PROGRAM FOR
29th INTERNATIONAL SCIENTIFIC AND TECHNOLOGICAL CONFERENCE EXTREME ROBOTICS AND CONVERSION TENDENCIES

JUNE 7, 2018 (THURSDAY)

10:30 – 10:40	**Conference opening.** **Welcoming addresses for Conference participants**	**Conference Hall, second floor, RTC**

10:40 – 12:45	**Plenary Session**	**Conference Hall, second floor, RTC**

Co-chairmen:

Oleg V. Martyanov
Doctor of Technical Science, Professor ***Evgeny I. Yurevich***
Doctor of Technical Sciences ***Alexander V. Lopota***
Technical Assistant: ***Marina M. Burkina***

(Verbal presentation duration is up to 15 minutes. Answers to the questions - up to 5 minutes)

1. ***Igor A. Kalayev (RAS Academician, Doctor of Technical Sciences, vice-chairman of Scientific council on robotics of RAS, research supervisor of the direction of SFU, Taganrog town)*** Artificial intelligence: myths or reality
2. ***Maksim V. Zabelin (Doctor of Medical Sciences, Deputy head of Federal Medical Biological Agency of Russia, Moscow)*** Main directions of medicobiological maintenance of creation of medical robotic complexes
3. ***Sergey G. Tsarichenko (Doctor of Technical Sciences, Chief of the proving ground of NII GEODEZIJA, Krasnoarmeisk, Moscow region), S.E. Simanov, I.M. Sidorov (NII GEODEZIJA, Krasnoarmeisk, Moscow region)*** Parametrically-approximate method for solving the inverse kinematic problem for manipulators
4. ***Sergey A. Polovko (Candidate of Technical Sciences, Deputy Chief Designer of RTC, Saint-Petersburg), A.V. Popov (RTC, Saint-Petersburg)*** Application prospects of the hybrid groups of the special purpose mobile robots
5. ***Alexey A. Romanov (Doctor of Technical Sciences, Deputy Director for Science of JSC «Russian space systems», Moscow)*** Sixth technological way in space device engineering
6. ***Andrey V. Soleev (Head of Department of LLC NPP NTT Company, Saint-Petersburg)*** Ideology of use of the distributed payloads on royevy sets both unmanned aerial vehicles, and spacecrafts

