

**4th INTERNATIONAL  
SCIENTIFIC CONFERENCE  
for military and technical issues,  
defence and security problems,  
application of double-purpose  
technologies**

May 20–21, 2009

Conference-room in the hotel “Belarus”  
Storozhevskaya Str, 15  
Minsk, Belarus

**PROGRAMME-INVITATION**

**ORGANIZERS**

**State Military-Industrial Committee  
of the Republic of Belarus**

**Belarusian Institute of System Analysis  
and Information Support  
for Scientific and Technical Sphere**

**BY THE INSTRUMENTALITY OF**

**State Secretariat of Security Council  
of the Republic of Belarus**

**Ministry of Defence of the Republic of Belarus**

**Ministry of Internal Affairs of the Republic of Belarus**

**Ministry of Industry of the Republic of Belarus**

**Ministry of Foreign Affairs of the Republic of Belarus**

**Ministry of Trade of the Republic of Belarus**

**Ministry of Education of the Republic of Belarus**

**Ministry for Emergency Situations  
of the Republic of Belarus**

**The State Committee on Science and Technologies  
of the Republic of Belarus**

**National Academy of Sciences of Belarus**

**State Security Committee**

**State Customs Committee**

**Minsk City Executive Committee**

## ORGANIZING COMMITTEE

### Leader:

**Valeriy Kratenok**, Director of the Belarusian Institute of System Analysis and Information Support for Scientific and Technical Sphere

### Deputies:

**Alexander Pet'kov**, Chief of Department of the Perspective Development and Armament, Military and Special Technics Creation of the State Military-Industrial Committee of the Republic of Belarus

**Sergey Turbin**, Chief of Department for Securing Defence Questions of the State Military-Industrial Committee of the Republic of Belarus

### Members:

**Sergey Savenko**, Principal Researcher of the State Republic of Belarus Armed Forces Research Institute

**Yuriy Cherniy**, Chief of 1034 CMI&I of the Air Forces and Anti-Aircraft Defence Command

**Vasiliy Buloichik**, Chief of Sub-Faculty of the Military Academy of the Republic of Belarus

**Vitaliy Malkin**, Deputy Chief of the Aircraft Faculty for Educational and Scientific Work of the Military Academy of the Republic of Belarus

**Igor Bykov**, Deputy Chief for Scientific Work of the of General Staff of Armed Forces of the Republic of Belarus

**Igor Mityanov**, Chairman of the Scientific and Technical Committee of Armed Forces

**Vitaly Stetsurenko**, Chief of Department of the United Institute of Informatics Problems of the National Academy of Sciences of the Republic of Belarus

**Igor Zuikov**, Chief of Sub-Faculty of the Belarusian National Technical University

**Valentin Muravyev**, Chief of Sub-Faculty of the Belarusian State University of Informatics and Radio Electronics

**Leonid Lyn'kov**, Chief of Sub-Faculty of the Belarusian State University of Informatics and Radio Electronics

**Aleksey Lupey**, Chief of Department of Science and Innovation Development of the Ministry for Emergency Situations of the Republic of Belarus

**Alexander Patskevich**, Associate Professor of the Academy of Ministry of Internal Affairs of the Republic of Belarus

**Yuriy Kraevskiy**, Consultant of the Department of the Perspective Development and Armament, Military and Special Technics Creation of the State Military-Industrial Committee of the Republic of Belarus

## **CONFERENCE GOAL**

– the analysis of the problems of scientific and engineering research, R&D activities aimed at design and implementation of novel and promising technologies and materials, equipment and devices in the field of defense, security and dual usage;

– discussions on ways for development and renovation of high tech production facilities, rise of scientific and technical potential in Belarus;

– proposals on furthering and strengthening of cooperation in military, engineering and R&D areas, new approaches to integration and partnership with close neighboring and other foreign states.

## **KEY SUBJECTS**

1) military engineering aspects of defence and security;

2) interaction and control of army-related components in the national military systems under armed conflicts and nonmilitary operations;

3) development of military engineering collaboration within the framework of common and comprehensive security conceptions;

4) scientific and technical basis for new defense technologies, armament and military machinery systems;

5) design and implementation of promising military and dual-use technologies;

6) means for reconnaissance, control and destruction of high-accuracy weapons;

7) means and methods to protect forces and economic objects;

8) information support and computer-aided systems for force and weapon control, information security systems;

9) specialized technical security; anti-terror equipment and techniques;

10) upgrade, repair and utilization of military equipment and armaments;

11) means and technologies for prevention and elimination of emergencies;

12) standards, certification and metrology in military and dual-use technologies;

13) systems for radio electronic reconnaissance, radio electronic attacks, resistance to high accuracy weapons.

