The Report of the Dissertation Council on Information and Telecommunication Technologies at Kazakh National Research Technical University named after K.I. Satbayev to awarding the degree of Doctor of Philosophy(PhD), doctor of profile in the next group of specialties: 6D070300-Information Systems (by industry), 6D070400-Computing Systems and Software, 6D075100-Computer Science, Computer Engineering and Management, 6D070200- Automation and control, 6D071900-Radio Engineering, Electronics and Telecommunications for 2020

1. The number of hold meetings

The Dissertation Council has hold 4 (four) meetings during its work with taking into account the requirement to notify about the upcoming defense no later than one month before the deadline date.

2. Names of council members who attended less than half of the meetings

Isimbergenov N. T.-for health reasons (replacement of a member of the DC).

3. List of doctoral students with an indication of the organization

№	Full name of student	Name of University
1	Batayev Nurlan Aybulatovich	Kazakh National Research Technical University named after K.I. Satpayev
2	Bimurat Zhanar	Kazakh National Research Technical University named after K.I. Satpayev
3	Mukasheva Assel	Kazakh National Research Technical University named after K.I. Satpayev
4	Shoiynbek Aisultan	Suleyman Demirel University

4. The brief analysis of dissertations that have been considering by the Council during the reporting year

The Dissertation Council considered 4 (four) papers on 3 (three) specialties in the reporting year. The names of dissertations by specialization are given below:

№	Full name	Thesis name	Code and name of the specialty
1	Batayev Nurlan Aybulatovich	Modeling and research of gas transporting unit operation modes	6D070200- Automation and control
2	Bimurat Zhanar	The development of models and methods of investment efficiency analysis in uncertain conditions	6D070300-Information Systems
3	Mukasheva Assel	Research and development of an information system for diagnosing diabetes based on BigData technology tools	6D070300-Information Systems
4	Shoiynbek Aisultan	Automated emotional speech data mining for the speech emotion recognition	6D070400- Computing Systems and Software

Analysis of the subject of the considered works

4.1. Analysis of the dissertation work of Bataev Nurlan Aybulatovich:

Dissertation work of doctoral student Bataev Nurlan Aybulatovich on the topic: «Modeling and research of gas transporting unit operation modes», is characterized by relevance and scientific novelty.

The aim of the research: The main goal of this work is to describe the methodology, the proposed calculation algorithms and the developed software, the purpose of which is to simulate the operating modes of a gas compressor and related equipment. To develop a methodology for identifying the degree of deterioration of the efficiency of a gas compression unit.

Scientific novelty: Based on the studies performed, the following results were obtained:

- the analysis of the operation of the gas compression unit was performed and algorithms for modeling the main GCU equipment were developed;
- the algorithm has been developed for the formation of volumetric gas flow for the selected list of equipment;
- the algorithm has been developed for calculating the main parameters of a gas compressor;
- developed a composite algorithm for calculating the mass and volume balance of gas for the selected equipment sequence;
- the analysis of the reasons for the drop in the efficiency of the gas compression unit was performed and a method for detecting the degree of degradation of an axial compressor was proposed

4.1.2. Connection of the subject of dissertations with national state programs, as well as targeted republican and regional scientific and technical programs. The thesis corresponds to the objectives of the State Program of Industrial and Innovative Development of the Republic of Kazakhstan for 2015-2019, developed in accordance with the long-term priorities of the Strategy "Kazakhstan-2050". The dissertation work corresponds to the direction 3.3: "Intelligent systems and technologies".

4.1.3. Analysis of the level of use of the scientific results of the considered works, proposals for the expanded implementation of the practical significance. The proposed algorithms for calculating equipment parameters, calculating the mass and volume balance of gas, and calculating the current volumetric flow rate of a gas compression system are implemented in a single application that allows to simulate a user-selected device sequence in dynamic mode. A series of tests were carried out to verify the adequacy of the software, tests were conducted to verify how the system assembled in this application responds to external influences and changes in its main parameters. Based on the test results, the simulated system for various operating modes and parameters produces adequate results.

4.1. Analysis of the dissertation work of Bimurat Zhanar

Dissertation work of doctoral student **Bimurat Zhanar** on the topic: « The development of models and methods of investment efficiency analysis in uncertain conditions» it is devoted to the study and analysis of methods and algorithms for modeling investment performance indicators; - methods and algorithms for computer modeling of unstable situations and risks, etc.

The aim of the research. The aim of the research is to develop models and methods of an information system for analysing the efficiency of investments in the conditions of uncertainty of multiple economic parameters using computer modelling.

Scientific novelty.. The scientific novelty of the study is the development of a Scenario Analysis System for computer modeling of economic processes in uncertain environment

4.1.2. Connection of the subject of dissertations with national state programs, as well as targeted republican and regional scientific and technical programs. One of the solutions to this problem was the approval of the state program "Nurly Zhol", aimed at creating a single economic market of Kazakhstan through the formation of macro-regions. The dissertation work corresponds to the direction 3.3: "Intelligent systems and technologies".

4.1.3. Analysis of the level of use of the scientific results of the considered works, proposals for the expanded implementation of the practical significance. The practical significance of the study is determined by the possibility of applying its results and recommendations in the development of a simulation and analytical system for analyzing the effectiveness of investments in conditions of uncertainty.

4.1. Analysis of the dissertation work of Mukasheva Assel

The dissertation work of doctoral student **Mukasheva Assel** on the topic: "Research and development of an information system for diagnosing diabetes based on BigData technology tools" the article is devoted to the development and research of IS diagnostics of diabetes mellitus.

