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 49-52.

- 5.68. J.D.B. Bradley, L. Agazzi, F. Ay, K. Wörhoff, and M. Pollnau,
"Al₂O₃:Er³⁺ as a broad gain medium for 1.53-μm integrated optical applications",
Proceedings of the 2009 Annual Symposium of the IEEE Photonics Benelux Chapter, Brussels, Belgium, 2009, pp. 13-16.
- 5.67. D. Geskus, S. Aravazhi, E. Bernhardt, C. Grivas, K. Wörhoff, and M. Pollnau,
"Highly efficient waveguide lasing in Gd³⁺, Lu³⁺ co-doped KY(WO₄)₂:Yb³⁺",
IEEE Photonics Society Workshop, Eindhoven, The Netherlands, 2009.
- 5.66. C. Dongre, J. van Weerd, R. van Weeghel, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. Dekker, G.A.J. Besselink, H.H. van den Vlekert, H.J.W.M. Hoekstra, and M. Pollnau,
"Integrated fluorescence sensing in a lab-on-a-chip for DNA analysis",
The Sense of Contact Workshop, Zeist, The Netherlands, 2009, paper FHI.
- 5.65. S. Aravazhi, D. Geskus, K. Wörhoff, and M. Pollnau,
"Growth of Yb³⁺, Lu³⁺, Gd³⁺ co-doped KY(WO₄)₂ thin layers",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 219-220.
- 5.64. F. Ay, J.D.B. Bradley, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
"Bragg gratings in Al₂O₃ channel waveguides by focused ion beam milling",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 215-217.
- 5.63. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Martínez Vázquez, R. Osellame, R. Ramponi, G. Cerullo, R. van Weeghel, G.A.J. Besselink, H.H. van den Vlekert, and M. Pollnau,
"Fluorescence monitoring of capillary electrophoresis separation in a lab-on-a-chip with monolithically integrated waveguides",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 159-162.
- 5.62. J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, K. Wörhoff, M. Pollnau, and W.M. Arnoldbik,
"Enhanced gain in Er-doped Al₂O₃ channel waveguide amplifiers",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 131-134.
- 5.61. J. Yang, M.B.J. Diemeer, D. Geskus, G. Sengo, M. Pollnau, and A. Driessen,
"Neodymium-complex-doped, photo-defined polymer channel waveguide amplifiers",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 123-126.
- 5.60. L. Agazzi, J.D.B. Bradley, F. Ay, A. Kahn, H. Scheife, K. Petermann, G. Huber, R.M. de Ridder, K. Wörhoff, and M. Pollnau,
"Upconversion spectroscopy of Al₂O₃:Er³⁺",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 51-53.
- 5.59. N. Ismail, F. Sun, K. Wörhoff, M. Pollnau, and A. Driessen,
"Detection of light backscattered from liquids by means of integrated optics waveguides",
Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Enschede, The Netherlands, 2008, pp. 27-29.
- 5.58. C. Dongre, R. Dekker, H.J.W.M. Hoekstra, D. Nolli, R. Martínez Vázquez, R. Osellame, G. Cerullo, G.A.J. Besselink, and M. Pollnau,
"Femtosecond laser written waveguides for fluorescence sensing during microchip capillary electrophoresis",
The Sense of Contact Workshop, Zeist, The Netherlands, 2008.

- 5.57. D. Geskus, J.D.B. Bradley, S. Aravazhi, K. Wörhoff, and M. Pollnau, *"Fibre top-loaded channel waveguide laser in KY(WO₄)₂:Yb³⁺"*, Proceedings of the Annual Workshop of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2008 (Vrije Universiteit Brussel, Brussels, 2008), pp. 13-14.
- 5.56. J.D.B. Bradley, L. Agazzi, D. Geskus, F. Ay, K. Wörhoff, and M. Pollnau, *"Reactively co-sputtered Al₂O₃:Er³⁺ for active photonic devices"*, Proceedings of the Annual Workshop of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2008 (Vrije Universiteit Brussel, Brussels, 2008), pp. 9-10.
- 5.55. A. Uranga, F. Ay, J.D.B. Bradley, R.M. de Ridder, K. Wörhoff, and M. Pollnau, *"Focused ion beam nano-structuring of photonic Bragg gratings in Al₂O₃ waveguides"*, Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2007, pp. 247-250.
- 5.54. J.D.B. Bradley, D. Geskus, T. Blauwendraat, F. Ay, K. Wörhoff, and M. Pollnau, *"Optimized deposition and structuring of reactively co-sputtered Al₂O₃:Er³⁺ waveguide layers with net optical gain"*, Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2007, pp. 107-110.
- 5.53. D. Geskus, J.D.B. Bradley, S. Aravazhi, K. Wörhoff, and M. Pollnau, *"Progress on micro-structured KY(WO₄)₂ waveguides for optically active devices"*, Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2007, pp. 103-106.
- 5.52. C. Dongre, R. Dekker, D. Nolli, R. Martínez Vázquez, R. Osellame, P. Laporta, G. Cerullo, H.J.W.M. Hoekstra, and M. Pollnau, *"Characterization of femtosecond laser written waveguides for integrated biochemical sensing"*, Proceedings of the Twelfth Annual Symposium of the IEEE/LEOS Benelux Chapter, Brussels, Belgium, 2007, pp. 27-30.
- 5.51. H.J.W.M. Hoekstra, R. Dekker, M. Dijkstra, C. Dongre, M. Hoekman, L. Kauppinen, P.V. Lambeck, M. Pollnau, and H.P. Uranus, *"Integrated optics sensors for multi-sensing platforms"*, The Sense of Contact Workshop, Zeist, The Netherlands, 2007, ISBN 978-90-74702-53-9.
- 5.50. K. Wörhoff, J.D.B. Bradley, F. Ay, D. Geskus, S. Aravazhi, and M. Pollnau, *"Actively doped dielectric materials for on-chip integrated light sources"*, Fotonica Evenement, Den Haag, The Netherlands, 2007.
- 5.49. H.J.W.M. Hoekstra, R. Dekker, M. Dijkstra, C. Dongre, M. Hoekman, L. Kauppinen, P.V. Lambeck, M. Pollnau, and H.P. Uranus, *"Integrated optics sensors for multi-sensing platforms"*, Fotonica Evenement, Den Haag, The Netherlands, 2007.
- 5.48. J.D.B. Bradley, F. Ay, K. Wörhoff, and M. Pollnau, *"Al₂O₃ and Y₂O₃ thin films for active integrated optical waveguide devices"*, Proceedings of the Eleventh Annual Symposium of the IEEE/LEOS Benelux Chapter, Eindhoven, The Netherlands, 2006, pp. 113-116.
- 5.47. Y.E. Romanyuk, C.N. Borca, M. Pollnau, U. Griebner, S. Rivier, and V. Petrov, *"Planar waveguide laser in Yb-doped potassium yttrium tungstate"*, Conference of the Swiss Physical Society, Lausanne, Switzerland, 2006, in Bulletin SPG/SSP, Vol. **23**, 2006, paper 233, p. 41.