## **SCHEDULE**

**May 20, 2009**

Conference-room of the hotel "Belarus"

10.00 – 14.00 **PLENARY MEETING**

### **SECTIONAL MEETINGS**

**May 20, 2009**

Conference-room of the hotel "Belarus"

15.00 – 18.00 Section 1. Military engineering aspects of defence and security

**May 21, 2009**

Small hall of the hotel "Belarus"

10.00 – 13.30 Section 2. Scientific and technical basis for new defence technologies, armament systems and military hardware and equipment

14.30 – 17.15 Section 5. Protection against emergency situations at peace and war time

Conference-room of the hotel "Belarus"

10.00 – 13.30 Section 3. Modernization, repair and the utilization of armament and military equipment

14.30 – 17.00 Section 4. Dataware and automated control systems for forces and weapon, information security systems. Intelligence means and high-precision weapon opposition means

Conference-room of the hotel "Belarus"

17.20 – 18.00 Summing up, closing ceremony

**May 21, 2009**

RRUE "Minsk Research Institute of Radiomaterials",  
Minsk, Kizhevatov Str, 86

Scientific and technical seminar "Electronic-component base is a basis for creation of the competitive radio-electronic products"

Participation in the seminar on invitations.

## PLENARY MEETING

May 20, 2009, 10.00 – 14.00  
Conference-room of the hotel “Belarus”

### Chairpersons:

**Oleg Paferov**, Deputy Chief of the State Military-Industrial Committee of the Republic of Belarus

**Alexander Pet’kov**, Chief of Department of the State Military-Industrial Committee of the Republic of Belarus

**Valeriy Kratenok**, Director of the Belarusian Institute of System Analysis and Information Support for Scientific and Technical Sphere

- 09.00 – 10.00 Registration of the participants
- 10.00 – 10.10 Opening of the conference. Greeting  
**O. Paferov**, Deputy Chief of the State Military-Industrial Committee of the Republic of Belarus
- 10.10 – 10.35 Modern global tendencies of development of arms and military technics  
**O. Paferov**, Deputy Chief of the State Military-Industrial Committee of the Republic of Belarus
- 10.35 – 10.55 Basic approaches to combined system creation of the high-precision weapon opposition  
**I. Bykov**, Deputy Chief for Scientific Work of the of General Staff of Armed Forces of the Republic of Belarus
- 10.55 – 11.15 Innovation and investment activity as actual problem of management of the competitive advanced technology products  
**S. Chemezov, N. Turko, L. Popovich**, State Corporation «Rostechologies», Moscow
- 11.15 – 11.40 State and prospects development of double-purpose technologies in the NAS of Belarus  
**P. Vityas**, First Vice-President of Presidium NAS of Belarus

- 11.40 – 12.00 Mainstream of the economic co-operation and economic protection of Union State  
**V. Dernovoy**, Chief of Central Administrative Board of the Ministry of Economy of the Republic of Belarus
- 12.00 – 12.20 Coffee-break
- 12.20 – 12.40 Automotive engineering and defense technology creation of Minsk Wheel Tractor Plant. Downstream of development  
**Y. Nikolaev**, Chief Designer of Minsk Wheel Tractor Plant
- 12.40 – 13.00 State and prospects of the development of the mathematical and software support of the computer-aided forms of education  
**V. Buloichik**, Chief of Sub-Faculty of the Military Academy of the Republic of Belarus
- 13.00 – 13.20 Evolutionary way of creation and modernization samples of armaments on the basis of the concept “Virtual Element Base”  
**E. Lazarevich**, Main Researcher of the State Republic of Belarus Armed Forces Research Institute
- 13.20 – 13.40 The cataloging of subjects for supply armed forces. State and prospects  
**V. Zenzin**, Senior Researcher of the State Republic of Belarus Armed Forces Research Institute
- 13.40 – 14.00 Answers the questions and discussion of results of the session work
- 14.00 – 15.00 Lunch

## SECTION WORK SCHEDULE

May 20, 2009, 15.00 – 18.00  
Conference-room of the hotel "Belarus"

