

SECOND ANNOUNCEMENT



XXI Conference-Competition on R&D of Young Scientists and Specialists of RSE NNC RK

October 12 – 14, 2022

Kurchatov, Abai Region, Republic of Kazakhstan

Total number of accepted papers – 31, of them presented from RSE NNC RK: IAE – 12, IRSE – 5, IGR – 3, RSE INP – 7, JSC NAC Kazatomprom – 4 papers (fundamental - 3, engineering and technical – 5, applied – 23); non-competitive – 6.

Paper presentation time limit (including q&a) – 20 min.

Working language – Kazakh and Russia.

CONFERENCE-COMPETITION SCHEDULE

October 12, Wednesday – opening, presentations

October 13, Thursday – presentations

October 14, Friday – tours, competition closing, summary, awarding.

THE WINNERS ARE DETERMINED BASED ON FIVE SCALE ON EACH OF THE CRITERIA AS FOLLOWS:

Relevance, practical value (significance of the issue the work is dedicated to), level – scientific, engineering, novelty of the results, degree of the work completeness, personal contribution of the competitor, style of presentation and the level of knowledge of the material.

Additional criteria for assessment, taking into account the features of the area, are:

- fundamental – level of publications;
- engineering and technical – assessment of technical solutions;
- applied – competitive ability.

The highest rate for a work is 35 scores. The participant who earned the maximum score as a result of summing up the score from all the jury members, is the winner.

NUMBER AND SIZE OF AWARDS, NOMINATIONS

Winning places and rewards:

one first-place reward in amount of **175 000 tenge**;

two second-place rewards in amount of **105 000 tenge**;

three third-place rewards in amount of **85 000 tenge**.

four incentive rewards in amount of **55 000 tenge** in the following nominations:

- Best speaker
- Best design of work
- Originality of work
- Active participant

one reward for the innovational work in amount of **35000 tenge**.

Each participant will be awarded the certificate of participant of the conference-competition.

Each participant, who has taken a winning place, will be awarded a diploma.

All participants should prepare their presentations in ppt/pptx format and email them to the members of the organization committee of the corresponding branch no later than 06:00 p.m. of October 11, 2022.

JURY

Chairman:

Vladimir Anatolyevich Vityuk, PhD, Deputy Director General for Science of RSE NNC RK

Vice-Chairman:

Mashyn Kanapinovich Skakov, PhD in Physics and Mathematics, Chief Scientific Officer of RSE NNC RK

Jury Secretary:

Sergey Alexandrovich Baranov, Candidate of Biological Science, Chief Specialist of Budgetary Programs and Personnel Training Department of RSE NNC RK

Jury Members:

- Eugenia Valeryevna Mustafina** – Deputy Director of the Branch IRSE RSE NNC RK;
- Sergey Borisovich Subbotin** – PhD, Senior Scientific Officer of the Environment Monitoring System Development Department of the branch IRSE RSE NNC RK;
- Ulan Amanovich Igibayev** – Master of Engineering, Scientific Secretary of the branch IGR RSE NNC RK;
- Inna Nikolayevna Sokolova** – PhD in Physics and Mathematics, Head of the Group for Analysis and Scientific Studies of the Special Seismic Information Collection and Processing of RSE NNC RK;
- Lyudmila Alexandrovna Yerygina** – PhD, Scientific Secretary of the branch IAE RSE NNC RK;
- Baurzhan Zhambulovich Chektybayev** – PhD, Head of the Thermonuclear Studies Department of the branch IAE RSE NNC RK;
- Andrey Nikolayevich Gurin** – PhD, Deputy Head of STC RIP, RSE “Institute of Nuclear Physics”;
- Armanbek Kassymuly Omirgali** – Director of the Department of Scientific and Technological Projects of NAC Kazatomprom JSC;
- Yernat Abilkhairovich Kozhakhmetov** – PhD, CYSS member, Head of the Group, Laboratory for Material Testing at Thermonuclear Reactor of the branch IAE RSE NNC RK.

