Report on the work of the dissertation council

Dissertation council at NAO "Aktobe Regional University named after K. Zhubanov" in charge of training personnel for the Doctor of Philosophy (PhD) degree in the profile 8D05401 - Mathematics.

In 2025, he worked as a Dissertation Council in the specialty 6D060100-8D05401-Mathematics at the Aktobe Regional University named after K. Zhubanov and continued to work as a Dissertation Council for the educational program 8D05401-Mathematics, opened by order of the Committee for Quality Assurance in Education and Science of July 04, 2025 No. 1095.

By the decision of the Academic Council of May 20, 2022, the following permanent composition of the Dissertation Council of the Aktobe Regional University named after K. Zhubanov protocol No. 12 in the specialty 6D060100-8D05401- Mathematics (order No. 369-N of 24.05.22):

Sartabanov Zhayshylyk Almaganbetovich - Doctor of Physics and Mathematics, Professor, Chairman of the Dissertation Council, Hirsha Index -5;

Tleubergenova Madina Almukhanovna - candidate of physical and mathematical sciences, associate professor, deputy chairman of the dissertation council, Hirsch index -9;

Abdikalikova Galiya Amirgalievna - candidate of physical and mathematical sciences, associate professor, member of the dissertation council, Hirsch index - 2;

Tleubergenov Marat Idrisovich - Doctor of Physical and Mathematical Sciences, Professor, Member of the Dissertation Council, Chief Researcher at the Institute of Mathematics and Mathematical Modeling of the Ministry of Education and Science of the Republic of Kazakhstan, Hirsch index - 8;

Seilova Roza Dzhambulovna - candidate of physical and mathematical sciences, scientific secretary of the dissertation council, Hirsch index - 2.

The following permanent composition of the Dissertation Council for the educational program 8D05401-Mathematics, opened by order of July 04, 2025 No. 1095 (order No. 952-N of 30.09.25):

1. Sartabanov Zhayshylyk Almaganbetovich - Aktobe Regional University named after K. Zhubanov, Doctor of Philosophy, Professor - Chairman of the Council;

2. Abdikalikova Galiya Amirgalievna - Aktobe Regional University named after K. Zhubanov, Ph.D., Associate Professor - Deputy Chairman of the Council;

3, Bekbauova Altynshash Upukyzy - Aktobe Regional University named after K. Zhubanov, Ph.D., ass. professor - scientific secretary of the council;

4, Tleubergenova Madina Almukhanovna - Aktobe Regional University named after K. Zhubanov, Ph.D., ass. professor - member of the council.

The dissertation council is authorized to accept dissertations for defense in the specialty 6D060100-8D05401 - Mathematics.

The report contains the following information:

1. Data on the number of meetings held.
In 2025, the Dissertation Council for Mathematics held 5 meetings.
2. The last names, first names, and patronymics (if any) of the members of the dissertation council who attended less than half of the meetings.
None.
3. A list of doctoral students indicating their training organizations.

№	Full name	Organization of training	Specialty code	Date of protection	Committee's decision, order number, date
1	Mussina Alla Alexandrovna	Aktobe Regional	8D05401 – Математика	April 15, 2025	№1158, 16.07.2025

		University named after K. Zhubanov			
2	Aigerim Tankeyeva	Aktobe Regional University named after K. Zhubanov	8D05401 – Математика	November 21, 2025	

4. A brief analysis of the dissertations reviewed by the council during the reporting year, highlighting the following sections:

4.1.1 Analysis of the topic of the doctoral work of Mussina A.A.:

The dissertation of Mussina A.A., a doctoral student at ARU named after K. Zhubanov, is written on the topic " Development of mathematical and numerical models of the filtration theory with considering of mass transfer processes". Joint research was carried out with Alexander Egorovich Vorobyev, Doctor of Technical Sciences and Professor at the Grozny State Oil Technical University named after Academician Millionshchikov (Grozny, Russia).

The aim of the thesis research. Development of mathematical and numerical models of filtration theory describing the motion of a multiphase liquid taking into account mass transfer processes and construction of approximate solutions to the problem with free boundaries.