- 5.46. L. Laversenne, C.N. Borca, M. Pollnau, P. Moretti, C. Grivas, D.P. Shepherd, and R.W. Eason, *"Proton-implanted Ti:sapphire buried channel waveguide laser"*, Conference of the Swiss Physical Society, Lausanne, Switzerland, 2006, in Bulletin SPG/SSP, Vol. **23**, 2006, paper 232, p. 41.
- 5.45. C.N. Borca, Y.E. Romanyuk, V. Apostolopoulos, F. Gardillou, M. Pollnau, R.P. Salathé, and P. Moretti, *"Optical channel waveguides in $KY(WO_4)_2:Yb^{3+}$ "*, Conference of the Swiss Physical Society, Lausanne, Switzerland, 2006, in Bulletin SPG/SSP, Vol. **23**, 2006, paper 231, p. 40.
- 5.44. M. Pollnau, *"How to optimize optical gain in solid-state dielectric media"*, IEEE/LEOS Benelux Annual Workshop, Eindhoven, The Netherlands, 2005. **Invited Paper.**
- 5.43. Y.E. Romanyuk, C.N. Borca, I. Utke, L.L. Kuandykov, and M. Pollnau, *" $KY(WO_4)_2:Yb^{3+}$ buried planar waveguides grown by liquid-phase epitaxy"*, Gemeinsame Jahrestagung der Deutschen Gesellschaft für Kristallographie, der Deutschen Gesellschaft für Kristallwachstum und Kristallzüchtung und des Nationalkomitees für Kristallographie der Österreichischen Akademie der Wissenschaften, Köln, 2005, Referate (Oldenbourg Verlag, München, 2005), p.194.
- 5.42. L. Laversenne, P. Moretti, J. Mugnier, P. Hoffmann, and M. Pollnau, *"Guides optiques façonnés par implantation de proton dans du saphir"*, 23^{èmes} Journées Nationales d'Optique Guidée, Paris, France, 2004, paper 405.
- 5.41. M. Pollnau, V. Apostolopoulos, L. Laversenne, R. Osellame, G. Cerullo, and P. Laporta, *"Femtosekunden-Laser induzierte Wellenleitung in Ti^{3+} -aktiviertem Saphir"*, Conference of the German Physical Society, Munich, Germany, 2004, in Verhandlungen der Deutschen Physikalischen Gesellschaft 2004, Quantenoptik, **postdeadline paper Q52.4.**
- 5.40. Y.E. Romanyuk, I. Utke, D. Ehrentraut, S. García-Revilla, R. Valiente, and M. Pollnau, *"Low-temperature liquid-phase epitaxy of rare-earth-ion doped $KY(WO_4)_2$ thin films"*, Gemeinsame Jahrestagung der Deutschen Gesellschaft für Kristallwachstum und Kristallzüchtung und der Deutschen Gesellschaft für Kristallographie, Jena, 2004, Referate, p. 194.
- 5.39. L. Laversenne, P. Hoffmann, P. Moretti, and M. Pollnau, *"Proton-implanted sapphire and Ti:sapphire waveguides"*, Conference of the Swiss Physical Society, Neuchâtel, Switzerland, 2004, in Bulletin SPG/SSP, Vol. **21**, 2004, paper 234, p. 45.
- 5.38. V. Apostolopoulos, L. Laversenne, T. Colomb, C. Depeursinge, R.P. Salathé, M. Pollnau, R. Osellame, G. Cerullo, and P. Laporta, *"Femtosecond-laser written Ti:sapphire waveguides"*, Conference of the Swiss Physical Society, Neuchâtel, Switzerland, 2004, in Bulletin SPG/SSP, Vol. **21**, 2004, paper 233, p. 45.
- 5.37. Y.E. Romanyuk, S. García-Revilla, R. Valiente, I. Utke, and M. Pollnau, *"Liquid-phase epitaxy of rare-earth-ion doped $KY(WO_4)_2$ thin films"*, Conference of the Swiss Physical Society, Neuchâtel, Switzerland, 2004, in Bulletin SPG/SSP, Vol. **21**, 2004, paper 205, p. 39.
- 5.36. M. Pollnau, A. Crunteanu, L. Laversenne, S. Rivier, C. Grivas, D.P. Shepherd, and R.W. Eason, *"Ti:sapphire channel-waveguide broadband light sources for optical coherence tomography"*, Conference of the German Physical Society, Hannover, Germany, 2003, in Verhandlungen der Deutschen Physikalischen Gesellschaft 2003, Quantenoptik, paper Q 39.1, p. 160, Group Report.