WORK PROGRAM OF XXI CONFERENCE-COMPETITION

October 12, 2022, Wednesday

Time	Organization / Full Name / Paper topic / Area
09.00 – 10.00	REGISTRATION OF PARTICIPANTS
10.00 – 10.10	OPENING
FUNDAMENTAL RESEARCH	
10.10 – 10.30	RSE INP Dana Malickyzy Askar Study of BN-350 structural material resistance to pitting corrosion fundamental
10.30 – 10.50	RSE INP Elena Radikovna Kim High-dose neutron irradiation effect on EP-450 steel strength and plasticity fundamental
10.50 – 11.10	RSE INP Mikhail Sergeevich Merezhko Study of radiation-induced ferrite in stainless austenitic steels fundamental
11.10 – 11.30	Coffee break
ENGINEERING AND TECHNICAL RESEARCH	
11.30 – 11.50	RSE INP Timur Kairatovich Kapkashev Sodium Iodine I-131 production for therapy Engineering and technical
11.50 – 12.10	Branch IAE RSE NNC RK Yerlan Bakhtybekuly Nurzhanov Determination of characteristics of organs affecting the reactivity of IVG.1M research reactor with LEU fuel at start-up stage Engineering and technical
12.10 – 12.30	Branch IAE RSE NNC RK Stanislav Alexeevich Ilyinykh Software development for heater control subsystem and liquid sodium parameters monitoring subsystem at EAGLE test bench Engineering and technical

Time	Organization / Full Name / Paper topic / Area
12.30 – 14.00	Lunch break
14.00 – 14.20	RSE INP Archur Gagikovich Vassiltsov Determination of neutron irradiation temperature in the core of nuclear reactor to change electrical resistance of witness samples as a result of isochronal annealing Engineering and technical
14.20 – 14.40	NAC Kazatomprom JSC Ruslan Yelibayevich Jikibayev Mobile spectrometry while searching for and exploration of uranium deposits of stratified infiltration type Engineering and technical
APPLIED RESEARCHES	
14.40 – 15.00	Branch IAE RSE NNC RK Gainiya Kaiyrdykyzy Zhanbolatova Study of structural-phase state of tungsten surface layer following the carbonization in beam-plasma discharge applied
15.00 – 15.20	Branch IRSE RSE NNC RK Rinata Gennadyevna Yermakova Study of technogenic radionuclides vertical distribution in bottom sediments of Degelen water courses applied
15.20 – 15.40	RSE INP Anastasia Yuryevna Tarapeeva Annealing influence on the structure and optical property of Titanium Dioxide films of different thickness applied
15.40 – 16.00	Coffee break
16.00 – 16.20	RSE INP Alimzhan Serikovich Kapanov Restucturing thin films $\text{Ge}_2\text{Sb}_2\text{Te}_5$ <Bi> under the influence of laser irradiation applied
16.20 – 16.40	NAC Kazatomprom JSC Margulan Yerbolatuly Mukhamedi Study the technology of leaching solution enrichment with oxygen during underground borehole leaching of uranium at “Central Mynkuduk” deposit applied

Time	Organization / Full Name / Paper topic / Area
16.40 – 17.00	Branch IAE RSE NNC RK Yerzhan Askaruly Kabdylkakov Development of methodology for preparation and conduction of model calculation studies in ANSYS program applied
17.00 – 17.20	Branch IAE RSE NNC RK Azamat Serikkazyuly Urkunbai High temperature influence on the structure and phase state of Ti-Al-Nb system alloys applied
17.20 – 17.40	Branch IRSE RSE NNC RK Kuralay Tasbulatovna Mustafina Development of a methodology for determination of total alpha-, beta-activity of aqueous samples using liquid scintillation spectrometry applied
17.40 – 18.00	Branch IRSE RSE NNC RK Dina Biyakhmetovna Biyakhmetova Experimental design of “dose-effect” calibration dependence by EPR-dosimetry method of human tooth enamel applied

October 13, 2022, Thursday

Time	Organization / Full Name / Paper topic / Area
09.00 – 09.20	Branch IAE RSE NNC RK Olga Sergeevna Bukina Matrix composition determination for immobilization of IGR reactor irradiated fuel applied
09.20 – 09.40	Branch IRSE RSE NNC RK Togzhan Shalkaruly Toktaganov Assessment of water objects formation sources in Araltobynskiy basin applied
09.40 – 10.00	Branch IRSE RSE NNC RK Olesya Olegovna Marchenko Development of Tritium determination method in environmental objects using oxygen combustion vessel 1121 (Bomb parr) applied