13:30 – 17:30	Space Robotics Session	Conference Hall, second floor, RTC

Co-chairmen:
Doctor of Technical Science, Professor ***Igor G. Sokhin***
Candidate of Technical Sciences ***Alexander S. Kondratiev***
Technical Assistant: ***Elena M. Kuznetcova***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***M.V. Mikhaylyuk[1], E.V. Strashnov[1], A.A. Prilipko[1], B.I. Kryuchkov[2], V.M. Usov[2] ([1]Federal State Scientific Research Institute of System Analysis of the Russian Academy of Science, Moscow, Russian Federation; [2]Federal State Gagarin Research&Test Cosmonaut Training Center, Star city, Moscow region, Russia)*** The on-board simulation and training system for performing manipulator's actions in the supervisory control mode and building the visual feedback for cosmonauts
2. ***P.N. Vlasov, I.G. Sokhin, A.A. Kuritsyn (Yu.A. Gagarin Research & Test Cosmonaut Training Center, Star City, Russia)*** Problems of interaction of crews with anthropomorphous robotic assistants in future space missions
3. ***Gerhard Grunwald, Máximo A. Roa, Armin Wedler (German Aerospace Center (DLR), 82234 Wessling, Germany)*** Robotics for in-space assembly
4. ***M.I. Malenkov[1], N.K. Guseva[1], E.A. Lazarev[1], D.N. Kuz'menko[1], I.Yu. Dalyaev[2], A.V. Vasiliev[2] ([1]STC "ROCAD"; [2]RTC, Saint-Petersburg)*** Beginning and development of design technologies of locomotion systems of planetary rovers
5. ***A.V. Vasiliev, I.Yu. Dalayev (RTC, Saint-Petersburg)*** RTC developments in the field of robotics for future on-orbit and planetary missions
6. ***P.P. Belonozhko (Bauman Moscow State Technical University)*** Synthesis of program motions of a robotic space module taking into account the intrinsic dynamics of the reduced system
7. ***I.Yu. Dalyaev, V.M. Kopylov (RTC, Saint-Petersburg)*** Control and sheduling methods for servicing spacecraft equipped with manipulators
8. ***I.E. Chernyshev, A.V. Yaskevich (RSC «Energia», Korolev, Russia)*** The legs stiffness characteristics determination of the new peripheral docking mechanism
9. ***E.M. Kuznetcova, I.Y. Dalyaev, V.V. Titov, E.A. Smirnov, A.A. Truts (RTC, Saint-Petersburg)*** Haptic device with parallel kinematics
10. ***F.B. Tebueva, V.I. Petrenko, V.O. Antonov, M.M. Gurchinskiy, N.Yu. Svistunov (North-Caucasus Federal University, Stavropol)*** A method of determining the mutual position of operator's arm joints for anthropomorphic space manipulator control
11. ***A.V. Safonov, A.N. Yusupov, A.V. Lopota (RTC, SPbPU, Saint Petersburg)*** An algorithm for auto tuning of digital controllers for mechatronic modules with space applications
12. ***I.V. Shardyko, A.N. Yusupov (RTC, Saint-Petersburg)*** Implementation of stiff and compliant joint trajectory control for space manipulation systems
13. ***N.V. Zarutckii, I.U. Dalyaev, V.A. Kuznetsov, M. U. Gook (RTC, Saint-Petersburg)*** Lessons learned from the development and test of the two-axis rotary platform for russian segment of ISS
14. ***A.V. Ivanov, V.M. Rulevskiy, N.N. Tsebenko (Research Institute of automatics and electromechanics «NII AEM TUSUR», Russia, Tomsk)*** System of control and management for cosmobot battery
15. ***K.A. Volnyakov (RTC, Saint-Petersburg)*** Influence of lubricants in zone of contact of surfaces
16. ***M.N. Belov (RTC, Saint-Petersburg)*** Scientific equipment for recording the gas-plasma environment

13:30 – 17:30	**Commercialization of Robotics Technologies Session**	**3027 Room, second floor, RTC**

Co-chairmen:
Doctor of Technical Science, ***Arkadiy S. Yushchenko***
Candidate of Technical Sciences, ***Sergey A. Polovko***
Technical Assistant: ***Dmitriy L. Medvedev***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***A.S. Yuschenko (Bauman Moscow State Technical University (BMSTU)*** Collaborative robotics: state of art and outlook
2. ***R.S. Timofeev (Kawasaki Robotics/Robowizard, St-Petersburg)*** Industrial robotics trends
3. ***I.V. Voinov, A.M. Kazantsev, B.A. Morozov, M.V. Nosikov (Miass branch of South Ural State University (National Research University), Miass, Russian Federation)*** Radiation-proof manipulators and methods for extending their functionality
4. ***A.Y. Sedov, I.B. Pryamitsyn, O.A. Shmakov (RTC, Saint-Petersburg)*** Caterpillar track for small mobile robot
5. ***V.K. Abrosimov, V.V. Eliseev (LLC NTC "RoboPROB", Moscow)*** Intelligent agrorobot for goals of precision farming
6. ***S.M. Shpolyanskiy, A.Y. Sedov (RTC, Saint-Petersburg)*** Constructive features of the throwable crawler robotic platforms
7. ***A.N. Vlasenko, A.Y. Ivasheva, O.E. Lapin, V.G. Mikutsky, P.V. Semenikhin (RTC, Saint-Petersburg)*** System for autonomous radiation monitoring around nuclear power plant
8. ***E.S. Briskin, Y.V. Kalinin, M.V. Miroshkina (Volgograd State Technical University, Volgograd)*** Ways of minimize energy costs for the walking robots movement at its displacement along a complex profile
9. ***A.V. Zuev, V.F. Filaretov, A.N. Zhirabok (Institute of Automation and Control Processes FEB RAS / Far Eastern Federal University, Vladivostok, Russia)*** Development and research of the system of typical fault diagnosis in electric drives of manipulators
10. ***S.I. Savin, A.V. Vorochaev, D.Yu. Medvedev (South West State University, Kursk, Russia)*** Study of the influence the parameters of elastic drives have on the performance of the control system of a humanoid robot
11. ***V.L. Afonin, A.N. Smolentsev, M.G. Yakovlev (Blagonravov Mechanical Engineering Research Institute of RAS, Moscow)*** Intelligent robotic complex for finishing complex surfaces
12. ***A.D. Kulichenko[1,2], E.Yu. Smirnova[1] ([1]RTC, Saint-Petersburg, [2]Peter the Great St.Petersburg Polytechnic University (SPbPU), Saint-Petersburg)*** Possible application of heterogeneous robot group to search and localization of ionizing radiation sources
13. ***V.I. Syryamkin[1], V.I. Gutsul[2], I.S. Firsov[3], M.V. Syryamkin[1] ([1]National research Tomsk State University, Tomsk; [2]Seversk branch FSUE «Emergency Technical Center of Minatom of Russia», St. Petersburg; [3]National research Tomsk State University, Tomsk)*** Development of the caterpillar robot for environmental monitoring
14. ***D.A. Gromoshinskii, A.M. Zhukov, A.V. Popov, E.Yu. Smirnova (RTC, Saint-Petersburg)*** Providing safe ground sampling inside the working zone of a manipulator with computer vision