- 5.35. S. Rivier, L. Laversenne, M. Pollnau, M. Flury, J. Vuille, H.P. Herzig, C. Grivas, D.P. Shepherd, and R.W. Eason,
"Ti:sapphire parallel channel waveguide broadband emitter",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 223, p. 55.
- 5.34. L. Laversenne, A. Crunteanu, P. Hoffmann, M. Pollnau, P. Moretti, and J. Mugnier,
"Sapphire optical waveguides fabricated by ion-beam implantation",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 222, p. 55.
- 5.33. A. Crunteanu, L. Laversenne, P. Hoffmann, M. Pollnau, and Ch. Buchal,
"Three-dimensional structuring of sapphire",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 221, p. 54.
- 5.32. Y.E. Romanyuk, D. Ehrentraut, M. Pollnau, and S. Kück,
"Liquid phase epitaxy of Mn^{6+} -doped tungstates and molybdates",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 216, p. 53.
- 5.31. A. Aznar, D. Ehrentraut, M. Pollnau, R. Solé, and M. Aguiló,
"Liquid phase epitaxy of optically active double-tungstate $KYb(WO_4)_2$ thin layers",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 215, p. 52.
- 5.30. D. Ehrentraut and M. Pollnau,
"On the potential of $BaSO_4:Mn^{6+}$ for broadly tunable laser emission in the near infrared spectral region",
Conference of the Swiss Physical Society, Basel, Switzerland, 2003, in Bulletin SPG/SSP, Vol. **20**, 2003, paper 205, p. 50.
- 5.29. L. Laversenne, A. Crunteanu, P. Hoffmann, M. Pollnau, P. Moretti, and J. Mugnier,
"Refractive-index variations and waveguiding in sapphire induced by ion-beam implantation",
5th French-Israeli Workshop on Optical Properties of Inorganic Materials, Lyon, France, 2002, in Optical Properties of Inorganic Materials Scientific Program and Abstracts.
- 5.28. L. Laversenne, S. Rivier, A. Crunteanu, M. Pollnau, C. Grivas, D.P. Shepherd, and R.W. Eason,
"Ti:sapphire channel-waveguide emitters as broadband light sources for interferometry",
5th French-Israeli Workshop on Optical Properties of Inorganic Materials, Lyon, France, 2002, in Optical Properties of Inorganic Materials Scientific Program and Abstracts.
- 5.27. M. Pollnau,
"Upconversion luminescence: Common believe and reality",
5th French-Israeli Workshop on Optical Properties of Inorganic Materials, Lyon, France, 2002, in Optical Properties of Inorganic Materials Scientific Program and Abstracts. **Invited Paper.**
- 5.26. D. Ehrentraut, M. Pollnau, and S. Kück,
"Liquid phase epitaxy and spectroscopy of $BaSO_4:Mn^{6+}$ ",
Conference of the Swiss Physical Society, Lausanne, Switzerland, 2002, in Bulletin SPG/SSP, Vol. **19**, 2002, paper 225, p. 60.
- 5.25. A. Crunteanu, P. Hoffmann, M. Pollnau, and Ch. Buchal,
"Structuring of sapphire by ion-beam implantation and chemical wet etching",
Conference of the Swiss Physical Society, Lausanne, Switzerland, 2002, in Bulletin SPG/SSP, Vol. **19**, 2002, paper 224, p. 59.

- 5.24. A. Crunteanu, C. Hibert, G. Jänchen, R.P. Salathé, P. Hoffmann, and M. Pollnau,
"Ti:sapphire channel waveguides fabricated by reactive ion etching or polyimide stripe coating",
Conference of the Swiss Physical Society, Lausanne, Switzerland, 2002, in Bulletin SPG/SSP, Vol. **19**, 2002,
paper 213, p. 57.
- 5.23. S. García-Revilla, F. Rodríguez, R. Valiente, and M. Pollnau,
"Espectroscopía óptica del $\text{Al}_2\text{O}_3:\text{Ti}^{3+}$ bajo presión hidrostática",
Reunión Naional de Física del Estado Sólido, Real Sociedad Española de Física, Barcelona, Spain, 2002, 2^a
Sesión, poster 35.
- 5.22. M. Pollnau,
"Quantitative upconversion spectroscopy in rare-earth ions and its application to solid-state lasers",
Science Seminar, Engelberg, Switzerland, 2000, Abstracts, p. 8.
- 5.21. R. Burlot-Loison, M. Pollnau, K. Krämer, P. Egger, J. Hulliger, and H.U. Güdel,
"Near IR to visible upconversion in Er^{3+} -doped Ba_2YCl_7 : Two-color excitation around 800 nm",
4th French-Israeli Workshop on Optical Properties of Inorganic Materials, Lyon, France, 1999, in Optical
Properties of Inorganic Materials Scientific Program and Workshop Abstracts.
- 5.20. R. Burlot-Loison, G. Frei, D.R. Gamelin, S. Hartung, M.P. Hehlen, K. Krämer, S.R. Lüthi, M. Pollnau,
T. Riedener, O.S. Wenger, H.U. Güdel, R. Burkhalter, P. Egger, and J. Hulliger,
"Optical spectroscopy, excited state dynamics and laser action of new crystal laser materials",
Annual Meeting Priority Program Optique, Neuchatel, Switzerland, 1999.
- 5.19. P.S. Golding, S.D. Jackson, M. Pollnau, and T.A. King,
"The effects of co-doping on the fluorescence lifetimes of Er^{3+} in fluoride glasses",
British National Quantum Electronics and Photonics Conference QE-14, Manchester, England, 1999, in
Institute of Physics Technical Digest, p. 243.
- 5.18. S.D. Jackson, T.A. King, and M. Pollnau,
"1.7-W diode-pumped erbium 3- μm fibre laser",
British National Quantum Electronics and Photonics Conference QE-14, Manchester, England, 1999, in
Institute of Physics Technical Digest, p. 32.
- 5.17. H.U. Güdel, M. Pollnau, K. Krämer, S.R. Lüthi, M.P. Hehlen, and O. Wenger,
"Optical spectroscopy and laser action of new crystal materials",
Annual Information Meeting Priority Program Optique, Bern, Switzerland, 1998.
- 5.16. W. Lüthy, Ch. Wyss, Th. Rothacher, Th. Huber, J. Hulliger, Ph. Egger, R. Burkhalter, H.U. Güdel,
K. Krämer, M. Pollnau, and O. Wenger,
"Upconversion lasers",
Annual Meeting Priority Program Optique, Neuchatel, Switzerland, 1998.
- 5.15. M. Pollnau, P.J. Hardman, W.A. Clarkson, and D.C. Hanna,
"Upconversion-dependent thermal lensing in Nd:YLF",
Conference of the Swiss Physical Society, La Chaux-de-Fonds, Switzerland, 1997, in Bulletin SPG/SSP, Vol.
14 (1), 1997, p. 27.
- 5.14. M. Pollnau, Ch. Ghisler, W. Lüthy, and H.P. Weber,
"Progress in erbium 3- μm fiber lasers",
Conference of the Swiss Physical Society, La Chaux-de-Fonds, Switzerland, 1997, in Bulletin SPG/SSP, Vol.
14 (1), 1997, p. 25.
- 5.13. M. Pollnau, G.W. Ross, W.A. Clarkson, P.G.R. Smith, P.E. Britton, and D.C. Hanna,
"946 nm Nd:YAG laser frequency doubled with periodically-poled LiNbO_3 ",
Conference of the Swiss Physical Society, La Chaux-de-Fonds, Switzerland, 1997, in Bulletin SPG/SSP, Vol.
14 (1), 1997, p. 24.