Time	Organization / Full Name / Paper topic / Area
10.00 – 10.20	<p>Branch IAE RSE NNC RK</p> <p>Radmila Radikovna Sabitovna</p> <p>Results of experimental studies of the energy release fields in LEU -fuel of IVG.1M</p> <p style="text-align: right;">applied</p>
10.20 – 10.40	Coffee break
10.40 – 11.00	<p>Branch IGR RSE NNC RK</p> <p>Pavel Viktorovich Ryabenko</p> <p>Results of new technology introduction for historical seismograms digitalization in Data Centre</p> <p style="text-align: right;">applied</p>
11.00 – 11.20	<p>NAC Kazatomprom JSC</p> <p>Abai Yerseitovich Omarov</p> <p>Development of scientifically grounded recommendations on planning and application of different RRO methods for technological boreholes in conditions of “Northern and Southern Karamurun” deposit</p> <p style="text-align: right;">applied</p>
11.20 – 11.40	<p>Branch IGR RSE NNC RK</p> <p>Darkhan Kaldaruly Komekbayev</p> <p>Parametrization of seismic records on peaceful nuclear explosions conducted at the territory of USSR</p> <p style="text-align: right;">applied</p>
11.40 – 12.00	<p>Branch IAE RSE NNC RK</p> <p>Stanislav Nikolayevich Svetachev</p> <p>Radiation studies of coolant at physical start-up of IVG.1M reactor</p> <p style="text-align: right;">applied</p>
12.00 – 12.20	<p>NAC Kazatomprom JSC</p> <p>Tileu Berdikhalykh</p> <p>Capabilities of synchrotron X-ray diffraction to determine nanostructure of phospholipid lipid bilayer</p> <p style="text-align: right;">applied</p>
12.30 – 14.00	Lunch break
14.00 – 14.20	<p>Branch IGR RSE NNC RK</p> <p>Mikhail Viktorovich Shulga</p> <p>Application of electrical prospecting in a complex of geophysical methods during geoeological diagnostics in nuclear objects location area</p> <p style="text-align: right;">applied</p>

Time	Organization / Full Name / Paper topic / Area
14.20 – 14.40	Branch IAE RSE NNC RK Yerkhat Dauletkhanuly Dauletkhanov Determination of strength characteristics of structural steels of different grades by Small Punch Test (SPT) method applied
14.40 – 15.00	Branch IAE RSE NNC RK Nurkhat Aidaruly Orazgaliev Impact of thermal loads on surface morphology and Beryllium structure applied
15.00 – 15.20	Branch IAE RSE NNC RK Vadim Sergeevich Bochkov Study of high temperature corrosive attack on liquid tin-lithium alloy interaction with TNR structural materials applied
15.20 – 15.40	Branch IAE RSE NNC RK Nikita Alexandrovich Kireev Upgrading of system for local control, measuring, collection and record of void sensors applied
15.40 – 16.00	Coffee break
	NON-COMPETITIVE PAPERS
16.00 – 16.20	NJSC Shakarim University (non-competitive) Daniyar Nurzhanovich Nurgaliev Tonazytkyshtyn akau zhagdaiynda zhumys isteu printsypy Engineering and technical
16.20 – 16.40	TPU (non-competitive) Dmitry Vyacheslavovich Pas'ko Analysis of efficiency while applying compensating material made of boron trifluorine for additional emergency protection at reactor facility of HTGR type Engineering and technical
16.40 – 17.00	TPU (non-competitive) Alexandra Ivanovna Kokorina Synthesis of tungsten carbide WC in plasma of direct-current arc from tungsten concentrated ore in open air medium Engineering and technical
17.00 – 17.20	TPU (non-competitive) Kamilla Azamatovna Alkenova

Time	Organization / Full Name / Paper topic / Area
	The effect of plasma assisted magnetron spraying on the hardness of chrome coatings applied
17.20 – 17.40	TPU (non-competitive) Yegor Dmitriyevich Kuzmenko Study of structure and physical mechanical properties of double and triple carbonitride ceramics applied
17.40 – 18.00	TPU (non-competitive) Yegor Dmitriyevich Kuzmenko Study of mechanical properties of structural steels during pressure treatment applied

October 14, 2022, Friday

Time	Events
09.00 – 12.30	Tours to the objects of RSE NNC RK; Jury discussion
14.00 – 16.00	SUMMARIZING THE RESULTS OF THE XXI R&D CONTEST-CONFERENCE BETWEEN YOUNG SCIENTISTS AND SPECIALISTS OF THE RSE NNC RK. AWARDING. CLOSING.