CURRICULUM VITAE

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EDUCATION

M.S. (Mathematics), National Pedagogikal Dragomanov University, 2000.

Ph.D. (system analysis and the optimum solutions theory), ESC "Institute for Applied System Analysis", NTUU "Igor Sikorsky Kyiv Polytechnic Institute", 2018.

ACADEMIC POSITIONS

2012 – 2015 engineer (part time) of Research Department of System Mathematics ESC "Institute for Applied System Analysis" NTUU "Kyiv Polytechnic Institute";

2015 – 2018 junior researcher, Research Department of System Mathematics, Institute for Applied System Analysis, NTUU "Igor Sikorsky Kyiv Polytechnic Institute";

2018 till now Assistant , Department of Mathematical Methods of System Analysis, ESC "Institute for Applied System Analysis", NTUU "Igor Sikorsky Kyiv Polytechnic Institute";

2018 till now junior researcher (part time), Research Department of System Mathematics, Institute for Applied System Analysis, NTUU "Igor Sikorsky Kyiv Polytechnic Institute".

FELLOWSHIPS, GRANTS, AND AWARDS

Researches were partially supported by:

Grants of the President of Ukraine

GP/F49/070 "Structural properties of attracting sets for some nonlinear boundary value problems

of Geophysics and Mechanics", 2013;

GP/F50/049 "Strong solutions of three-dimensional Navier-Stokes equations", 2014;

GP/F66/38-2016 "On limit states of mathematical models for viscoelastic fluids", 2016;

Grants of the NAS of Ukraine for young scientists

F-2273 "Long-term forecasts for state functions and regularity of limit cycles of diffusion type controlled processes", 2013-2014.

JOURNAL ARTICLES AND BOOK CHAPTERS

1. Gorban, I.M., Khomenko, O.V.: Dynamics of Vortices in Near-Wall Flows with Irregular Boundaries. In: Zgurovsky, M.Z., Sadovnichiy, V.A. (eds.) Solid Mechanics and Its Applications. Continuous and Distributed Systems: Theory and Applications, vol.211, pp.115-129. Springer (2014). DOI: 10.1007/978-3-319-03146-0-9

2. Gorban, I.M, Khomenko, O.V.: Theoretical models of flow control in near-wall areas in hydrodynamic systems. System research and information technology. 4, 87-99 (2014).

3. Gorban, I.M., Khomenko, O.V.: Active near-wall flow control through a cross groove with suction. In: Zgurovsky, M.Z., Sadovnichiy, V.A. (eds.) Studies in Systems, Decision and Control. Continuous and Distributed Systems II: Theory and Applications, vol.30, pp. 353-367. Springer (2015). DOI:10.1007/978-3-319-19075-4_21

4. Gorban, N.V, Kapustyan, A.V, Kapustyan, E.A, Khomenko, O.V.: Strong Global Attractor for the Three-Dimensional Navier-Stokes System of Equations in Unbounded Domain of Channel Type. Journal of Automation and Information Sciences. Vol. 47, Iss.11, pp. 48-59 (2015). DOI:10.1615/JAutomatInfScien.v47.i11.40

5. Gorban, I.M., Khomenko, O.V.: Flow control near a square prism with the help of frontal flat plates. In: Zgurovsky, M.Z., Sadovnichiy V.A. (eds.) Studies in Systems, Decision and Control. Advances in Dynamical Systems and Control, vol.69, pp.327-350. Springer (2016). DOI: 10.1007/978-3-319-40673-2_17

6. Gorban, N.V., Khomenko, O.V, Paliichuk, L.S, Tkachuk, A.M.: Long-time behavior of state functions for climate energy balance model. Discrete & Continuous Dynamical Systems - Series B, 22(5), 1887-1897 (2017). DOI: 10.3934/dcdsb.2017112

7. Zgurovsky M.Z., Gluzman M.O., Gorban N.V., Kasyanov P.O., Paliichuk L.S., Khomenko O.V. Uniform global attractors for non-autonomous dissipative dynamical systems. DCDS. Series B, vol. 22, Iss. 5, pp. 2053-2065 (2017). DOI: 10.3934/dcdsb.2017120

8. Gorban N.V., Kapustyan O.V., Kasyanov P.O., Khomenko O.V., Paliichuk L.S., Valero J., Zgurovsky M.Z. Uniform attractors for vanishing viscosity approximations of non-autonomous complex flows. JODEA, vol. 26, Iss. 2, pp. 1-12 (2018). DOI: 10.15421/141807.