- 5.12. G.W. Ross, M. Pollnau, P.G.R. Smith, P.E. Britton, W.A. Clarkson, and D.C. Hanna,
"High-power blue light generation in periodically-poled lithium niobate",
British National Quantum Electronics Conference QE-13, Cardiff, Wales, 1997, in Institute of Physics Technical Digest, p. 132.
- 5.11. P.J. Hardman, M. Pollnau, W.A. Clarkson, and D.C. Hanna,
"Thermal lensing in high-power end-pumped Nd:YLF lasers",
British National Quantum Electronics Conference QE-13, Cardiff, Wales, 1997, in Institute of Physics Technical Digest, p. 29.
- 5.10. W. Lüthy, S. Bedö, Ch. Ghisler, M. Pollnau, and T. Weber,
"Advanced active fiber elements",
Annual Information Meeting Priority Program Optique, Bern, Switzerland, 1995.
- 5.9. W. Lüthy, J. Balmer, T. Graf, H.U. Güdel, K. Krämer, E. Leiglon, B. Neuenschwander, M. Pollnau, R.P. Salathé, T. Siedler, R. Spring, R. Wälti, R. Weber, M. Wickleder, S. Wittwer, and Ch. Wyss,
"Advanced composite diode-pumped solid state lasers",
Meeting of the Priority Program Optique, Zürich, Switzerland, 1995.
- 5.8. S. Wittwer, M. Pollnau, R. Spring, W. Lüthy, and H.P. Weber,
"Nd³⁺:YAG: Threshold reduction by optimization of the resonator geometry",
Conference of the Swiss Physical Society, St. Gallen, Switzerland, 1995, in Bulletin SPG/SSP, Vol. **12** (2), 1995, p. 28.
- 5.7. J. Balmer, Th. Graf, H.U. Güdel, K. Krämer, E. Leiglon, W. Lüthy, M. Pollnau, R.P. Salathé, Th. Siedler, and R. Weber,
"Advanced composite diode-pumped solid state lasers",
Annual Information Meeting Priority Program Optique, Bern, Switzerland, 1994, in Annual Information Meeting Abstracts, project 532, p. 19.
- 5.6. W. Lüthy, P.J. Morris, R. Wälti, M. Pollnau, R. Spring, and H.P. Weber,
"New lasers: diode-laser-pumped infrared solid-state lasers",
SGOEM-Jahrestagung 1994 (Sektion Optik), Bern, Switzerland, 1994.
- 5.5. W. Lüthy, J. Balmer, Th. Graf, H.U. Güdel, M. Hehlen, K. Krämer, E. Leiglon, M. Pollnau, T. Riedener, R.P. Salathé, Th. Siedler, F. Sona, and R. Weber,
"Advanced composite diode-pumped solid state lasers",
Meeting of the Priority Program "Optique", Neuchâtel, Switzerland, 1994.
- 5.4. M. Pollnau, K. Krämer, W. Lüthy, H.U. Güdel, and H.P. Weber,
"Excited-state absorption in the low-phonon laser material Cs₃Er₂Br₉",
Conference of the Swiss Physical Society, Aarau, Switzerland, 1994, in Bulletin SPG/SSP, Vol. **11** (2), 1994, p. 37.
- 5.3. M. Pollnau, W. Lüthy, and H.P. Weber,
"Der Einfluß der inversen Upconversion im Er³⁺ 3 µm CW-Laser",
Conference of the German Physical Society, Hamburg, Germany, 1994, in Verhandlungen der Deutschen Physikalischen Gesellschaft 1994, Quantenoptik, paper Q 3B.5, p. 652.
- 5.2. M. Pollnau, W. Lüthy, and H.P. Weber,
"Explanation of the CW operation of the Er 3 µm laser",
Conference of the Swiss Physical Society, Bagnes-Verbier, Switzerland, 1993, in Bulletin SPG/SSP, Vol. **10** (2), 1993, p. 27.
- 5.1. E. Heumann, M. Pollnau, and G. Huber,
"Zeitaufgelöste Messung der Absorption aus angeregten Zuständen in Er³⁺-dotierten Kristallen",
Conference of the German Physical Society, Hannover, Germany, 1992, in Verhandlungen der Deutschen Physikalischen Gesellschaft 1992, Quantenoptik, paper Q 37.5, p. 1456.