### SECTION 1. MILITARY-TECHNICAL ASPECTS OF DEFENSE AND SECURITY

#### Section directors:

**I. Bykov**, Deputy Chief for Scientific Work of the of General Staff of Armed Forces of the Republic of Belarus, candidate of technological sciences, associate professor

**S. Turbin**, Chief of Department of the State Military-Industrial Committee of the Republic of Belarus, candidate of technological sciences, senior researcher

15.00 – 17.40 Actual problems analysis of contract job protection and their solution

**V. Kruk**, FSUE "Rosoboronexport", Moscow

System of common technical requirements for weapon and military equipment. State and prospects

**K. Chugay, V. Zenzin, V. Koshev**,  
State Republic of Belarus Armed Forces Research Institute, Minsk

Methodology of creation of information technology of management of armies (forces): architecture of model of process management

**I. Lentskevich, A. Alehnovich**, State Republic of Belarus Armed Forces Research Institute, Minsk

Foreground orientations of developing of new methods and means for defence of objectives and forces

**S. Heister**, State Republic of Belarus Armed Forces Research Institute, Minsk

Organizational approaches to the protection of the economic interests of the subjects of military technical collaboration with the examination of the appeals of the foreign customers

**S. Pogromskiy**, FSUE "Rosoboronexport", Moscow

Estimation procedure of the technical level of created and modernized samples of arms and military technics

**A. Agishev, V. Bondarenko**, State Republic of Belarus Armed Forces Research Institute, Minsk

Ways of increase of efficiency of technical operation of aircrafts of the state aircraft

**V. Vashkevich**, Military Academy of the Republic of Belarus, Minsk

About the coordination of fighting structure of armed groupings with the problems solved in operations (fighting actions)

**V. Tomashov**, State Republic of Belarus Armed Forces Research Institute, Minsk

The one-side creations intelligence informative armed forces systems as way rises of vitality troops and objects in high precisely weapon exertions circs

**I. Bykov, V. Sliakhtun**, General Staff of the Armed Forces of the Republic of Belarus, Military Scientific Committee of Armed Forces, Minsk

17.40 – 18.00 Answers the questions and discussion of results of the session work



May 21, 2009, 10.00 – 13.30  
Small hall of the hotel "Belarus"

## **SECTION 2. SCIENTIFIC AND TECHNICAL BASIS FOR NEW DEFENCE TECHNOLOGIES, ARMAMENT SYSTEMS AND MILITARY HARDWARE AND EQUIPMENT**

### **Section directors:**

**A. Pet'kov**, Chief of Department of the State  
Military-Industrial Committee of the Republic of  
Belarus, candidate of technological sciences

**I. Mityanov**, Chairman of the Scientific-Technical  
Committee of the Armed Forces, candidate of  
technological sciences

10.00 – 13.10 Comprehensive approach to creation of  
the defense technology imitation

**A. Talanov**, Scientific Production Enterprise  
"Rusbal", Moscow

Problems of designing aircraft  
instrumentation complex low-sized  
unmanned aerial vehicle and methods  
of their decision

**A. Sivashko, V. Shabanov, D. Saharuk**,  
Military Academy of the Republic of Belarus, Minsk

Target complex based on the low-sized  
unmanned aircraft

**A. Paltsev, Yu. Yatsyna, A. Schavlev**,  
Physicotechnical Institute of NAS of Belarus, Minsk

Modern trends in automobiles design  
development

**N. Shmulyaev**, Belarusian National Technical  
University, Minsk

Prospects of the development of  
engineering armament

**N. Selivonchik, Y. Mazur**, Belarusian National  
Technical University, Minsk

Strength members' development  
on basis of high-strength steel with  
heightened special characteristics level

**V. Ivashko, I. Vegera**, Physicotechnical Institute  
of NAS of Belarus, Minsk

The development of spaceborne optical systems for observation of earth surface, atmosphere and monitoring emergency situations

**B. Belyaev, Y. Belyaev, L. Katkovsky,  
E. Nesterovich, V. Sosenko, S. Khvaley,  
A. Khomicevich, V. Zaletniy,** Scientific Research  
Institute of Applied Physics Problems named after  
A. Sevchenko of Belarusian State University, Minsk

