Author information

1. Last name, first name:

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2. Position, academic degree, title:

Doctor PhD, assistant-professor.

3. Education:

− Kazakh National University named after Al-Farabi, Faculty of Mechanics and Mathematics, 1996, Mathematician, Bachelor's degree, diploma № 0011095;

− Kazakh National University named after Al-Farabi, Faculty of Mechanics and Mathematics, 1998, Master of Mathematics, specialization "Differential equations", diploma № 0000187;

− Kazakh National University named after Al-Farabi, Faculty of Mechanics and Mathematics, 2000, Postgraduate study, specialization "Differential equations and mathematical physics";

− Gachon University, Republic of Korea, Department of IT Convergence Engineering, Major «Computer Engineering», 2021, Doctor PhD in Engineering, diploma № 20138.

4. Research area and directions, including participation in research projects with a brief description of the research results:

− Singularly perturbed integro-differential boundary value problems, neural networks, artificial intelligence, machine learning, database management systems, computer modeling;

− Gachon University, Republic of Korea, Artificial Intelligence and Smart City Laboratory (AI&SC lab): Research projects in the fields Smart City, Artificial Intelligence, Ambient Intelligence, Neural Networks, Singularly Perturbed Problems (2018-2021).

Research projects aimed at developing intelligent control systems, data analysis, and adaptive interaction in the context of smart cities and ambient intelligence have been conducted. The principles, theoretical justification and efficiency of the generalized application of asymptotic

methods, boundary function methods and neural network algorithms for solving singularly perturbed integro-differential boundary value problems have been defined. The results of research were published in the materials of international conferences (KIIS, iFUZZY, KCC, ICTC, CISIM, ICAROB – Republic of Korea, Serbia, Japan, 2018-2021) and in peer-reviewed foreign journals included in the databases SCIE (WoS), Scopus (Mathematics, MDPI, JCR-Q1, Switzerland, 2020).

5. List of the most significant publications:

H-index – 2.

Scientific publications published in foreign peer-reviewed journals included in Scopus, SCIE (WoS) and in the proceedings of international conferences included in Scopus:

1. Zhumanazarova A., Young I.Ch. Asymptotic convergence of the solution of a singularly perturbed integro-differential boundary value problem. Mathematics, MDPI, 8(2), 213. Switzerland, Basel, 2020. ISSN 2227-7390. (WoS, Scopus, Q1, IF: 1.105);

2. Zhumanazarova A., Young I.Ch. Uniform approximation to the solution of a singularly perturbed boundary value problem with an initial jump. Mathematics, MDPI, 8(12), 2216. Switzerland, Basel , 2020. ISSN 2227-7390. (WoS, Scopus, Q1, IF: 1.747);

3. Zhumanazarova A., Young I.Ch. Principles of neural network approaches to solving singularly perturbed problems. Proceedings of the International Conference on Information and Communication Technology Convergence (ICTC2020). Republic of Korea, Jeju, 2020. IEEE Xplore Digital Library. ISSN 2162-1233;

4. Zhumanazarova A., Young I.Ch. On the boundary layer in singularly perturbed problem with an initial jump. Proceedings of the International Conference on Artificial Life and Robotics (ICAROB2021). Japan, Oita, 2021. Vol. 26, ISSN 2188-7829;

5. Zhumanazarova A., Young I.Ch. On the Formulation of Boundary Layer Functions. International Conference on Information and Communication Technology Convergence (ICTC2021). IEEE Xplore Digital Library. Republic of Korea, Jeju, 2021. ISSN 2162-1233.

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