13:30 – 17:30	**Modeling of Robotic Complexes Session**	**3017 Room, second floor, RTC**

Co-chairmen:
Doctor of Technical Science, Professor ***Victor P. Pavlov***
Candidate of Technical Science ***Vladimir A. Pavlov***
Technical Assistant: ***Tatiana V. Volpyas***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***I.L. Ermolov[1], B.S. Lapin[2], S.A. Sobolnikov[2] ([1]Institute for Problems in Mechanics of RAS; [2]MSTU "STANKIN", Moscow)*** Software for development, modeling and operation of multi-robot control systems
2. ***V.V. Arykantsev, A.A. Goncharov, V.V. Chernyshev (Volgograd State Technical University)*** Modeling of contact interaction of support elements (stop) walking mover with the ground under conditions of complex loading
3. ***V.M. Bitny-Shlyakhto, I.A. Vasilyev (RTC, Saint-Petersburg)*** Development of the Principles of investigation and cartography of the working zone of robots

4. ***O.P. Goidin[1], I.L. Ermolov[2], S.A. Sobolnikov[1] ([1]FSUE VNIIA, Moscow; [2]Institute for Problems in Mechanics of RAS)*** RobSim software for mobile robots modeling
5. ***I.L. Ermolov (Ishlinsky Institute for Problems in Mechanics RAS, Russia, Moscow)*** Ergonomics issues of robots' workspace
6. ***I.L. Ermolov, S.P. Khripunov (Scientific Council on Robotics and Mechatronics of RAS, Russia, Moscow)*** Group interaction of UGVs equiped with highly propulsive wheels
7. ***O.M. Kapustina (National Research University "Moscow Power Engineering Institute", Moscow)*** Manipulability and motion planning of KUKA youBot robot
8. ***O.N. Krakhmalev (Bryansk State Technical University, Bryansk, Russia)*** Object-oriented modeling of manipulation robots
9. ***A.N. Mozhaev (RTC, Saint-Petersburg)*** Segmentation of point clouds by means of Point Cloud Library
10. ***V.V. Chernyshev, V.V. Arykantsev (Volgograd State Technical University)*** Investigation of dynamics of walking robots moving along the bottom
11. ***L.Yu. Vorochaeva, A.V. Malchikov, A.A. Postol'niy (Southwest State University, Kursk)*** Approaches to designing wheeled jumping robot
12. ***P.K. Shubin, E.A. Voronov, K.G. Matarenka (RTC, Saint-Petersburg)*** Approach to the realization methodology of reliability calculation of robotic systems and their components
13. ***A.S. Gabriel, V.N. Ulanov, S.G. Chuprov (Peter the Great St.Petersburg Polytechnic University, St.Petersburg)*** Optimization of the design calculation of friction planetary gears with force closure by elastic rings
14. ***A.V. Vazaev, V.P. Noskov, I.V. Rubtsov (Bauman Moscow State Technical University (BMSTU)*** Combined model in tool equipped mobile robot control system

