

PUBLICATIONS (1997-present)

REVIEW ARTICLES

1. A. P. Popov, A. V. Zvyagin, J. Lademann, M. S. Roberts, W. Sanchez, A. V. Priezhev, R. Myllylä, “Designing Light-Protective Skin Nanotechnology Products”, *J. Biomed. Nanotechnol.*, accepted 6/02/10, Manuscript # JBN-09-SN-OP-005.

FULLY REFEREED JOURNAL ARTICLES

2. C. Bradac, T. Gaebel, N. Naidoo, M.J. Sellars, J. Twamley, L. Brown, A.S. Barnard, T. Plakhotnik, **A. V. Zvyagin**†, J.R. Rabeau†, “Observation and control of blinking from nitrogen vacancy centres in discrete nanodiamonds”, *Nat. Nanotechnol.*, accepted 19/02/10, Manuscript # NNANO-09101394D (Journal impact factor, ISI database 20.6)

† – corresponding authors

3. L. Fisher, **A. V. Zvyagin**, T. Plakhotnik, M. Vorobyev, “Numerical modeling of light propagation in the array of dielectric cylinders”, *J. Opt. Soc Am. A*, accepted 17/02/10, Manuscript # 116812. (JIF 1.9)
4. K. Y. T. Seet, T. A. Nieminen, **A. V. Zvyagin**, “Refractometry of melanocyte cell nuclei using optical scatter images recorded by digital Fourier microscopy”, *J. Biomed. Opt.*, vol. 14, p. 044031, 2009. (JIF 3.0)
5. B. R. Smith, D. Inglis, B. Sandnes, J. R. Rabeau, **A. V. Zvyagin**, D. Gruber, C. Noble, R. Vogel, E. Osawa, T. Plakhotnik, “Five-Nanometer Diamond with Luminescent Nitrogen-Vacancy Defect Centers”, *Small*, vol. 5, pp. 1649-1653, 2009. (JIF 6.5)
6. **A. V. Zvyagin**, X. Zhao, A. Gierden, W. H. Sanchez, J. A. Ross, M. S. Roberts, “Imaging of Zinc Oxide Nanoparticle Penetration in Human Skin *in vitro* and *in vivo*”, *J. Biomed. Opt.* vol. 13, p. 064031, 2008.
7. M. S. Roberts, M. J. Roberts, T. A. Robertson, W. Sanchez, C. Thörling, Y. Zou, X. Zhao, W. Becker, and **A. V. Zvyagin**, “*In vitro* and *in vivo* imaging of xenobiotic transport in human skin and in the rat liver”, *J Biophoton.*, vol. 1, pp. 478-493, 2008.
8. K. Y. T. Seet, R. Vogel, T. A. Nieminen, G. Knöner, H. Rubinsztein-Dunlop, M. Trau, **A. V. Zvyagin**, “Refractometry of organosilica microspheres”, *Appl. Opt.*, vol. 46, pp. 1554-1561, 2007. (JIF 1.76) [Also published in *Virtual Journal of Nanoscale Science and Technology* 15(11), 2007]
9. *B. R. Smith, M. Niebert, T. Plakhotnik, **A. V. Zvyagin**, “Transfection and imaging of diamond nanocrystals as scattering optical labels”, *J. Luminesc.*, vol. 127, pp.260-263, 2007 (JIF 1.6)
10. J. R. Tucker, J. L. Baque, Y. L. Lim, P. A. Jacobs, **A. V. Zvyagin**, A. D. Rakić, “A Parallel Self-Mixing Imaging System Based on an Array of Vertical-Cavity Surface-Emitting Lasers”, *Appl. Opt.*, vol. 46, pp. 611-619, 2007.
11. M. L. Tran, **A. V. Zvyagin**, T. Plakhotnik, “Synthesis and spectroscopic observation of dendrimer-encapsulated gold nanoclusters”, *Chem. Comm.*, vol. 22, pp. 2400-2401, 2006. (JIF 5.3)
12. T. Plakhotnik, A. Chennu, **A. V. Zvyagin**, “Statistics of single electron signals in electron multiplying charge-coupled devices”, *IEEE Trans. Electron Devices*, vol. 53, pp. 618-622, 2006. (JIF 2.7)
13. Ya. Colpin, A. Swan, **A. V. Zvyagin**, T. Plakhotnik, “Imaging and Sizing of Diamond Nanoparticles”, *Opt. Lett.*, vol. 31, pp. 625-627, 2006. (JIF 3.8)