6. BOOKS AND BOOK CHAPTERS

- 6.11. E.H. Bernhardt and M. Pollnau,
"Narrow-linewidth lasers on a silicon chip",
in Nano-Structures for Optics and Photonics, NATO Science for Peace and Security Series B: Physics and Biophysics, edited by B. di Bartolo, J. Collins, and L. Silvestri (Springer, Dordrecht, 2015), pp. 237-248.
ISBN 978-94-017-9132-8 (print); 978-94-017-9133-5 (online).
- 6.10. C. Dongre, H.J.W.M. Hoekstra, and M. Pollnau,
"Capillary electrophoresis and multi-color fluorescent DNA analysis in an optofluidic chip",
in Capillary Electrophoresis and Microchip Capillary Electrophoresis. Principles, Applications, and Limitations, edited by C.D. García, K.Y. Chumbimuni-Torres, and E. Carrilho (John Wiley & Sons, Inc., Hoboken, N.J., 2013), Chapter 13, pp. 247-266.
ISBN 978-0-470-57217-7 (print); 978-1-118-53000-9 (online).
- 6.9. M. Pollnau, N. Ismail, B.I. Akca, K. Wörhoff, and R.M. de Ridder,
"Raman spectroscopy and optical coherence tomography on a micro-chip",
in Nano-Optics for Enhancing Light-Matter Interactions on a Molecular Scale: Plasmonics, Photonic Crystals, Metamaterials and Sub-Wavelength Resolution, NATO Science for Peace and Security Series – B: Physics and Biophysics, edited by B. di Bartolo and J. Collins (Springer, Dordrecht, 2012), pp. 73-89.
ISBN 978-94-007-5312-9.
- 6.8. M. Pollnau,
"Mid-infrared lasers",
in Springer Handbook of Lasers and Optics, 2nd Edition, Chapter 11.2.4, edited by F. Träger (Springer, New York, 2012), pp. 720-737.
ISBN 978-3-642-19409-2.
- 6.7. R. Osellame, R. Martínez Vázquez, C. Dongre, R. Dekker, H.J.W.M. Hoekstra, R. Ramponi, M. Pollnau, and G. Cerullo,
"Femtosecond laser fabrication for the integration of optical sensors in microfluidic lab-on-chip devices",
in Ultrafast Phenomena XVI, Springer Series in Chemical Physics, Vol. 92, edited by P. Corkum, S. de Silvestri, K.A. Nelson, E. Riedle, and R.W. Schoenlein (Springer, Berlin, Heidelberg, 2009), part 12, pp. 973-975.
ISBN 978-3-540-95946-5.
- 6.6. M. Pollnau and S.D. Jackson,
"Advances in mid-infrared fiber lasers",
in Mid-Infrared Coherent Sources and Applications, NATO Science for Peace and Security Series - B: Physics and Biophysics, edited by M. Ebrahim-Zadeh and I.T. Sorokina (Springer, Dordrecht, 2008), pp. 315-346.
ISBN 1-4020-6462-3 (Paperback); 1-4020-6429-5 (Hardback); 1-4020-6463-0 (e-book).
- 6.5. M. Pollnau,
"Dielectric waveguide lasers",
in Frontier Developments in Optics and Spectroscopy, edited by B. Di Bartolo and O. Forte (2007), pp. 20/1-20/10.
ISBN 978-1-936036-00-4.
Online version available at:
<http://www.bc.edu/content/bc/schools/cas/physics/spectroscopy/recentbooks.html>.
- 6.4. M. Pollnau,
"Mid-infrared lasers",
in Springer Handbook of Lasers and Optics, Chapter 11.2.4, edited by F. Träger (Springer, New York, 2007), pp. 660-674.
ISBN 978-0-387-30420-5.

- 6.3. M. Pollnau,
"Waveguide fabrication methods in dielectric solids",
 in Advances in Spectroscopy for Lasers and Sensing, NATO Science Series II: Mathematics, Physics and Chemistry, Vol. **231**, edited by B. Di Bartolo and O. Forte (Springer, Dordrecht, 2006), pp. 335-350.
 ISBN 978-1-4020-4789-3.
- 6.2. M. Pollnau,
"Dynamics of solid-state coherent light sources",
 in Frontiers of Optical Spectroscopy, NATO Science Series, Series II: Mathematics, Physics and Chemistry, Vol. **168**, edited by B. Di Bartolo and O. Forte (Kluwer Academic Publishers, Dordrecht, Boston, London, 2005), pp. 571-589.
 ISBN 1-4020-2750-8 (Paperback); 1-4020-2749-4 (Hardback); 1-4020-2751-6 (e-book).
- 6.1. M. Pollnau and S.D. Jackson,
"Mid-infrared fiber lasers",
 in Solid-State Mid-Infrared Laser Sources, Springer Series on Topics in Applied Physics, Vol. **89**, edited by I.T. Sorokina and K.L. Vodopyanov (Springer-Verlag, Berlin, Heidelberg, 2003), pp. 219-253.
 ISBN 978-3-540-00621-3.

7. THESES

- 7.2. M. Pollnau,
"Population mechanisms in erbium-doped solid-state lasers",
 Ph.D. Thesis, Institute of Laser-Physics, University of Hamburg, Germany, May 1996.
- 7.1. M. Pollnau,
"Absorption aus angeregten Zuständen und Bestimmung von Besetzungsdichten in Er^{3+} -dotierten Festkörperlaser",
 Diploma Thesis, Institute of Laser-Physics, University of Hamburg, Germany, August 1992.

8. EXTERNAL INVITED SEMINARS

- 8.80. M. Pollnau (KTH–Royal Institute of Technology),
"Highly efficient amplifiers and lasers in Yb- and Tm-activated potassium double tungstate waveguides",
 Department of Electrical and Computer Engineering, Boston University, Boston, Massachusetts, 26.10. 2015.
- 8.79. M. Pollnau (KTH–Royal Institute of Technology),
"Continuous-wave lasers: The face behind the veil",
 Department of Applied Physics, California Institute of Technology, Pasadena, California, 20.10. 2015.
- 8.78. M. Pollnau (KTH–Royal Institute of Technology),
"Waveguide amplifiers and lasers in rare-earth-doped potassium double tungstates",
 Department of Physics & Division of Energy Systems Research, Ajou University, Suwon, South Korea, 2.7. 2015.
- 8.77. M. Pollnau (KTH–Royal Institute of Technology),
"Continuous-wave lasers: The face behind the veil",
 Institut für Quantenoptik, Eidgenössische Technische Hochschule, Zürich, Switzerland, 11.5. 2015.
- 8.76. M. Pollnau (KTH–Royal Institute of Technology),
"Rare-earth-doped channel waveguide lasers in crystalline and amorphous thin layers",
 Institute of Solid State Physics, Universität Bremen, Germany, 15.12. 2014.