13:30 – 17:30	**Artificial Intelligence Technologies in Control Systems Session**	**4003 Room, third floor RTC**

Co-chairmen:
RAS Academician, Doctor of Technical Science, ***Igor A. Kalayev***
Candidate of Physical and Mathematical Sciences ***Nikolay A. Grayznov***
Technical assistant: ***Elizaveta B. Pashchenko***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***I.A. Bugakov (Interregional Social Foundation "Institute of Engineering Physics", Serpukhov, Moscow Region)*** Minimality and categorization principle in natural and artificial intelligence
2. ***E.A. Abrosimov (RTC, Saint-Petersburg)*** Application of the fuzzy logic for mobile robot navigation in poorly described enviroment
3. ***V.P. Noskov, I.O. Kiselev (Bauman Moscow State Technical University (BMSTU)*** A selection of flat objects in a linear-structured 3D-images
4. ***A.A. Andrakhanov, A.V. Stuchkov (National Research Tomsk Polytechnic University, Tomsk)*** Mobile robot's intelligent system for traversability estimation of underlying surfaces
5. ***A.S. Antonov, D.O. Makarov, B.B. Mikhailov (Bauman Moscow State Technical University)*** Using of intelligent sensor in a technical vision system to control parts on a conveyor belt
6. ***A.V. Bakhshiev, S.R. Orlova, A. Komarov, D.N. Stepanov (RTC, Saint-Petersburg)*** Classification of scenarios and algorithms in technical vision systems of unmanned ground vehicles
7. ***V.G. Gradetsky, I.L. Ermolov, M.M. Knyazkov, E.A. Semenov, A.N. Sukhanov (Ishlinsky Institute for Problems in Mechanics RAS, Moscow)*** Group interaction of UGVs equiped with highly propulsive wheels
8. ***A.V. Grivachev, V.O. Avdeev, V.V. Varganov, E.A. Titenko (South West State University, Kursk)*** The modified method of hierarchical analysis of for the selection of mobile robotechnical complexes
9. ***K.I. Kiy (Keldysh Institute of applied mathematics of RAS, Moscow)*** Image understanding systems based on the geometrized histograms method
10. ***E.B. Mustafina (RTC, Saint-Petersburg)*** Prospects for application of generative adversarial networks in robotics
11. ***I.S. Ozhmegov, R.R. Khazanskii (SPbPU, RTC, Saint-Petersburg)*** Compression of streaming video from a ground robot's camera for communication channels with low bandwidth
12. ***V.V. Varlashin, M.A. Ershova, V.A. Bunyakov, O.A. Shmakov (SPbPU, RTC, Saint-Petersburg)*** Circular review system with augmented reality for mobile robots control
13. ***S.R. Orlova, A.V. Bakhshiev (RTC, Saint-Petersburg)*** Road sign recognition using deep neural networks

13:30 – 17:30	**Robotics in Medicine. Perfusion Complexes for Transplantation and Resuscitation Session**	**4023 Room, third floor RTC**

Co-chairmen:
Doctor of Medical Sciences ***Oleg A. Reznik***
Vaycheslav Kharlamov
Technical Assistant: ***Sergey A. Nikitin***

(Verbal presentation duration is up to 20 minutes. Answers to the questions - up to 5 minutes)