The newly developed mathematical model makes it possible to describe the processes of extracting residual oil reserves more accurately; the study of sufficient existence conditions and the uniqueness of solutions for nonequilibrium filtration and phase transition problems provides a foundation for further research and applications within the framework of filtration theory; establishing a connection between nonequilibrium isothermal filtration problems and generalized Stefan-type solutions deepens the understanding of the dynamics of multiphase systems and how they behave under various conditions; the obtained asymptotic estimates for the movement of the phase transition boundary can be used to optimize technological processes and improve the efficiency of field development.

The proposed solution algorithm was applied to solve the problem of forecasting oil production at fields in the western region of the Republic of Kazakhstan. The results formed the basic elements of the ISAR-2 software module - the "ISAR-2 Digital Technology for Oil and Gas Field Development", which was officially implemented in 2023 at Nors Caspian Oil LLP as part of the "Information System for the Analysis of Oil and Gas Field Development".

4.1.1.1 Doctoral student of ARU named after K. Zhubanov Tankeyev Aigerim, scientific consultants, doctor of physical and mathematical sciences, professor, chief specialist of the department of differential equations of the Institute of Mathematics and Mathematical Modeling of the Ministry of Education and Science of the Republic of Kazakhstan, researcher Asanova A.T. and doctor of physical and mathematical sciences, professor of Tashkent State University of Transport Yuldashev T.K.

Purpose of work: Study of edge calculations for integral-differential Fredholm equations of impulse action by the method of parameterization of Dzhumabaev and creation on its basis of a constructive solution method.

Since the impulsive integral-differential equation is often found in the modeling of many physical systems undergoing sudden changes at certain points in time, and for these equations, it is necessary to develop new constructive methods that make it possible to effectively determine the solvability of finite calculations, to find solutions. Integral differential equations of pulsed action are an effective means of mathematical modeling of processes and phenomena in population biology, the spread of chemicals, the spread of heat, the emission of electromagnetic waves, etc.

4.2.1 The dissertation topic corresponds to Priority Area No. 4 of the development of science, "The intellectual potential of the country," specifically Paragraph 5 - "Fundamental and applied research in the fields of mathematics, mechanics, astronomy, physics, chemistry, biology, informatics, and geography."

The dissertation work of A. Tankeeva "Methods for solving boundary value problems for quasi-system impulse systems of Fredholm integro-differential equations" (No. AP13268824, 2022-2024) and "New development of nonlinear operator equations and their application" (No. AP23485509, 2024 - 2026).

4.3.1 Analysis of the level of implementation of the dissertation results in practical activities.

The main provisions of the dissertation were discussed at meetings and scientific seminars of the Department of Mathematics of Zhubanov ARU, at online (Zoom) scientific seminars jointly with the Institute of Mathematics and Mathematical Modeling of the Republic of Kazakhstan (Almaty), as well as at international conferences.

There are 10 scientific works on the topic of the dissertation, including 1 article published in an international peer-reviewed scientific journal indexed in Scopus, 1 publication included in the WoS database, 2 publications in scientific journals included in the lists recommended by the Committee for Quality Assurance in the Sphere of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan (List 1 and List 2), 1 article indexed in the RSCI database, and 6 articles published in the proceedings of international scientific conferences.

4.3.1.2 Discussion on the topic of A. Tankeyeva's dissertation, traditional international scientific conference in April. Institute of Mathematics and Mathematical Modeling. Almaty, Kazakhstan (April 2023, April 2024); International Scientific Conference "Modern Issues of Differential Equations and Their Application," Tashkent, November 23-25, 2023; Scientific seminar of differential equations of the National University of Uzbekistan (seminar leader - Doctor of Physical and Mathematical Sciences, Professor Yuldashev T.K.); Research seminar of the department of differential equations and their application of the Institute of Mathematics named after V.I. Romanovsky Academy of Sciences of the Republic of Uzbekistan (seminar leader - Doctor of Physical and Mathematical Sciences, Associate Professor Z.E. Muminov); Research seminar "Modern issues of differential and integral-differential equations" of the Department of differential equations and dynamic systems of the Research Institute of Mathematics and Mathematical Modeling of the Ministry of Science and Higher Education of the Republic of Kazakhstan (seminar leader - Doctor of Physical and Mathematical Sciences, Professor Asanova A.T.); Scientific seminar "Issues of Applied Mathematics and Informatics" of the Department of Mathematics of A.U. K. Zhubanov (seminar leader - Doctor of Physical and Mathematical Sciences, Professor Sartabanov Zh.A.). Foreign internship was held from 11.09 to 20.10.2023. at the Institute of Mathematics named after V.I. Romanovsky Academy of Sciences of the Republic of Uzbekistan (Uzbekistan, Tashkent).