-
- 8.75. M. Pollnau (KTH–Royal Institute of Technology),
"Energy-transfer processes: Blessing and curse for rare-earth-doped lasers",
Leibniz-Institut für Photonische Technologien, Jena, Germany, 25.9. 2014.
- 8.74. M. Pollnau (Univ. Twente),
"Photonics on a micro-chip: From light sources to biomedical applications",
School of Physics and Astronomy, Queen Mary University of London, United Kingdom, 21.5. 2014.
- 8.73. M. Pollnau (Univ. Twente),
"Dielectric waveguide amplifiers and lasers and their applications",
Facultad de Ciencias, Universidad de Cantabria, Santander, Spain, 20.3. 2014.
- 8.72. M. Pollnau (Univ. Twente),
"Dielectric waveguide amplifiers and lasers and their applications",
Laser Physics Group, Royal Institute of Technology, Stockholm, Sweden, 29.11. 2013.
- 8.71. M. Pollnau (Univ. Twente),
"DNA analysis and optical coherence tomography on a micro-chip",
Abbe School of Photonics, Universität Jena, Germany, 21.11. 2013.
- 8.70. M. Pollnau (Univ. Twente),
"Photonics on a micro-chip: From light sources to biomedical applications",
Department of Information Technology and Electrical Engineering, Eidgenössische Technische Hochschule,
Zürich, Switzerland, 12.11. 2013.
- 8.69. M. Pollnau (Univ. Twente),
"Rare-earth-doped waveguide amplifiers and lasers on a silicon chip",
Abbe School of Photonics, Universität Jena, Germany, 11.10. 2013.
- 8.68. M. Pollnau (Univ. Twente),
"Photonics on a microchip: From light sources to biomedical applications",
Max-Born-Institut, Berlin, Germany, 18.9. 2013.
- 8.67. M. Pollnau (Univ. Twente),
"High-gain amplifiers and highly efficient lasers in potassium double tungstate channel waveguides",
Abbe School of Photonics, Universität Jena, Germany, 17.9. 2013.
- 8.66. M. Pollnau (Univ. Twente),
"Dielectric waveguide amplifiers and lasers",
School of Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, United Kingdom, 22.7.
2013.
- 8.65. M. Pollnau (Univ. Twente),
"Photonics on a microchip: From light sources to biomedical applications",
EMPA - Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland, 12.3.
2013.
- 8.64. M. Pollnau (Univ. Twente),
"Integrated optics: Waveguide light sources and biophotonic sensors",
IBM Research, Rüschlikon, Switzerland, 5.3. 2013.
- 8.63. M. Pollnau (Univ. Twente),
"Photonics on a microchip: From light sources to biomedical applications",
Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts,
28.11. 2012.

-
- 8.62. M. Pollnau (Univ. Twente),
"Novel light sources for optical sensing and spectroscopy on a microchip",
Max-Planck-Institute for the Science of Light, Erlangen, Germany, 2.3. 2012.
- 8.61. M. Pollnau (Univ. Twente),
"Biophotonic sensors on a microchip",
School of Engineering, University of California, Santa Cruz, California, 27.1. 2012.
- 8.60. M. Pollnau (Univ. Twente),
"Integrated optics: Waveguide light sources and biophotonic sensors",
CUDOS ARC Centre of Excellence, Institute of Photonics and Optical Science, University of Sydney, Australia, 26.8. 2011.
- 8.59. M. Pollnau (Univ. Twente),
"Rare-earth-ion-doped integrated waveguide amplifiers and lasers",
Laser Physics Centre, Australian National University, Australia, 24.8. 2011.
- 8.58. M. Pollnau (Univ. Twente),
"Mid-IR lasers: Challenges imposed by the population dynamics of the gain system",
Département de physique, de génie physique et d'optique, Université Laval, Québec City, Canada, 28.10. 2010.
- 8.57. M. Pollnau (Univ. Twente),
"Optical gain in rare-earth-ion-doped microstructures",
EMPA - Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland, 19.10. 2010.
- 8.56. M. Pollnau (Univ. Twente),
"Modulation-frequency-encoded multi-wavelength DNA analysis in an optofluidic chip",
Optics Laboratory, Faculty of Engineering, Ecole Polytechnique Fédérale de Lausanne, Switzerland, 18.10. 2010.
- 8.55. M. Pollnau (Univ. Twente),
"Fluorescent DNA analysis in an optofluidic chip",
Optics Laboratory, Faculty of Engineering, Ecole Polytechnique Fédérale de Lausanne, Switzerland, 1.10. 2009.
- 8.54. M. Pollnau (Univ. Twente),
"Fluorescent DNA analysis in an optofluidic chip",
School of Engineering and Applied Sciences, Harvard University, Cambridge, Massachusetts, 29.7. 2009.
- 8.53. M. Pollnau (Univ. Twente),
"The power of optical integration",
Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts, 27.5. 2009.
- 8.52. M. Pollnau (Univ. Twente),
"The power of on-chip optical integration",
Institut für Angewandte Physik, Universität Linz, Austria, 27.4. 2009.
- 8.51. M. Pollnau (Univ. Twente),
"Integrated optical devices: fabrication, characterization, and applications",
School of Engineering and Applied Sciences, Harvard University, Cambridge, Massachusetts, 15.1. 2009.
- 8.50. M. Pollnau (Univ. Twente),
"Towards active integrated optical devices in dielectric oxides",
Fachhochschule Münster, Steinfurt, Germany, 7.11. 2007.