The aim of the research: Research and development of a method for predicting the growth of patients with diabetes in the Republic of Kazakhstan as well as the development of an information support system for an endocrinologist for the diagnosis of diabetes on the basis of BigData technology tools.

Scientific novelty:

– based on a set of acceptable solutions to statistical problems, the results obtained allowed to predict the number of patients;

– distributed computing that provides efficient execution of the developed algorithms;

– a conceptual model of the processes of searching, extracting, processing and analyzing data in large data sets has been developed;

– developed and tested on the basis of a systematic approach information system for the diagnosis of diabetes on the basis of tools BigData technologies.

4.1.2. Connection of the subject of dissertations with national state programs, as well as targeted republican and regional scientific and technical programs. The State program "Information Kazakhstan 2020", the State program of development of health care of the Republic of Kazakhstan for 2020-2025. The dissertation work corresponds to the direction 3.3: "Intelligent systems and technologies".

4.1.3. Analysis of the level of use of the scientific results of the considered works, proposals for the expanded implementation of the practical significance. The use of methods in the system for predicting the growth of patients with diabetes in the following years will allow all doctors and medical organizations to plan in advance the amount of purchased insulin and other diabetes control products. The developed information system for the diagnosis of diabetes has allowed to improve the quality of diagnosis of the disease on the basis of algorithmic and software

4.1. Analysis of the dissertation work of Shoiynbek Aisultan

Dissertation work of doctoral student **Shoiynbek Aisultan** on the topic: "Automated emotional speech data mining for the speech emotion recognition" it is devoted to the issues of research with the use of artificial intelligence.

The aim of the research: The goal of the thesis is developing automatic data collection and labeling methods and algorithms, for speech emotion recognition task with a high level of accuracy, not less than 80%.

Scientific novelty. The novelty of the dissertation is to design an automated method for collecting and labeling speech emotional data. The results obtained in this dissertation will significantly advance the field of artificial intelligence in recognizing speech emotions. Using the method of collecting emotional data, scientists will be able to collect emotional datasets in all languages of the world.

4.1.2. Connection of the subject of dissertations with national state programs, as well as targeted republican and regional scientific and technical programs. State program "Information Kazakhstan 2020". The dissertation work corresponds to the priority direction of the development of science in the Republic of Kazakhstan: 3.2: "Software and hardware complexes and systems".

4.1.3. Analysis of the level of use of the scientific results of the considered works, proposals for the expanded implementation of the practical significance. The practical value of the thesis lies in the possibility of qualitative improvement in service of call-centers, in education, banking, insurance, public services, and medicine.

5. Analysis of the work of reviewers (with examples of the most low-quality reviews)

Reviewers of dissertations of doctoral students for the degree of Doctor of Philosophy (PhD), were appointed persons in accordance with the requirements of the Standard Regulations on the dissertation Council.

Information about the appointed reviewers is provided below:

№	Full name	Reviewers	
1	Batayev Nurlan Aybulatovich	Utepbergenov Irbulat - doctor of technical sciences, professor of the Turan University	Samigulina Galina - doctor of technical sciences, associated professor, Chief of laboratory «Intellectual control systems and forecasting» of the Institute of Information and Computational Technologies MES RK SC.
2	Bimurat Zhanar	Tashev Azat Arhipovich - doctor of technical sciences, full professor, head of the «Computer technologies and logistics» department of the KazALSR.	Mukhanov Bakhyt Kaskabayevich - candidate of technical sciences, full professor of the «Automation and Robotics» department in the KazNRTU named after K.I. Satpayev.
3	Mukasheva Assel	Uskenbayeva Raisa Kabievna - doctor of technical sciences, professor, rector of the International University of Information Technologies JSC (Almaty).	Gnatyuk Sergey Alexandrovich - doctor of technical sciences, associate professor, Deputy dean of faculty «Cybersecurity, computer and software engineering» National Aviation University (Kiev).
4	Shoiynbek Aisultan	Akshabayev Askar - doctor PhD, professor, Kazakh-British Technical University	Omirbekova Zhanar - doctor PhD, assistant professor of the «Automation and Robotics» department in the KazNRTU named after K.I. Satpayev.

In order to ensure compliance with the requirements of the Standard Regulations on the work of the Dissertation Council, each reviewer was sent a memo with the requirements for the content and design of the review of the dissertation work.

All the reviews were submitted on time and in accordance with the requirements of the Committee for control in education and science of MES of RK.

There are no negative reviews.

- Information on the accepted negative decisions negative decisions accepted by the dissertation work do not exist.

- Information on doctoral students who did not come to the defense of the dissertation (for what reason did not come to the defense):

According to the plan of protection in the DS, the number of applicants who planned protection until the end of 2020 was 4 people.

6. Proposals for further improvement of the system of training of scientific personnel

We propose to make the following addition and change to the Standard Provision on the dissertation Council:

Acceptance of dissertation works (third-party organizations) for defense should be carried out after hearing doctoral students at scientific seminars of the relevant departments of the university where the dissertation council operates.

7. Data on the dissertations considered for the degree of Doctor of Philosophy PhD, doctor of the profile

Dissertation Council	6D070300- Information Systems	6D070400- Computing Systems and Software	6D070200- Automation and control
Dissertations withdrawn from consideration	-	-	-
Including the removed DC	-	-	-
Dissertations that received negative reviews from reviewers	-	-	-
Dissertations with a positive decision based on the results of the defense	2	1	1
Including those from other organizations		1	
Dissertations with a negative decision based on the results of the defense	-	-	-
Including those from other organizations	-	-	-
Total number of dissertations defended	2	1	1
Including those from other organizations		1	

* In columns 2 and 3, indicate only the quantity

Chairman of the Dissertation Council   B. Suleimenov

Scientific Secretary