14. J. R. Tucker, A. D. Rakić, C. J. O'Brien, **A. V. Zvyagin**, "The effect of multiple transverse modes in self-mixing sensors based on Vertical-Cavity Surface-Emitting Lasers", *Appl. Opt.*, vol. 46, pp. 611-619, 2006.
15. J. A. Ross, **A. V. Zvyagin**, N. R. Heckenberg, J. Upcroft, P. Upcroft, H. Rubinsztein-Dunlop, "Measurement of action spectra of light activated processes", *J. Biomed. Opt.*, vol. 11, Art. No. 014008, 2006.
16. P. Blazkiewicz, K. Blazkiewicz, A. Verhaege, Yu. G. Anissimov, M. R. Roberts, **A. V. Zvyagin**, "Dialysis-Assisted Fiber-Optic Spectroscopy", *J. Biomed. Opt.*, vol. 11, Art. No. 014033, 2006.
17. P. Blazkiewicz, P. M. Gourlay, J. R. Tucker, A. D. Rakic, **A. V. Zvyagin**, "Experimental demonstration of signal-to-noise-ratio improvement of Fourier-domain optical coherence tomography", *Appl. Opt.*, Vol. 44, pp. 7722-7729, 2005.
18. K. Y. T. Seet, P. Blazkiewicz, P. Meredith, **A. V. Zvyagin**, "Optical Scatter Imaging using Digital Fourier Microscopy", *J. Phys. D: Appl. Phys.*, vol. 38, pp. 3590-3598, 2005. [Also published in *The Virtual Journal for Biomedical Optics* 2(4), 2007] (JIF 2.1)
19. **A. V. Zvyagin**, P. Blazkiewicz, J. Vintrou, "Image reconstruction in full-field Fourier-domain optical coherence tomography", *J. Opt. A: Pure Appl. Opt.*, vol. 7, pp. 350-35, 2005. (JIF 1.74)
20. **A. V. Zvyagin**, "Fourier-domain optical coherence tomography: optimization of signal-to-noise ratio in full space", *Opt. Comm.*, vol. 242, pp. 97-108, 2004. (JIF 1.5)
21. J. Clements, **A. Zvyagin**, D. Silva, T. Wanner, D. Sampson, W. Cowling, "Optical coherence tomography can determine hull thickness in lupin seeds", *Plant Breeding*, vol. 123, pp. 266-270, 2004.
22. S. A. Alexandrov, P. Meredith, T. J. McIntyre, **A. V. Zvyagin**, "Digital Fourier microscopy for selective imaging of biological tissue", *Int. J. Imaging Syst. Tech.*, vol. 14, pp. 253-258, 2004.
23. **A. V. Zvyagin**, E. D. J. Smith, D. D. Sampson, "Delay and dispersion characteristics of a frequency-domain optical delay line for scanning interferometry", *J. Opt. Soc. Am. A*, vol. 20, pp. 333-341, 2003.
24. S. A. Alexandrov, **A. V. Zvyagin**, K. K. M. D. Silva, D. D. Sampson, "Bifocal optical coherence refractometry of turbid media", *Opt. Lett.*, vol. 28, pp. 117-119, 2003.
25. **A. V. Zvyagin**, K. K. M. B. D. Silva, S. A. Alexandrov, T. R. Hillman, J. J. Armstrong, T. Tsuzuki, D. D. Sampson, "Refractive index tomography of turbid media by bifocal optical coherence refractometry", *Opt. Expr.*, vol. 11, pp. 3503-3517, 2003. (JIF 3.8)
26. J. J. Armstrong, M. S. Leigh, I. D. Walton, **A. V. Zvyagin**, S. A. Alexandrov, S. Schwer, D. D. Sampson, D. R. Hillman, P. R. Eastwood, "*In vivo* size and shape measurement of the human upper airway using endoscopic long-range optical coherence tomography", *Opt. Expr.*, vol. 11, pp. 1817-1826, 2003.
27. **A. V. Zvyagin**, I. Eix, D. D. Sampson, "High-speed, high-sensitivity, gated surface profiling with closed-loop optical coherence topography", *Appl. Opt.*, vol. 41, pp. 2179-2184, 2002.
28. E. D. J. Smith, **A. V. Zvyagin**, D. D. Sampson, "Real-time dispersion compensation in scanning interferometry", *Opt. Lett.*, vol. 27, pp. 1998-2000, 2002.
29. **A. V. Zvyagin**, D. D. Sampson, "Achromatic optical phase shifter/modulator", *Opt. Lett.* vol. 26, pp. 187-189, 2001.
30. **A. V. Zvyagin**, M. G. Garcia-Webb, D. D. Sampson, "Semiconductor line source for low-coherence interferometry", *Appl. Opt.* vol. 40, pp. 913-915, 2001.
31. **A. V. Zvyagin**, J. D. FitzGerald, K. K. M. B. D. Silva, D. D. Sampson, "Real time detection technique for Doppler optical coherence tomography", *Opt. Lett.* vol. 25, pp. 1645-1647, 2000.