Moving object detection and tracking in intelligent TV-systems

**R. Bogush, S. Maltsev, N. Brovko,**  
Polotsk State University, Novopolotsk

Hardware-software complex for personal identification using iris pattern

**G. Zheltov, S. Avakov, E. Gurevich,  
V. Ivanenko, V. Kabanov, V. Starovoytov,**  
B. Stepanov Institute of Physics of NAS of Belarus,  
“KBTEM-OMO”, the United Institute of Informatics  
Problems of NAS of Belarus, Minsk

13.10 – 13.30 Answers the questions and discussion  
of results of the session work

May 21, 2009, 10.00 – 13.30  
Conference-room of the hotel "Belarus"

### **SECTION 3. MODERNIZATION, REPAIR AND THE UTILIZATION OF ARMAMENT AND MILITARY EQUIPMENT**

#### **Section directors:**

**S. Savenko**, Main Researcher of the State Republic of Belarus Armed Forces Research Institute, Doctor of Engineering, professor

**Yu. Cherniy**, Chief of 1034 CMI&I of the Air Forces and Anti-Aircraft Defence Command, candidate of technological sciences

10.00 – 13.10 Maintenance of the coordinated modes in power supply systems of samples of arms with use power electronic and mechatronic converters

**A. Malashin**, Military Academy of the Republic of Belarus, Minsk

Promising maintenance and evacuate equipment

**P. Tarasenko**, Belarusian National Technical University, Minsk

Modern approaches to modernization of tanks T-72

**Y. Kozhevnikov**, State Republic of Belarus Armed Forces Research Institute, Minsk

Possibilities of computer modeling for the evaluation of adverse factors of explosions on bases of storage of the ammunition

**D. Pegov**, State Republic of Belarus Armed Forces Research Institute, Minsk

The mechanism of development of system failures in electric power systems, the problematics of search and localization of weak places in electric power systems

**A. Malashin, S. Klopov, V. Murach**, Military Academy of the Republic of Belarus, Minsk

Modeling and the basis of decisions in the process of ammunition storage

**N. Liseichikov, S. Khandoshko**, State Republic of Belarus Armed Forces Research Institute, Minsk

Characteristic property of algorithm  
developing of the ADMS launching  
device

**A. Kocherov**, Military Academy of the Republic of  
Belarus, Minsk

Dynamic modeling of parts of a design  
of a fuselage of the helicopter for  
the purpose of an estimation of their  
technical condition

**A. Kasitsyn, I. Kisliy**, Military Academy of the Repub-  
lic of Belarus, Minsk

Technical realization and application  
in systems of the electropower  
equipment SR drive

**O. Kish**, Military Academy of the Republic of Belarus,  
Minsk

Functional efficiency of power means  
military-oriented

**A. Hovin**, Military Academy of the Republic of Belarus,  
Minsk

13.10 – 13.30 Answers the questions and discussion  
of results of the session work

May 21, 2009, 14.30 – 17.15  
Conference-room of the hotel “Belarus”

## **SECTION 4. DATAWARE AND AUTOMATED CONTROL SYSTEMS FOR FORCES AND WEAPON, INFORMATION SECURITY SYSTEM. INTELLIGENCE MEANS AND HIGH-PRECISION WEAPON OPPOSITION MEANS**

### **Section directors:**

**V. Buloichik**, Chief of Sub-Faculty of the Military Academy of the Republic of Belarus, Doctor of Engineering, professor

**V. Malkin**, Deputy Chief of the Aircraft Faculty for Educational and Scientific Work of the Military Academy of the Republic of Belarus, Doctor of Engineering, associate professor

14.30 – 17.00 Conceptual model of research of efficiency of functioning of a control system of armed forces

**B. Vervevko**, State Republic of Belarus Armed Forces Research Institute, Minsk

Remote sensing Earth’s surface is dual-purpose technologies: tasks, contents and prospects of development in the Republic of Belarus

**G. Kobelev, S. Kovalenko, R. Safonov, N. Morozov**, State Republic of Belarus Armed Forces Research Institute, Minsk

Integration methods of protection from precision weapons of destruction

**S. Savehko, K. Chugay, A. Grinkevich**, State Republic of Belarus Armed Forces Research Institute, Minsk

Perspective ways of aircraft’s individual protection against radio-frequency guided high-precision weapon

**O. Lapuka**, Military Academy of the Republic of Belarus, Minsk

Direction finding method of signal source in the decameter range

**V. Berezovskiy**, Research Institute of the Instrument Making, Omsk

Spectro-temporal structure of radar signals of helicopters in radar based on information transmission line

