

«APPROVED»

Director of the RSPC «Daryn»
Ministry of Education of the Republic of Kazakhstan



G. TURSUNOV
03 2025

REGULATIONS

The Regulations of the International Science Competition in Space Research «EXPLORING THE WORLD OF SCIENCE»

I. General Provisions

1. These **Regulations** define the goals and objectives, organizational and methodological support, procedures for conducting and financing the International Science Competition in Space Research «Exploring the World of Science» (hereinafter referred to as the **scientific competition**), as well as participation conditions and criteria for determining winners and prize-winners.
2. The **scientific competition** is held annually on the eve of Cosmonautics Day and is organized by the Republican Scientific and Practical Center «Daryn» of the Ministry of Education of the Republic of Kazakhstan (hereinafter referred to as **RSPC «Daryn»**).
3. The **scientific competition** is aimed at identifying and fostering the intellectual potential of school students in the field of space and information technologies.
4. **The main goals and objectives of the scientific competition:**
 - Identification, development, and support of gifted students;
 - Encouraging children and youth to engage in scientific research activities;
 - Promotion of achievements in national and global astronautics;
 - Stimulating international cooperation in the field of space and information technologies.
5. The working languages of the competition are **Kazakh, Russian, and English**.

II. Participants of the Scientific Competition

1. **The competition** is open to school students in grades 9-11(12) of the Republic of Kazakhstan who have become winners and were awarded diplomas of I, II, and III degrees at the regional stage, as well as participants who did not receive prize places in the final stage of the republican competition of scientific projects in general education subjects in the current academic year.

Additionally, winners of national scientific project competitions from foreign schools are eligible to participate.

2. Applications for participation must be submitted in accordance with Appendix 3 to these Regulations.

III. Procedure and Stages of the Scientific Competition

1. The scientific competition is conducted in 4 sections:

- **Section 1. Space Technology and Infrastructure** (ballistics, dynamics of space vehicles, artificial satellites of the Earth, and automatic interplanetary stations; design of rockets, satellites, and onboard scientific instruments; life support systems and radiation protection for manned spacecraft; spaceports and stations; development of hardware-software tools and instruments for space technology and ground-space infrastructure; circuit engineering and system engineering; electronics; mechanical engineering and instrumentation; robotics and mechatronics).
- **Section 2. Space Information Technologies and Modeling** (remote sensing; geographic information systems; data transmission and processing using space technology, modeling and control of space systems; monitoring and forecasting of space and geodynamic processes, natural resources; computational sciences, mathematics, and mathematical modeling; dynamic systems and control theory; cognitive systems; machine learning and artificial intelligence; digital signal processing; software and applications).
- **Section 3. Solar System and Space Physics** (research of near-Earth space; study of the Sun, planets, and interplanetary medium; astronomy and cosmology; exploration of space and the Universe, including its origin and evolution; functional materials and physical properties of objects in space; scientific base, methods, and technologies for the study and exploration of near and deep space; theoretical, computational, and space physics).
- **Section 4. Biology and Space Medicine** (biotechnology and bioinformatics, genetic engineering and cellular technologies, microbiology, biological diversity, pharmacy, biologically active substances, biological and medical preparations, molecular-genetic and multi-omics research in medicine and biology, neuroscience).

2. The scientific competition consists of two stages:

- **Stage 1 – Qualifying round.** Conducted by regional education departments of Kazakhstan, as well as the education departments of Astana, Almaty, and Shymkent, republican educational organizations, and the AEO «Nazarbayev Intellectual Schools», including authorized organizations in foreign countries. **The selection stage must be completed by March 26 for Kazakhstan regions and by April 5 for foreign participants.**

- **Stage 2 – Final round.** Organized by RSPC «Daryn» and will be held in Astana, Republic of Kazakhstan, between the dates of April 9-11, 2025.
- 3. Projects can be prepared individually or by a team (up to 2 student). Each project presentation is allocated 15 minutes: 10 minutes for the presentation and 5 minutes for jury questions.
- 4. **Applications for participation in the final stage:** must be sent by **April 1** for participants from Kazakhstan regions and by **April 10** for foreign participants to the email address of the organizing committee **info@daryn.kz**.

IV. Organizing Committee

1. The Organizing Committee is responsible for preparing and conducting the scientific competition, approving the program, the list of participants, the minutes of the sections, the final document, and resolving other issues related to the organization and execution of the competition.

V. Awarding of Winners

1. The winners and prize-winners of the final stage will be awarded medals and diplomas of I, II, and III degrees by the Ministry of Education of the Republic of Kazakhstan, as well as certificates of merit from RSPC «Daryn». The total number of awardees will be **60% of the total number of participants**. All participants will receive certificates of participation.
2. **Appeals are not provided for; the decision of the jury is final.**

VI. Financing

1. **Accommodation and meals for participants** during the official days of the competition are provided at the expense of RSPC «Daryn».
2. **Participants' travel expenses** are covered by the sending party.
3. **Travel, accommodation, and meal expenses for team leaders** are covered by the sending party.
4. **Each country must have at least one team leader** (the number of leaders is determined by the sending party). **Only one team leader is allowed per region of Kazakhstan.**

VII. Contact Information

Contact details of the Organizing Committee

Republican Scientific and Practical Center «Daryn», Ministry of Education of the Republic of Kazakhstan. **Zipcode:** Z05K5K8, Astana, Mangilik El Avenue 8/2, «Altyn Orda» Business Center, Office 308. **Tel.:** +7 (7172) 57-65-63, **Email:** info@daryn.kz.

