

Curriculum vitae **Pavel V. Subochev**

Personal data, contact information

Name: Pavel Subochev.

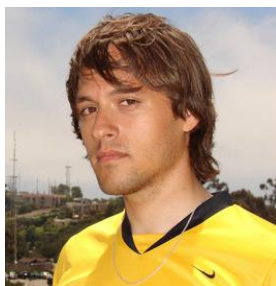
Research fellow of the Department for radiophysics methods in medicine

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Educational background

2000–2006: Student at the Faculty of radiophysics, Nizhny Novgorod State University

2006 – MS degree in Radiophysics, Faculty of radiophysics, Nizhny Novgorod State University 2000 –

2006-2009: postgraduate student at the IAP RAS

2010 – PhD in Acoustics, thesis "The development of methods for passive thermoacoustic tomography and acoustic brightness monitoring". Supervisor: Anatoly Mansfel'd.

Scientific interests

Multi-spectral optoacoustic bioimaging, high-frequency ultrasonic detectors.

Professional activity

2006-2011: Assistant Researcher at the IAP RAS

2011 - present: Researcher at the IAP RAS

Visits: Artann Laboratories (Trenton, NJ, 2012)

Membership in professional organizations

2013 – present – Reviewer in Biomedical Optics Express

2012 - present – member of the Scientific Council of the Non-Linear Dynamics and Optics Division at the IAP RAS

2011,2013 – Member of Org. committee at the International Symposium Topical Problems of Biophotonics (Nizhny Novgorod, Russia)

Awards, prizes, grants

2013 – 2nd prize at competition of young scientists held at IAP RAS

2009 – Award of the Nizhny Novgorod Ministry of Education

2008 – Scholarship of the Razuvaev academician

2005 – Scholarship of Intel, Inc.

Participation in scientific projects

2013: project "Development of the photoacoustics functional imaging methods" in the frames of the Federal Targeted Program "R&D in Priority Fields of the S&T Complex of Russia (2007-2013)"

2013-2015: grant of the Russian Foundation for Basic Research: «Simultaneous ultrasound and spectral photoacoustic microscopy for functional and structural diagnostics of biotissues»

2012-2013: grant of the Russian Foundation for Basic Research: «The development of methods of spectral optoacoustic microscopy to image tissue structure with submillimeter resolution»

Educational activity

2006 - present: carrying out educational experiments with undergraduate students of Radiophysics Faculty at the Nizhny Novgorod State University

2012 - present: program "Young researcher's school" of NNC RAS, scientific advisor

Publications

8 peer-reviewed journal publications, 1 book

The most significant works and results

Full list of peer-reviewed journal publications

- 1) P.Subochev, et al. "Simultaneous photoacoustic and optically mediated ultrasound microscopy: phantom study." *Optics letters* 37.22 (2012): 4606-4608.
- 2) M.A.Sirotkina, et al. "Laser hyperthermia of tumors with the use of golden nanoparticles under the control of optical coherent tomography and acoustothermometry." *Biophysics* 56.6 (2011): 1142-1146.
- 3) A.N.Reznik, and P.V.Subochev. "On the theory of acoustothermometry of waterlike media: Effects of the quasi-static field, strong absorption, and radiation pattern." *Acoustical Physics* 56.1 (2010): 105-114.
- 4) P.V.Subochev, A.D.Mansfeld, R.V.Belyaev. "Multifrequency acoustic thermotomography during laser hyperthermia: physical modeling." *Journal of University of Nizhny Novgorod* 5.1 (2010): 67-74 [in Russian].
- 5) E.V.Krotov, A.M.Reyman, and P.V. Subochev. "Synthesis of a Fresnel acoustic lens for acoustic brightness thermometry." *Acoustical Physics* 53.6 (2007): 688-693.
- 6) E.V.Krotov, A.M.Reyman, and P.V.Subochev. "Account of frequency dependence of the acoustic absorption coefficient in solving problems of acoustic-brightness thermometry." *Radiophysics and quantum electronics* 49.6 (2006): 432-441.
- 7) A.A.Anosov, et al. "Dynamic reconstruction of internal temperature from acoustic radiometry data using neural networks." *Acoustical Physics*, 2013, 59.6, (2013): 768–772 [in Print].
- 8) P.V.Subochev, et al. "Bimodal optoacoustic and ultrasound microscopy for simultaneous structural and functional diagnostics of biotissue" *Proceedings of the Russian Academy of Sciences* (2013) [Submitted].
- 9) V.V.Perekatova, I.I.Fiks, and P.V.Subochev. "Numerical calculations of Green's function of focused ultrasonic detectors to refine photoacoustic microscopy images." *Radiophysics and quantum electronics* (2013) [Submitted].

Scholar books

A.Anosov, A.Kazanskiy, P.Subochev // Experimental acoustic thermotomography of biological objects: reconstruction of temperature distributions in 1D, 2D, and 3D // ISBN 978-3-659-36580-5, LAP Lambert Academic Publishing, 2013 [in Russian].

Patents

- 1) P.V.Subochev, et al. "Optoacoustic microscope for functional bioimaging" *Russian patent for utility model(2013)* [Patent pending].
- 2) A.Sanin, A.Mansfeld, P.Subochev "Method to control parameters of ultrasonic transducers during their manufacture" *Registered know-how of Institute of Applied Physics RAS* (2011).
- 3) P.Subochev, et al. "Acoustic thermometer for passive acoustic thermotomography" *Russian patent for utility model #105150* (2009).