1. ***A.S. Samoylov (SRC – FMB, Saint-Petersburg)*** Development of domestic radiotherapeutic installation on the basis of the compact generator of neutrons
2. ***O.N. Reznik (Saint-Petersburg I.I. Dzhanelidze Research Institute of Emergency Medicine, Pavlov First Saint Petersburg State Medical University)*** The concept of perfusion rehabilitation for donor organs 2.0
3. ***A.E. Skvortcov (Pavlov First Saint Petersburg State Medical University)*** Use of portable perfusion devices in organ donation
4. ***V.V. Kharlamov, S.A. Nikitin, O.N. Reznik, A.E. Skvortcov (RTC, Saint-Petersburg)*** Modern perfusion complexes for extracorporeal membrane oxygenation (ECMO) reanimation
5. ***S.V. Golovinkiy, N.B. Nechaev, M.S. Simonova, V.N. Poptcov, S.V. Gotie (V.I. Shumakov NMITs transplantology and artificial organ of the Russian Ministry of Health, Moscow)*** Opportunities and the prospects of use of ex vivo of perfusion of donor lungs in clinical transplantology
6. ***I.A. Filatov, A.V. Adaskin (Biosoft-M Company, Moscow), O.N. Reznik, A.E. Skvortcov (Saint-Petersburg I.I. Dzhanelidze Research Institute of Emergency Medicine, Pavlov First Saint Petersburg State Medical University)*** Portable perfusion device for emergency recovery and maintenance of transplant perfusion during transport in the donor body
7. ***K.Yu. Senchik, G.I. Gafton, (Petrov Scientific research institute of oncology, Saint-Petersburg), N.A. Grayznov, V.V. Kharlamov, S.A. Nikitin, A.V. Shumilov (RTC, Saint-Petersburg)*** Principles of information-control systems construction for hardware-software complexes of hyperthermic chemo-perfusion in oncology

12:45 – 13:00	**Poster Session**	**Hall, second floor, RTC**

1. ***M.S. Bitkov, A.R. Klimov, M.S. Milekhin (MIREA, Moscow)*** Investigation of the possibility and development of proposals for the implementation of advanced micro-gyroscopic devices involving nanotechnologies
2. ***S.D. Soldatov, V.V. Vasiliev (MIREA, Moscow)*** Investigation of directions of hardware components creation for microrobotics
3. ***G.A. Zaroev, M.E. Udonov, S.V. Loginov (MIREA, Moscow)*** Application of additive technologies in robotics
4. ***A.A. Kul'pin, V.S. Lukin (MIREA, Moscow)*** Investigation of the possibility of sharing radar and hyperspectral survey data using a geospatial data warehouse

10:00 – 16:30	Artificial Intelligence Technologies Session	Conference Hall, second floor, RTC

Co-chairmen:
Doctor of Technical Science ***Ivan L. Ermolov***
Candidate of Technical Sciences ***Alexander V. Bakhshiev***
Technical assistant: ***Svetlana R. Orlova***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***A.A. Piskarev, B.B. Mikhailov (Bauman Moscow State Technical University, Moscow)*** 3D-camera aided operating space analysis
2. ***A.V. Rozhnov, V.K. Goydenko (V.A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences, Moscow)*** Decentralized control of heterogeneous autonomous robots in groups
3. ***S.M. Sokolov, A.A. Boguslavsky, N.D. Beklemishev (Keldysh Institute of Applied Mathematics RAS, Moscow)*** System of information support of mobile means purposeful movements on the basis of the interpreting navigation
4. ***A. Mitrevski, S. Thoduka, A. Ortega Sáinz, M. Schöbel, P. Nagel, P.G. Plöger, E. Prassler (Hochschule Bonn-Rhein-Sieg, Sankt Augustin, Germany)*** Practical robot deployment: towards an increased dependability of robotic systems
5. ***M.D. Tuv, R.R. Khazanskii (RTC, SPbPU, Saint Petersburg)*** The development of the communication protocol library for mechatronic devices
6. ***A.G. Kurochkin, P.V. Lotorev, V.V. Varganov, E.A. Titenko (South West State University, Kursk)*** The scheme of the data integration for the control system of the mobile robot
7. ***E.V. Umnikov (Inter-regional public institution "Institute of Engineering Physics, Serpukhov)*** The technical organisation of interaction of models of control systems with elements of artificial intelligence in a simulation of the interaction of robots with the use of the virtual training space
8. ***M.B. Ignatiev, A.V. Korshunov, R.V. Kleymenov, O.O. Zharinov, V.A. Nenashev, Ya.A. Lipinskiy, P.I. Makin (GUAP, Saint-Petersburg)*** Problems of development and application of autonomous robots for gas pipeline diagnostics