According to the results of the dissertation, 8 works were published, including 2 articles in a rating scientific journal, indexed in Scopus and Web of Science databases article 1 in a scientific publication, included in List 1 of the List of scientific publications submitted by the Committee for Quality Assurance in the field of science and higher education of the Ministry of Education and Science of the Republic of Kazakhstan, Article 1 in the scientific bulletin of the Institute of Mathematics named after V.I. Romanovsky Academy of Sciences of the Republic of Uzbekistan, 3 publications are published in the materials of the international conference and 1 Certificate of entry into the State Register of Rights to Copyrighted Objects.

5. Analysis of the work of official reviewers (with examples of the lowest quality reviews).

The reviewers of doctoral dissertations for the degree of Doctor of Philosophy (PhD) were appointed in accordance with the requirements of the Model Regulations on the Dissertation Council. Information about the appointed reviewers is provided below:

№	Doctoral student	Reviewers	
1	Mussina Alla Alexandrovna	Temirbekov Nurlan Mukhanovich – Doctor of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical	Ospanov Myrzagali Nauryzkhanovich – Candidate of Physico-Mathematical Sciences (01.01.02 –

| 2 | Aigerim Tankeyeva | Khompysh Khonatbek – Candidate of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Professor, Professor of the Department of Mathematics, Faculty of Mechanics and Mathematics, Al-Farabi Kazakh National University, Almaty, Kazakhstan. | Usmanov Kairat Idrisovich – Candidate of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Associate Professor, acting Professor of the Department of Mathematics, Faculty of Natural Sciences, Ahmet Yasawi International Kazakh-Turkish University, Turkistan, Kazakhstan. |

(continued from previous page) Physics), Academician, Vice-President of the National Engineering Academy of the Republic of Kazakhstan, Almaty, Kazakhstan / Differential Equations and Mathematical Physics), Associate Professor, Head of the Department of Higher Mathematics of Eurasian National University.

There are no comments on the reviewers' work.

6. Suggestions for further improvement of the system for training scientific personnel.-

7. The number of dissertations for the degrees of Doctor of Philosophy (PhD) and Doctor of Science in the profile, in the context of areas of personnel training:

	Specialty 8D05401 – Mathematics
1) dissertations accepted for defense (including doctoral students from other universities)	2 (own)
2) dissertations withdrawn from consideration (including those of doctoral students from other universities):	-
3) dissertations that received negative reviews from reviewers (including those of doctoral students from other universities):	-
4) dissertations with a negative decision following the defense (including those of doctoral students from other universities):	-
5) dissertations submitted for revision (including those of doctoral students from other universities):	-
6) dissertations submitted for re-defense (including those of doctoral students from other universities):	-

Chairman of the Dissertation Council   _____   Sartabanov Zh.

Scientific Secretary of the Dissertation Council   _____   Bekbauova A

"26" December 2025

1	Massina Alla Alexandrovna	Temirbekov Nurlan Mukhanovich – Doctor of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Academician, Vice-President of the National Engineering Academy of the Republic of Kazakhstan, Almaty, Kazakhstan	Orpasov Myrzagali Nasyrykhanovich – Candidate of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Associate Professor, Head of the Department of Higher Mathematics of Eurasian National University.
2	Aigerim Tankeyeva	Khompysh Khonatbek – Candidate of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Professor, Professor of the Department of Mathematics, Faculty of Mechanics and Mathematics, Al-Farabi Kazakh National University, Almaty, Kazakhstan.	Usmanov Kairat Idrisovich – Candidate of Physico-Mathematical Sciences (01.01.02 – Differential Equations and Mathematical Physics), Associate Professor, acting Professor of the Department of Mathematics, Faculty of Natural Sciences, Ahmet Yasawi International Kazakh-Turkish University, Turkistan, Kazakhstan.

There are no comments on the reviewers' work.

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