

List of publications of Petr V. Nazarov

I. Publications in reviewed printing issues

1. Vos W.L., Schor M., Nazarov P.V., Koehorst R.B.M., Hemminga M.A. *Structure of membrane-embedded M13 major coat protein is insensitive to hydrophobic stress*, Biophysical Journal, **2007**, v. 93, p. 3541-3547.
2. Nazarov P.V., Koehorst R.B.M., Vos W.L., Apanasovich V.V., Hemminga M.A. *FRET study of membrane proteins: determination of the tilt and orientation of the N-terminal domain of M13 major coat protein*, Biophys. J., **2007**, 92:4, p. 1296-1305.
3. Nazarov P.V. *Simulation and analysis of FRET in the study of membrane proteins*, Doctoral Thesis, ISBN: 90-8504-553-3, PrinterPartners Ipskamp, Wageningen **2006**, 135 pages.
4. Nazarov P.V., Koehorst R.B.M., Vos W.L., Apanasovich V.V., Hemminga M.A. *FRET study of membrane proteins: simulation-based fitting for analysis of membrane protein embedment and association*, Biophys. J., **2006**, 91, p. 454-466.
5. Hesselink R.W., Koehorst R.B.M., Nazarov P.V., Hemminga M.A. *Membrane-bound peptides mimicking transmembrane Vph1p helix 7 of yeast V-ATPase: A spectroscopic and polarity mismatch study*. Biochim. et Biophys. Acta, **2005**, 1716:2, p. 137-145.
6. Sparr E., Ash W.L., Nazarov P.V., Rijkers D.T.S., Hemminga M.A., Tieleman D.P., Killian J.A. *Self-association of transmembrane α -helices in model membranes: importance of helix orientation and role of hydrophobic mismatch*. J. Biol. Chem., **2005**, 280:47, p. 39324-39331.
7. Nazarov P.V., Apanasovich V.V., Lutkovski V.M., Yatskou M.M., Koehorst R.B.M., Hemminga M.A. *Artificial neural network modification of simulation-based fitting: application to a protein-lipid system*. J. Chem. Inf. Comput. Sci. (now J. Chem. Inf. Model), **2004**, 44, p. 568-574.
8. Isaevich A.V., Lutkovski V.M., Misakov P.Ya., Nazarov P.V. *Determination of small amounts of elements by the atomic emission method with preliminary concentration of a sample*. J. Appl. Spec., **2003**, 70:5, p. 672-676.
9. Nazarov P.V., Apanasovich V.V., Lutkovski V.M., Hemminga M.A., Koehorst R.B.M. *Neural network simulation of energy transfer processes in a membrane protein system*. Advances in Soft Computing: Neural Networks and Soft Computing, Physica-Verlag, **2003**, p. 873-878.
10. Nazarov P.V., Apanasovich V.V., Lutkovskaya K.U., Lutkovski V.M., Misakov P.Ya. *Neural network data analysis for intracavity laser spectroscopy*. Proc. SPIE: Optical Information, Data Processing and Storage, and Laser Communication Technologies, **2003**, 5135, p. 61-69.
11. Burakov V.S., Isaevich A.V., Misakov P.Ya., Apanasovich V.V., Lutkovski V.M., Nazarov P.V. *Data processing and estimation of measurement errors in intracavity laser spectroscopy*. Proc. SPIE: Novel Trends in Nonlinear Laser Spectroscopy and Optical Diagnostics and Lasers in Chemistry, Biophysics, and Biomedicine, **2001**, 4749, p. 172-177.
12. Isaevich A.B., Kozlovski A.S., Lutkovski V.M., Misakov P.Ya. Nazarov P.V. *Diminution of an error of the measurement of the elements in the atom emission spectral analysis*. Vesti NAN Belarusi, **2001**, 2, p. 80-85, (in Russian).

II. Articles in scientific issues of Universities

13. Nazarov P.V., Lutkovski V. M. Automatic control of kinescope's shadow masks using artificial neural networks, *Elektronika*, № 8(32), **2006**, p 57-58. (in Russian)
14. Nazarov P.V., Apanasovich V.V., Lutkovski V.M. *Neural network method for optical signals reconstruction*. Radio Physics and Electronics: Collection of Works. Issue V, Minsk, BSU **2001**, p. 88-92, (in Russian).
15. Lutkovski V.M., Nazarov P.V. *Neural network method for processing of photodetector's signals*. Izvestia belaruskoy inzhenernoy akademii, **2000**, № 1(9)/2, p.157-158, (in Russian).
16. Lutkovski V.M., Nazarov P.V. *Application of neural networks for atomic-emission spectra processing*. Radio Physics and Electronics: Collection of Works. Issue IV, Minsk, BSU, **2000**, p. 102-105, (in Russian).