10:00 – 16:30	Commercialization of Robotics Technologies Session	3027 Room, second floor, RTC

Co-chairmen:
Doctor of Technical Science, Professor ***Arkadiy Yushchenko***
Candidate of Technical Sciences, ***Sergey Polovko***
Technical assistant: ***Dmitriy L. Medvedev***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***E.P. Grach, N.I. Filippov (College of instrumentation and information technology of Moscow technological University, Moscow)*** Application of VL53L0X laser distance sensors in object detection systems
2. ***S.D. Likhonosov, N.A. Protsenko, V.P. Kulyga, A.N. Petrov, I.V. Gorbacheva, S.I. Shchekoldin (Saturn PJSC)*** Autonomous power sources of PJSC "Saturn" and their application in robotic systems
3. ***D.A. Kapustin, D.M. Korolev, O.A. Shmakov, A.V. Lopota (RTC, SPbPU, Saint Petersburg)*** Power supply and control systems design for mobile robotic platforms
4. ***A.E. Koniukhovskaia (Russian Association of Robotics, Moscow)***Robotics in Russia: myths and reality
5. ***A.U. Nenashev (Joint-stock company Scientific Research Institute of Electronic, Voronezh)*** Key developments and services of JSC Scientific Research Institute of Electronic as part of import substitution for the robotics industry
6. ***V.G. Antcev (RADAR mms Company, Saint-Petersburg)*** Application of unmanned robot-based aerial systems developed by RADAR mms Company to solve geophysical, logistical and environmental tasks
7. ***A.G. Netkachev, D.N. Bychkovskii, A.L. Korotkov (RTC, Saint-Petersburg)*** Methods for increasing the performance of the machine for layer-by-layer creating of polymeric-sand molds

8. ***T.A. Baidina, S.F. Burdakov, O.B. Shagniev, I.K. Shanshin (Peter the Great St.Petersburg Polytechnic University, Saint-Petersburg)*** The control of vibration in contact interaction between robot and surface
9. ***A.A. Aryskin, D.V. Davydov, A.Ya. Ksenzenko, Yu.S. Marzanov, M.S. Petrakov, V.E. Pryanichnikov, A.S. Travushkin, R.V. Khelemendik, S.R. Eprikov (International laboratory "Sensorika", MSTU "STANKIN", RSUH Institute for new educational technologies and informatization, Keldysh Institute of Applied Mathematics of RAS, Moscow)*** Creation of the transport system control with logical analysis of the feasibility of technological operations
10. ***V.E. Pryanichnikov, A.V. Bogdanovich, A.G. Zubov, A.V. Plotnikov, O.V. Punenkov (Keldysh Institute of Applied Mathematics of RAS, International laboratory "Sensorika", RSUH Institute for new educational technologies and informatization, MSTU "STANKIN", Moscow, Peter the Great St.Petersburg Polytechnic University)*** Development of the service autonomous mobile general-purpose robot Amur-307

10:00 – 16:30	**Modeling of Robotic Complexes Session**	**3017 Room, second floor, RTC**