-
- 8.49. M. Pollnau (Univ. Twente),
"Optically active dielectric waveguides",
Département d'Optique, Université de Franche-Comté, Besançon, France, 24.10. 2007.
- 8.48. M. Pollnau (Univ. Twente),
"Impurity-ion-activated micro-/nano-structured integrated optical devices",
The Institute of Photonic Sciences, Barcelona, Spain, 15.10. 2007.
- 8.47. M. Pollnau (Univ. Twente),
"Impurity-activated optical waveguides in dielectric materials",
School of Electrical and Computer Engineering, Cornell University, Ithaca, New York, 14.5. 2007.
- 8.46. M. Pollnau (Univ. Twente),
"Impurity-activated optical waveguides in dielectric solids",
Max-Born-Institut, Berlin, Germany, 21.3. 2007.
- 8.45. M. Pollnau (Univ. Twente),
"Optical waveguides in oxide materials: Fabrication, characterization, and applications",
Department of Physics, Heriot-Watt University, Edinburgh, United Kingdom, 12.3. 2007.
- 8.44. M. Pollnau (Univ. Twente),
"Optical waveguides in crystalline oxide materials",
Department of Chemistry, University of California, Berkeley, California, 19.5. 2006.
- 8.43. M. Pollnau (Univ. Twente),
"Towards 'lasers on a chip' in dielectric crystalline oxides",
Department of Applied Physics, California Institute of Technology, Pasadena, California, 15.5. 2006.
- 8.42. M. Pollnau (Univ. Twente),
"Upconversion processes: Theory, simulation, and experimental examples in solid-state lasers",
Philips Research Laboratory, Aachen, Germany, 5.12. 2005.
- 8.41. M. Pollnau (Univ. Twente),
"Optical waveguides in sapphire and potassium yttrium tungstate for broadband light sources and lasers",
School of Applied and Engineering Physics, Cornell University, Ithaca, New York, 7.10. 2005.
- 8.40. M. Pollnau (Univ. Twente),
"Optical waveguides in crystalline oxide materials",
Center for Materials Research, Norfolk State University, Norfolk, Virginia, 5.10. 2005.
- 8.39. M. Pollnau (Univ. Twente),
"Optical waveguides in crystalline oxide materials: Growth, structuring, characterization, and applications",
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan, 1.7. 2005.
- 8.38. M. Pollnau (EPF Lausanne),
"Active optical waveguides: Fabrication, characterization, and applications",
Department of Micro and Nanotechnology, Technical University of Denmark, Kongens Lyngby, Denmark, 10.12. 2004.
- 8.37. M. Pollnau (EPF Lausanne),
"Upconversion luminescence transients in the presence of inhomogeneous ion distributions",
Departement für Chemie und Biochemie, Universität Bern, Switzerland, 2.7. 2004.
- 8.36. M. Pollnau (EPF Lausanne),
"Waveguided broadband light sources for applications in interferometry",
Center for Research and Education in Optics and Lasers, University of Central Florida, Orlando, Florida, 9.1. 2004.

-
- 8.35. M. Pollnau (EPF Lausanne),
"Spectroscopy of rare-earth-doped laser materials",
Dipartimento di Fisica, Università di Pisa, Italy, 28.11. 2003.
- 8.34. M. Pollnau (EPF Lausanne),
"Waveguided broadband light sources for applications in interferometry",
MESA+ Research Institute, University of Twente, Enschede, The Netherlands, 11.11. 2003.
- 8.33. M. Pollnau (EPF Lausanne),
"Mid-infrared fiber lasers and crystalline-waveguide emitters for medical applications",
Lehrstuhl für Lasertechnik, Rheinisch-Westfälische Technische Hochschule Aachen, Germany, 1.4. 2003.
- 8.32. M. Pollnau (EPF Lausanne),
"Novel coherent broadband light sources for optical coherence tomography",
Philips Research Laboratory, Aachen, Germany, 1.4. 2003.
- 8.31. M. Pollnau (EPF Lausanne),
"Coherent waveguided light sources for medical applications",
Department Physik, Fakultät für Naturwissenschaften, Universität Paderborn, Germany, 10.3. 2003.
- 8.30. M. Pollnau (EPF Lausanne),
"Coherent waveguided light sources for medical applications",
Département de physique, de génie physique et d'optique, Université Laval, Québec City, Canada, 10.1. 2003.
- 8.29. M. Pollnau (EPF Lausanne),
"Waveguided broadband light sources for optical coherence tomography",
Dipartimento di Fisica, Politecnico di Milano, Italy, 2.12. 2002.
- 8.28. M. Pollnau (EPF Lausanne),
"Dynamics of upconversion luminescence in rare-earth and transition-metal-ion doped materials",
Philips Research Laboratory, Aachen, Germany, 25.10. 2002.
- 8.27. M. Pollnau (EPF Lausanne),
"Novel broadband light sources based on transition-metal-ion-doped crystals",
Institut für Photonik, Technische Universität Wien, Austria, 2.9. 2002.
- 8.26. M. Pollnau (EPF Lausanne),
"Novel transition-metal-ion-doped broadband light sources",
Department of Physical Chemistry of Luminescent Materials, Université Claude Bernard Lyon 1, Villeurbanne, France, 10.6. 2002.
- 8.25. M. Pollnau (EPF Lausanne),
"Broadband luminescent and laser materials in waveguide and fiber geometry",
Lawrence Livermore National Laboratory, University of California, Livermore, California, 28.5. 2002.
- 8.24. M. Pollnau (EPF Lausanne),
"Waveguide emitters and fiber lasers",
Departamento de Química Física i Inorgànica, Universidad Rovira i Virgili, Tarragona, Spain, 23.4. 2002.
- 8.23. M. Pollnau (EPF Lausanne),
"Loss mechanisms in Er- and Er,Yb-doped lasers",
Institut für Quantenelektronik, Eidgenössische Technische Hochschule Zürich, Switzerland, 5.3. 2002.
- 8.22. M. Pollnau (EPF Lausanne),
"Energy-transfer upconversion in the presence of an inhomogeneous distribution of active ions",
Department of Optical Processes in Confined Media, Instituto de Óptica, Madrid, Spain, 11.9. 2001.