III. Proceedings of international conferences

17. Golovaty A.A., Nazarov P.V., Yatskou M.M., Apanasovich V.V., Friederich E. *Simulation and analytical models for the analysis of in vitro actin polymerization*. Proceedings of the 8th International Conference "Computer Data Analysis and Modeling: Complex Stochastic Data and Systems", Minsk, **2007**, vol.2, p. 184-187.
18. Nazarov P.V., Yatskou M.M., Barsukov E.A., Ivashkevich E.V., Golovaty A.A., Apanasovich V.V., Friederich E. *Developing mathematical models, algorithms and programming tools for analysis of actin-based motility*. 3rd Wolfgang Pauli International Workshop on Mathematical Modelling of Actin-Based Motility, Vienna, Austria, **2006**, p. 13-14.
19. Nazarov P.V., Koehorst R.B.M., Vos W.L., Apanasovich V.V., Hemminga M.A. *FRET study of membrane proteins: simulation-based fitting for analysis of protein structure, embedment and association*. International Conference on Biological Dynamics: "From molecules to cells", Amsterdam, The Netherlands, **2005**, p. 51.
20. Nazarov P.V., Apanasovich V.V., Hemminga M.A. *FRET study of M13 major coat protein: simulation-based fitting approach*. The 17th International School-Seminar on Spectroscopy of Molecules and Crystals, 17ISSMC, Ukraine, **2005**, p. 249-250.
21. Nazarov P.V., Repich M.V., Apanasovich V.V. *Artificial neural network as a tool for preliminary analysis of time resolved fluorescence data*. The 17th International School-Seminar on Spectroscopy of Molecules and Crystals, 17ISSMC, Ukraine, **2005**, p.283-284.
22. Repich M.V., Nazarov P.V., Yatskou M.M. *Monte Carlo simulation of energy transfer processes*. The 17th International School-Seminar on Spectroscopy of Molecules and Crystals, 17ISSMC, Ukraine, **2005**, p.24-25.
23. Makarova K.V., Nazarov P.V., Apanasovich V.V., Hemminga M.A. *ESR experimental data analysis using simulation-based fitting approach*. The 8th International Conference on "Pattern Recognition and Information Processing" PRIP'2005, Minsk, Belarus, **2005**, p.77-79.
24. Nazarov P.V., Repich M.V., Yatskou M.M., Apanasovich V.V. *Neural network approaches to data analysis: estimation of parameters of complex systems using*

- fluorescence decays*. International conference "Information Systems and Technologies", Minsk, Belarus, **2004**, p. 202-207, (in Russian).
25. Nazarov P.V., Repich M.V., Apanasovich V.V., Hesselink R.W., Hemminga M.A. *Simulation of photo-physical processes during study of membrane proteins during study by fluorescence resonance spectroscopy*. International conference "Laser and Optical Technologies in Biology and Medicine", Minsk, Belarus, **2004**, p. 387-391, (in Russian).
 26. Nazarov P.V., Popleteev A.M., Lutkovski V.M., Apanasovich V.V. *Neural network simulation of δ -correlated stochastic signals*. International Conference on "Modeling and Simulation" MS'2004, Minsk, Belarus, **2004**, p. 121-124.
 27. Nazarov P.V., Kavalenka A.A., Makarova K.V., Lutkovski V.M., Apanasovich V.V. *Neural network based algorithm of preliminary data analysis: application to fluorescence and ESR spectroscopy*. International Conference on "Modeling and Simulation" MS'2004, Minsk, Belarus, **2004**, p. 130-134.
 28. Nazarov P.V., Popleteev A.M., Lutkovski V.M. *Identification of processes and systems using parallel simulation modelling and neural network approximation*. International Conference "Information Systems and Technologies", Minsk, Belarus, **2002**, p. 142-146, (in Russian).
 29. Nazarov P.V., Apanasovich V.V., Dedkov A.I., Lutkovski V.M., Makarova E.V. *Neural network algorithm of image correction and analysis for the detection of faults in periodic structures*. International Conference on "Informational Systems and Technologies", Minsk, Belarus, **2002**, p. 273-277.
 30. Nazarov P.V., Apanasovich V.V., Balakhontsev A.Y., Lutkovski V.M., Misakov P.Ya. *Application of neural networks in analysis of atomic emission spectra*. II International Conference on Neural Networks and Artificial Intelligence, Minsk, Belarus, **2001**, p. 177-180.
 31. Apanasovich V.V., Baranovski A.K., Lutkovski V.M., Nazarov P.V. *Neural network method for correction of photo-detectors time-lags in optical communication systems*. 7th All-Russia Conference "Neurocomputers and their applications", Moscow, Russia, **2001**, p. 217-220, (in Russian).
 32. Apanasovich V.V., Balakhontsev A.Y., Lutkovski V.M., Misakov P.Ya., Nazarov P.V. *Neural method for peaks separation in analysis of atomic-emission spectra*. 2nd International conference "Digital Information Processing and Control in Extreme Situations", Minsk, Belarus, **2000**, vol. 1, p. 36-40, (in Russian).
 33. Burakov V.S., Apanasovich V.V., Isaevich A.V., Kozlovski A.S., Lutkovski V.M., Misakov P.Ya., Nazarov P.V. *Magnification of sensitivity of the atomic-emission analysis with atomization of analyte in inductively coupled plasma*. 3rd International Conference Plasma Physics and Plasma Technology (PPPT-3), Minsk, Belarus, **2000**, p. 297-300.