Co-chairmen:
Doctor of Technical Science, Professor ***Victor P. Pavlov***
Candidate of Technical Science ***Vladimir A. Pavlov***
Technical assistant: ***Tatiana V. Volpyas***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***A.A. Vlasenko, A.L. Korotkov (RTC, Saint-Petersburg)*** The manipulator design principles based on multi turn joints for a small robotic platform with quick equipment replacement
2. ***A.S. Gubankov[1], D.A. Yukhimets[2] ([1]FEFU, Vladivostok, [2]IACP FEB RAS, Vladivostok)*** Identification method of kinematic parameters of multilik industrial manipulator
3. ***V.E. Pavlovsky[1], D.A. Gribkov[2], I.A. Orlov[1], A.V. Podoprosvetov[2], E.Yu. Kolesnichenko[1] ([1]Keldysh Institute of Applied Mathematics of RAS, Moscow, [2]Lomonosov Moscow State University, mathematical-mechanics faculty, Moscow)*** Mobile manipulator on six-wheel mecanum platform
4. ***E.S. Briskin, K.Yu. Lepetukhin, A.V. Maloletov, V.A. Serov, A.P. Kirillov (Volgograd State Technical University, Volgograd)*** On the motion control of a robotic multi-section center-pivot irrigation machine for processing non-circular fields
5. ***A.N. Goloshchapov (LLC AVI Solutions, Saint-Petersburg)*** Manufacturing localisation - as a way of technologies transfer
6. ***M.A. Nogin, A.L. Korotkov, A.V. Rogov, O.A. Shmakov, A.V. Lopota (RTC, SPbPU, Saint Petersburg)*** RTC proving ground for mobile robotic complexes
7. ***D.D. Lipovskiy, Yu.A. Denisenya, A.V. Vasilev (Federal State Budgetary Institution «The 33rd Central Research Test Institute of the Ministry of Defense of Russian Federation»)*** Special requirements to robotic complexes of military units of radiological, chemical and biological defense
8. ***A.S. Gorobtsov[1], A.E. Andreev[1], O.O. Mugin[2], D.Y. Petrov[3] ([1]Volgograd State Technical University, Volgograd, Russia, [2]Mechanical Engineering Research Institute of the Russian Academy of Sciences, [3]Institute of Precision Mechanics and Control, Russian Academy of Sciences, Saratov, Russia)*** The gate generator for control system of the biped and multi-legged robots
9. ***A.V. Lekareva, A.A. Kobzev, A.A. Mahfouz (Vladimir state university n.a. A.G. and N.G. Stoletovykh, Vladimir)*** Features of constructing a mobile robotic complex of waterjet cutting of oil pipelines
10. ***M.B. Ignatiev (GUAP, Saint-Petersburg)*** Network-centric control of a group of competing robots
11. ***M.B. Ignatiev (GUAP, Saint-Petersburg)*** System analysis of translocating (locomotion) problems in Arctic and Antarctic space

10:00 – 16:30	Marine Robotics Technologies Session	4003 Room, third floor, RTC

Co-chairmen:
Oleg D. Semenov
Candidate of Physico-Mathematical Sciences ***Victor I. Yudin***
Technical assistant: ***Yana V. Dymnikova***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***B.A. Luskin, D.O. Semenov, A.I. Zakharov (CDB ME "RUBIN", Saint-Petersburg)*** Development (designing) of robotic complexes in CDB ME "RUBIN"
2. ***L.A. Martynova, G.G. Bezruk (GNIITs RT of the Ministry of Defense of the Russian Federation, Moscow)*** Modern Approaches to Assessing Safety of Experimental Samples of Marine Robotechnical Complexes of Military Purpose
3. ***G.G. Bezruk (GNIITs RT of the Ministry of Defense of the Russian Federation, Moscow)*** The treat conceptual model of testing information security of marine robotechnical complexes of millitary purpose
4. ***V.K. Abrosimov[1], A.N. Mochalkin[1], E.I. Tatarenko[2] ([1]Software Engineering Company "Network-Centric Platforms", Limited Iiability/SEC "NCP"Ltd, Samara, Russia, [2]OOO DB "Talisman", Samara, Russia)*** Marine robotized complex for solving problems in situational awareness
5. ***V.F. Filaretov, D.A. Yukhimets, E.Sh. Mursalimov (Institute of Automation and Control Processes FEB RAS, Vladivostok)*** Mission planner for a group of autonomous underwater vehicles
6. ***V.V. Arykantsev, A.A. Aryskin, O.O. Belyaev, A.Ya. Ksenzenko, E.A. Prysev, V.E. Pryanichnikov, V.V. Chernyshev, S.R. Eprikov (International laboratory "Sensorika", MSTU "STANKIN", RSUH Institute for new educational technologies and informatization, Keldysh Institute of Applied Mathematics of RAS, Moscow, Volgograd State Technical University, Volgograd)*** Supervisory control of the underwater legged vehicle
7. ***D.A. Gromoshinskii, A.V. Popov (RTC, Saint-Petersburg)*** Detecting metal-containing objects with ferromagnetic sensors mounted on unmanned underwater vehicle
8. ***N.A. Shchur[1,3], D.A. Vokhmintcev[2] ([1]Peter the Great St.Petersburg Polytechnic University, St.Petersburg, [2]RTC, St.Petersburg, [3]NRC «Kurchatov Institute» - PNPI, Gatchina, Russia)*** Autonomous underwater vehicles hydrodynamic instability
9. ***V.A. Shurygin, V.A. Serov, I.V. Kovshov, S.A. Ustinov (Join-stock company «The Federal research-and-production center «Titan Barricades», Volgograd, Russia)*** The development and ensuring the exploitations of the arctic offshore hydrocarbons fields by using the robotized legged platforms
10. ***S.I. Savin, D.Yu. Medvedev (South West State University, Kursk, Russia)*** Determination of the availability of pipeline branches using deep convolutional neural networks
11. ***V.M. Rulevskiy[1], V.G. Bukreev[2], E.B. Shandarova[2], V.A. Chekh[1] ([1]Research Institute of Automation and Electromechanics, Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russia, [2]National Research Tomsk Polytechnic University, Tomsk, Russia)*** Optimization of voltage regulator parameters for underwater vehicle power supply system