-
- 8.21. M. Pollnau (EPF Lausanne),
"Quantitative investigation of upconversion processes in rare-earth-doped laser systems",
Departamento de Física de Materiales, Universidad Autónoma de Madrid, Spain, 10.9. 2001.
- 8.20. M. Pollnau (EPF Lausanne),
"Spectroscopy of fractional energy-transfer upconversion",
Institut für Laser-Physik, Universität Hamburg, Germany, 26.4. 2001.
- 8.19. M. Pollnau (EPF Lausanne),
"Decorrelation of luminescent decay in fractional energy-transfer upconversion",
Departement für Chemie und Biochemie, Universität Bern, Switzerland, 24.11. 2000.
- 8.18. M. Pollnau (EPF Lausanne),
"Active ion distributions and fractional energy transfer in solid-state laser materials",
Institut für Angewandte Physik, Universität Bern, Switzerland, 23.11. 2000.
- 8.17. M. Pollnau (Univ. Manchester),
"Diode-pumped high-power erbium 3- μm fiber lasers",
Carl Zeiss, Oberkochen, Germany, 8.11. 1999.
- 8.16. M. Pollnau (Univ. Bern),
"The erbium 3- μm laser: Population dynamics of an unusual four-level laser",
Institute of Optical Research, Stockholm, Sweden, 18.5. 1999.
- 8.15. M. Pollnau (Univ. Bern),
"Upconversion-induced lifetime quenching, heat generation, and thermal lensing in Nd:YAG and Nd:YLF laser crystals",
Institute of Optical Research, Stockholm, Sweden, 17.5. 1999.
- 8.14. M. Pollnau (Univ. Bern),
"Upconversion-induced heat generation and thermal lensing in Nd:YLF and Nd:YAG",
Institut für Angewandte Physik, Friedrich-Schiller-Universität Jena, Germany, 3.7. 1998.
- 8.13. M. Pollnau (Univ. Bern),
"Operational regimes of high excitation density in Nd:YAG and Nd:YLF. The fading dream of a simple laser system",
Institut für Optoelektronik, Deutsche Luft- und Raumfahrtgesellschaft, Oberpfaffenhofen, Germany, 2.7. 1998.
- 8.12. M. Pollnau (Univ. Southampton),
"Festkörperlaser an den Rändern des üblichen Emissionsspektrums: Er-Faser-Laser bei 2.7 μm und frequenzverdoppelter Nd-Kristall-Laser bei 473 nm",
Fakultät für Physik, Universität Konstanz, Germany, 4.8. 1997.
- 8.11. M. Pollnau (Univ. Southampton),
"Erbium 3- μm crystal and fiber lasers",
Department of Physics and Astronomy, University of Manchester, United Kingdom, 25.7. 1997.
- 8.10. M. Pollnau (Univ. Southampton),
"Thermal lensing in a Nd:YLF laser and frequency conversion of a 946 nm Nd:YAG laser to the blue spectral region",
Institut für Quantenelektronik, Eidgenössische Technische Hochschule Zürich, Switzerland, 24.6. 1997.
- 8.9. M. Pollnau (Univ. Southampton),
"1.05- μm Nd:YLF and 946-nm Nd:YAG lasers: lifetime quenching, thermal lensing, and frequency conversion to the blue spectral region",
Institut für Angewandte Physik, Universität Bern, Switzerland, 19.6. 1997.

- 8.8. M. Pollnau (Univ. Southampton),
"Rate-equation analysis of upconversion-pumped fiber and crystal lasers",
 Max-Born-Institut, Berlin, Germany, 12.6. 1997.
- 8.7. M. Pollnau (Univ. Southampton),
"Erbium-dotierte fluoridische Kristall- und Faser-Laser für die Chirurgie",
 2. Physikalisches Institut, Universität Stuttgart, Germany, 17.12. 1996.
- 8.6. M. Pollnau (Univ. Bern),
"Besetzungsmechanismen und Lasereigenschaften von 3 μm Erbium Lasern",
 Abteilung für Quantenelektronik und Lasertechnik, Institut für Allgemeine Elektrotechnik und Elektronik,
 Technische Universität Wien, Austria, 3.3. 1995.
- 8.5. M. Pollnau (Univ. Bern),
"The influence of excited-state absorption and interionic processes on the 550 nm and 3 μm transitions in Er^{3+} doped crystal lasers",
 Hughes Research Laboratories, Malibu, California, 24.2. 1994.
- 8.4. M. Pollnau (Univ. Bern),
"New developments in crystal-laser physics: upconversion and avalanche lasers",
 Department of Physics, University of Wisconsin, Madison, Wisconsin, 21.2. 1994.
- 8.3. M. Pollnau (Univ. Bern),
"Computer simulation of the cw Er^{3+} 3 μm laser",
 Laboratoire d'Optique Appliquée, École Polytechnique Fédérale de Lausanne, Switzerland, 26.6. 1993.
- 8.2. M. Pollnau (Univ. Hamburg),
"Stationäre und zeitaufgelöste Absorption aus angeregten Zuständen von Er^{3+} -dotierten Kristallen",
 Institut für Optik und Quantenelektronik, Friedrich-Schiller-Universität Jena, Germany, 22.6. 1992.
- 8.1. M. Pollnau (Univ. Hamburg),
"Zeitaufgelöste Messung der Absorption aus angeregten Zuständen am Beispiel des Er^{3+} . Eine neue Methode zur Bestimmung von Besetzungsdichten",
 Institut für Angewandte Physik, Universität Bern, Switzerland, 11.6. 1992.

9. OTHER PUBLICATIONS

- 9.5. L. Agazzi, I. Akca, S. Aravazhi, F. Ay, E.H. Bernhardt, F. Civitci, K. van Dalen, M. Dijkstra, S. García-Blanco, D. Gekus, M. Hammer, H. Hoekstra, A. Hollink, N. Ismail, S. Van Pham, R. de Ridder, G. Sengo, K. Wörhoff, and M. Pollnau,
"Integrated optical microsystems: Guiding light into the future",
 Focus Magazine 41 (4), 10-13 (2011).
- 9.4. K. Wörhoff, R.M. de Ridder, H.J.W.M. Hoekstra, and M. Pollnau,
"Integrated light sources and optical sensors",
 Photonica Magazine 36 (1), 9-17 (2011).
- 9.3. F. Kärtner, M. Pollnau, K. Ueda, and H. van Driel,
"Lasers: The next fifty years",
 Journal of the Optical Society of America B **27** (11), LF1 (November 2010). **Editorial.**
- 9.2. Ch. Ghisler, M. Pollnau, W. Lüthy, and H.P. Weber,
"Up-conversion cascade laser at 1.7 μm with simultaneous 2.7 μm lasing in erbium ZBLAN fibre",
 Optics NewsWire and Optics Report, August 1995.

- 9.1. S. Wittwer, M. Pollnau, R. Spring, W. Lüthy, and H.P. Weber,
"Nd³⁺:YAG: Threshold reduction by optimization of the resonator geometry",
Internal Report, Institute of Applied Physics, University of Bern, Switzerland, June 1995.