**N. Slusar**, Military Academy of the Republic of Belarus, Minsk

Simulation implementation of battle of the air-to-air defence alignment by the multiprocessing computer system

**V. Buloichik, V. Gertsev, A. Gertsev**, Military Academy of the Republic of Belarus, Minsk

Unifying simulation model of the electronic warfare

**V. Berikbaev, I. Komarov**, Military Academy of the Republic of Belarus, Minsk

Simulation battle model of the land forces sub-unit

**V. Buloichik, A. Dubrovskiy**, Military Academy of the Republic of Belarus, Minsk

Algorithm of steganographic embedding of information by the way of signal audiocontainer wavelength characteristic modification

**I. Chvarkova, S. Tihonenko, V. Sadov**, Belarusian State University, Minsk

Virtual simulator of military communication means

**S. Kasanin, G. Dujov, V. Piskun**, Belarusian State University of Informatics and Radioelectronics, State Republic of Belarus Armed Forces Research Institute, Minsk

Conceptual approach to creation of a unique automatic control system of air defense formation of a mixed type staff in the process of repulsing mass missile-aircraft attacks

**S. Kruglikov**, Military Academy of the Republic of Belarus, Minsk

17.00 – 17.15    Answers the questions and discussion of results of the session work

May 21, 2009, 14.30 – 17.15  
Small hall of the hotel “Belarus”

## **SECTION 5. PROTECTION AGAINST EMERGENCY SITUATIONS AT PEACE AND WAR TIME**

### **Section directors:**

**A. Lupey**, Chief of Department of Science and innovation development of the Ministry for Emergency Situations of the Republic of Belarus, candidate of biological science

**A. Patskevich**, Associate Professor of the Academy of Ministry of Internal Affairs of the Republic of Belarus, candidate of low science

14.30 – 17.00 New accident estimation technology developments based on airborne monitoring system of emergency situations

**B. Belyaev, S. Vorob'ev, L. Katkovsky, A. Rogovets, S. Khvalej, V. Zaletny**, Scientific Research Institute of Applied Physics Problems of Belarusian State University, Research Institute of Fire Safety and Emergencies of the Ministry for Emergency Situations of the Republic of Belarus, Minsk

Status control of automatic fire warning systems

**V. Polyakov**, Research Institute of Fire Safety and Emergencies of the Ministry for Emergency Situations of the Republic of Belarus, Minsk

Software tool for human zone estimate at the emission of fire and highly explosive strong toxic substances

**S. Kotov, V. Saetchnikov, D. Kotov**, Belarusian State University, Minsk

Vitality and safety of bases of storage of the ammunition

**A. Busla, V. Tumar**, State Republic of Belarus Armed Forces Research Institute, Minsk

Gamma radiation health-monitoring installations (УДГ-АТ110, УДГ-АТ130) are product innovation of UE “Atomtech” in the sphere of metrology and ionizing emissions

**A. Antonov, V. Gusov, V. Kozhemyakin, V. Raskosha, V. Hramov, G. Shulgovich**, UE “Atomtech”, Minsk

Modern agents of radiation safety for nuclear terrorism prevention

**A. Prokopovich, E. Bystrov, V. Kozhemyakin,**  
UE "Atomtech", Minsk

Modelling of a firing in place of storage of an ammunition

**Y. Dubina,** State Republic of Belarus Armed Forces Research Institute, Minsk

Safeguarding of vital activity conditions in emergency situations

**V. Gnakov, S. Nikitenko,** Belarusian State Transport University, Gomel

Optimization of the registration of medical information in emergency situations of war and peace time

**V. Rednenko, V. Taller, A. Filyanovich, T. Nikiforova,** Vitebsk State Medical University, Vitebsk

17.00 – 17.15 Answers the questions and discussion of results of the session work

May 21, 2009, 17.20 – 18.00

Conference-room of the hotel "Belarus"

## **SUMMING UP, CLOSING CEREMONY**

### **Chairpersons:**

**Oleg Paferov,** Deputy Chief of the State Military-Industrial Committee of the Republic of Belarus

**Alexander Pet'kov,** Chief of Department of the Perspective Development and Armament, Military and Special Technics Creation of the State Military-Industrial Committee of the Republic of Belarus

**Valeriy Kratenok,** Director of the Belarusian Institute of System Analysis and Information Support for Scientific and Technical Sphere