REQUIREMENTS FOR RESEARCH PROJECTS

1. Structure of the Research Project

The research project must include the following sections:

- **Title page** (*title of the work, full name of the author(s), educational institution, scientific supervisor*).
- **Abstract** (*a brief description of the project, up to 250 words*).
- **Introduction** (*relevance, goal, objectives, research hypothesis*).
- **Literature review** (*analysis of existing research, references to scientific sources*).
- **Research methodology** (*justification for the choice of methods, description of experiments, calculations, models*).
- **Main part** (*detailed analysis, experiments, calculations, schemes, tables*).
- **Results and discussion** (*interpretation of obtained data, comparison with previous studies*).
- **Conclusion** (*key research findings, future research perspectives*).
- **References** (*formatted according to APA or IEEE standards*).
- **Supervisor's Review** (*each project must be accompanied by a review from the scientific supervisor, indicating the relevance of the chosen topic, the personal contribution of the author, shortcomings, and recommendations for further use of the results*).
- **Appendices** (*if necessary*).

2. Technical Requirements

- **Project length** – no more than **2.5 printed sheets** (*1 printed sheet = 16 pages, including tables, illustrations, diagrams, and references*).
- **File format** – **.docx (Microsoft Word) or .tex (LaTeX)**.
- **Font** – Times New Roman, **size 14, line spacing 1.5**.
- **Margins** – 2 cm on all sides.
- **All illustrations, graphs, and diagrams must be numbered and captioned.**
- **The text must include references to scientific sources.**

3. Originality Check (Anti-Plagiarism)

- The research project must be **original**, with an **uniqueness level of at least 70%**.

- Participants must provide a **certificate of originality verification** from an anti-plagiarism system (*e.g., Antiplagiat.VUZ, Turnitin, Unicheck, etc.*) together with the project.
- If **unattributed borrowing is detected**, the project may be disqualified.

ORAL PRESENTATION OF THE PROJECT

4. Presentation Regulations

- The total time for the defense is **10 minutes**, including:
 - **Project presentation** – up to **7 minutes**.
 - **Q&A session with the jury** – up to **3 minutes**.

5. Presentation Format

- The project defense may be conducted in **one of two formats**, at the participant's choice:
 - **On-screen presentation** (*PowerPoint, PDF*), if a **projector or interactive board** is available.
 - **X-banner / Roll-Up banner**, which participants must **bring and set up themselves**.
- Organizers **do not provide printing or installation of banners**; participants must **prepare all materials for the defense themselves**.

EVALUATION CRITERIA

I. General Provisions

1. The evaluation of competition projects is carried out by an expert jury based on objective criteria, taking into account scientific value, research depth, originality of approach, and participants' presentation skills.
2. Each project is evaluated on a **100-point scale**, considering the following parameters.

II. Evaluation Criteria

№	Criteria	Maximum Score
1	Relevance and Scientific Novelty - Compliance of the project with modern scientific directions. - Identification and formulation of the research problem. - Presence of novelty elements and original ideas.	20
2	Objectives, Tasks, and Hypothesis - Clarity in formulating objectives and tasks. - Logical justification of the hypothesis. - Consistency of the hypothesis and research subject.	15
3	Methodology and Scientific Approach - Compliance of applied methods with the research objectives and tasks. - Scientific accuracy of the methodology. - Completeness and logical description of the methods.	15
4	Depth of Research and Level of Independence - Extent of in-depth study of the problem. - Presence of independent interpretation of obtained data. - Independence in conducting research.	15
5	Practical Significance - Possibility of applying research results in practice. - Compliance of the project with modern technological demands. - Social, economic, or environmental significance of the work.	10
6	Project Presentation and Formatting - Structural organization and logical presentation of material. - Compliance with formatting requirements. - Quality of visual presentation (graphs, diagrams, illustrations).	10
7	Project Defense and Presentation - Ability to present and argue research findings convincingly. - Speech clarity,	15

	confidence in delivering material. - Ability to respond effectively to jury questions.	
	TOTAL	100

III. Final Evaluation

1. The maximum score for a project is **100 points**.
2. The jury members' scores are summed, and an average score is calculated.
3. Winners and prize holders are determined based on the following score ranges:

1st place – 90-100 points (Diploma of the I degree).

2nd place – 80-89 points (Diploma of the II degree).

3rd place – 70-79 points (Diploma of the III degree).

Certificates of Merit – Participants scoring 60-69 points.

4. In the event of a tie, priority is given to the project with a higher score in "**Relevance and Scientific Novelty**".
5. **Appeals regarding the evaluation results are not considered, and the jury's decision is final.**

Appendix 3
To the Regulations of the International
Science Competition in Space Research
«Exploring the World of Science»

APPLICATION FORM FOR PARTICIPATION

The form must be filled out in an Excel spreadsheet.

№	Project number	Country	Participant's first name	Participant's last name	Name of Section	Titles of the Projects	Personal or Team	Grade	Name of the School	Full name of the Scientific Advisor
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										