9. Basovsky V.G., Gorban I.M., Khomenko O.V. Modification of hydrodynamic and acoustic fields generated by a cavity with fluid suction Modern Mathematics and Mechanics. In: Zgurovsky, M.Z., Sadovnichiy, V.A. (eds.) Fundamentals, Problems and Challenges. Springer Series: Understanding Complex Systems, pp. 137-158 (2019). DOI: 10.1007/978-3-319-96755-4_9

CONFERENCES

1. Khomenko O.V. Dynamics of Vortices in Near-wall Fows with Irregular boundaries / In: Abstracts of the 15th International Scientific and Technical Conference SAIT 2015, ESC «IASA» NTUU «KPI», Kyiv, May 27-31, 2013, p.34.

2. Khomenko, O.V.; Dynamics of Vortices in Near-Wall Flows with Irregular Boundaries. In: Abstracts of the Crimea International Mathematical Conference: Book of Abstracts. Sudak, September 22-October 4, 2013, p. 71–72.

3. Gorban, I.M., Khomenko, O.V.: Theoretical Models of Flow Control in Near-Wall Areas. In: Abstracts of the 16th International Scientific and Technical Conference SAIT 2014, ESC «IASA» NTUU «KPI», Kyiv, May 26-30, 2014, p.35. [in Ukrainian]

4. Gorban, I.M., Khomenko, O.V.: Active Near-Wall Flow Control Via a Cross Groove With Suction. In: Abstracts of the Third International Conference of Memory of the Corresponding Member of the National Academy of Sciences of Ukraine Valery S. Melnyk «Nonlinear Analysis and Application», ESC «IASA» NTUU «KPI», Kyiv, April 1-3, 2015, p.21.

5. N.V Gorban, A.V Kapustyan , O.V. Khomenko.: On Strong Global Attractor for the 3D Navier–Stokes Equations in an Unbounded Domain of Channel Type. In: Abstracts of the Third International Conference of Memory of the Corresponding Member of the National Academy of Sciences of Ukraine Valery S. Melnyk «Nonlinear Analysis and Application», ESC «IASA» NTUU «KPI», Kyiv, April 1-3, 2015, p.19.

6. Gorban, I.M, Khomenko, O.V.: Flow Control Via an Interceptor and a Fluid Suction. In: Abstracts of the 17th International Scientific and Technical Conference SAIT 2015, ESC «IASA» NTUU «KPI», Kyiv, June 22-25, 2015, p.59. [in Ukrainian]

7. Gorban, I.M, Khomenko, O.V.: Application of the trapped vortex scheme for the flow control around the square prism. In: Abstracts of the 18th International Scientific and Technical Conference SAIT 2016, ESC «IASA» NTUU «KPI», Kyiv, May 30 - June 2, 2016, p.70–71. [in Ukrainian]

8. Gorban N.V., Khomenko O.V.,Paliichuk L.S.: Asymptotic behavior of solutions for climate energy balance model on manifold without boundary. In: Abstracts of the 19th International Scientific and Technical Conference SAIT 2016, ESC «IASA» NTUU «KPI», Kyiv, May 22 - 25, 2016, p.22.

9. Gorban N.V., Khomenko O.V.,Paliichuk L.S.: Asymptotic behavior of solutions for nonautonomous dissipative evolutionary problems in infinite-dimensional spaces. In: Abstracts of the 19th International Scientific and Technical Conference SAIT 2016, ESC «IASA» NTUU «KPI», Kyiv, May 22 - 25, 2016, p.57. [in Ukrainian]

10. Khomenko, O.V.: On Strong Global Attractor for the Three-Dimensional Navier-Stokes System of Equations in the Unbounded Domain of Channel Type. In: Abstracts of the International Conference in Functional Analysis dedicated to the 125th anniversary of Stefan Banach, Lviv, 18-23 September, 2017, p. 95.

11. Gorban I.M., Khomenko O.V. Flow control in hydrodynamic systems based on the properties of trapped vortices. In: Abstracts of the fourth International Conference of Memory of the Corresponding Member of the National Academy of Sciences of Ukraine Valery S. Melnyk «Nonlinear Analysis and Application», ESC «IASA» NTUU «KPI», Kyiv, April 4-6, 2018, p.21.

12. Gorban I.M., Basovsky V.G., Khomenko O.V. Numerical simulation of hydrodynamic and acoustic fields generated by a cavity. In: Abstracts of the 6th International Scientific and Practical Conference "Computer Hydromechanics", Kyiv, September 26-27, 2018, p. 70.

TUTORIALS

1. «Elements of Nonlinear analysis. Part I: Introduction to Applied functional analysis» / Kapustyan O.V., Gorban N.V., Paliichuk L.S., Fartushny I.D., Khomenko O.V. – К.: NTUU «KPI», 2015. – 206p.;

PROFESSIONAL VISITS/INTERNSHIPS:

8th Elgersburg School 2016 on Mathematical Systems Theory, Elgersburg, Germany, 2016.