IV. Proceedings of conferences of young scientists and students

34. Popleteev A.M., Nazarov P.V. *Application of neural networks for stochastic processes simulation*. Proceedings of 8th scientific conference of Belarusian students "NIRS-2003", Minsk, Belarus, **2003**, p. 196-197, (in Russian).
35. Nazarov P.V., Makarova K.V. *Neural network approximation of physical processes*. Proceedings of 8th scientific conference of Belarusian students "NIRS-2003", Minsk, Belarus, **2003**, p. 193-194, (in Russian).

36. Nazarov P.V., Popleteev A.M. *Neural network simulation of deterministic and stochastic processes*. 3rd Republican conference of young scientists and students "Contemporary Problems of Mathematics and Computational Techniques". Brest, Belarus, **2003**, p. 10-13, (in Russian).
37. Makarova K.V., Nazarov P.V. *Automatic analysis and recognition of chromosomes*. 3rd Republican conference of young scientists and students "Contemporary Problems of Mathematics and Computational Techniques". Brest, Belarus, **2003**, p. 32-35, (in Russian).
38. Nazarov P.V., Hemminga M.A., Apanasovich V.V. *Neural network simulation and analysis of experimental data in time resolved spectroscopy*. School on "Ultrafast Processes in Photochemistry and Photobiology", Torun, Poland, **2003**, p. 46.
39. Makarova K.V., Popleteev A.M., Nazarov P.V., Lutkovski V.M. *Application of neural networks to processing of packed data in atomic emission spectroscopy*. Proceedings of 7th scientific conference of Belarusian students "NIRS-2002", Minsk, Belarus, **2002**, p. 419-423, (in Russian).
40. Nazarov P.V. *Neural network simulation of energy transfer processes in membrane protein systems*. 59th Conference of students and PhD students of Belarusian State University, Minsk, Belarus, **2002**, (in Russian).
41. Lutkovskaya E.V., Nazarov P.V. *Analysis of physical principles for artificial neurons development*. Proceedings of 9th Student Conference "Physics of Condensed State", Grodno, Belarus **2002**, p. 192-194, (in Russian).
42. Nazarov P.V. *Neural networks models of photodetectors*. Proceedings of 8th Student Conference "Physics of Condensed State", Grodno, Belarus **2001**, p. 216-217, (in Russian).
43. Nazarov P.V. *Neural network method of image processing during shadow masks defects detection*. 59th Conference of students and PhD students of Belarusian State University, Minsk, Belarus, **2001**, (in Russian).
44. Nazarov P.V., Balakhontsev A.Yu. *Application of neural networks for atomic-emission spectra processing*. Proceedings of 5th scientific conference of Belarusian students "NIRS-2000", Grodno, Belarus, **2003**, p. 46-49, (in Russian).
45. Nazarov P.V. *Neural network method for correction of time-lags of a detection system*. 58th Conference of students and PhD students of Belarusian State University, Minsk, Belarus, **2000**, p. 306-309, (in Russian).