32. K. K. M. B. D. Silva, **A. V. Zvyagin**, D. D. Sampson, "Extended range, rapid scanning optical delay line for biomedical interferometric imaging", *Electron. Lett.* vol. 35, pp. 1404-1406, 1999.
33. **A. V. Zvyagin**, K. Goto, "Mie scattering of evanescent waves by a dielectric sphere: comparison of multipole expansion and group theory methods", *J. Opt. Soc. Am. A* vol. 15, pp. 3003-3008, 1998. (Journal impact factor: 1.8)
34. **A. V. Zvyagin**, M. Ohtsu, "Near-field optical microscope for true surface topography: theoretical study", *Opt. Commun.* vol. 133, pp. 328-338, 1997.
35. **A. V. Zvyagin**, J. D. White, M. Ohtsu, "Near-field optical microscope image formation: a theoretical and experimental study", *Opt. Lett.* vol. 22, pp. 955-957, 1997.
36. **A. V. Zvyagin**, J. D. White, M. Kourogi, M. Kozuma, M. Ohtsu, "Solution to the bistability problem in shear-force distance regulation encountered in scanning force and near-field optical microscopes", *Appl. Phys. Lett.* vol. 71, pp. 2541-2543, 1997.

SELECTED EARLY PUBLICATIONS, FULLY REFEREED JOURNAL PAPERS

37. M. Kajita, **A. V. Zvyagin**, "A new ring trap for frequency standard applications", *Appl. Phys.*, Vol. B58, pp. 295-301, 1994. (Journal impact factor, 2.0)
38. M. Musha, **A. V. Zvyagin**, K. Nakagawa, and M. Ohtsu, "Development of all-semiconductor laser sources for studies of $^{88}\text{Sr}^+$ ions confined in RF trap", *Japan. J. Appl. Phys.*, Vol. 33, pp. 1603-1607, 1994.
39. Yu. S. Domnin, S. A. Ermilov, **A. V. Zvyagin**, P. S. Shumyatskii, "Ion cloud detection by a method of the tuned circuit", *Izmeritel'naya Tekhnika*, Vol. 6, pp. 32-34, 1991.

ARTICLES IN A PEER-REVIEWED ON-LINE MONOGRAPH

1. **A. V. Zvyagin**, T. Plakhotnik, "Optical scatter imaging: Detection limits", Topics in Particle and Dispersion Science, <http://www.tpdsci.com/Tpc/OSIDetLim.php>.
2. **A. V. Zvyagin**, T. Plakhotnik, "Video-enhanced contrast optical microscopy", Topics in Particle and Dispersion Science, <http://www.tpdsci.com/Tpc/OSIDetLim.php>.

DOMESTIC JOURNALS

K. Goto, and **A. V. Zvyagin**, "Proposal of a new 18-Gb optical RAM disk head using a VCSEL array and curvature of the field compensated lenses", *The Bulletin of School of High-Technology for Human Welfare*, Tokai University vol. 8, pp. 25-37, 1998.