09:00 – 13:00	Robotics in Medicine. Robotic Technologies for Surgery Session	Panoramic Hall no.2, Almazov National Medical Research Centre

Co-chairmen:

Academician of the RAS ***Evgeny V. Shlyakhto***
Doctor of Technical Sciences ***Alexander V. Lopota***
Doctor of Medical Sciences ***Marsim V. Zabelin***
Doctor of Medical Sciences ***Andrey A. Kostin***
Candidate of Physical and Mathematical Sciences ***Nikolay A. Grayznov***
Technical assistant: ***Sergey A. Nikitin***

(Verbal presentation duration is up to 10 minutes. Answers to the questions - up to 5 minutes)

1. ***A.A. Kostin (FSBI NMRRC of the Ministry of Health of the Russian Federation, Obninsk town)*** Innovative and robotic technologies in oncology and radiology
2. ***O.O. Mugin, D.I. Tsyganov (Fededal Agency of Scientific Organizations, Moscow)*** Modern state of

research in the field of robotized medical systems

3. ***Alireza Mirbagheri, Saeed Sarkar, Farzam Farahmand (Research Center for Biomedical Technologies & Robotics (RCBTR) Dept. of Medical Physics and Biomedical Eng., School of Medicine Tehran University of Medical Sciences)*** Introducing a practical robotic telesurgery system with force feedback
4. ***N.A. Gryaznov, V.V. Kharlamov, S.A. Nikitin (RTC, Saint-Petersburg)*** Prospects for the development of robotic systems of a new generation. "Surgery 4.0"
5. ***A.A. Obukhov (FSBI NMRRC of the Ministry of Health of the Russian Federation, Obninsk town)*** Possibilities of robotic technologies in brachytherapy
6. ***N.A. Gryaznov[1], S.A. Nikitin[1], V.V. Kharlamov[1], A.A. Obukhov[2] ([1]RTC, Saint-Petersburg, [2]A.F. Tsyb Medical Radiological Research Center - a branch of the Scientific Medical Research Center of Radiology, Obninsk)*** Experience in the development of the robotic system for brachytherapy of prostate cancer
7. ***M.S. Mosoyan (Almazov National Medical Research Centre; Pavlov First Saint Petersburg State Medical University***) Robots in medicine: yesterday, today, tomorrow. Look of the doctor
8. ***D.A. Yakovets, M.V. Sokhranov (State Research Test Institute of Military Medicine, Saint-Petersburg, Russia)*** Development of an expert system of the multifunctional robotic medical platform for the evacuation of wounded and injured persons
9. ***V.F. Golovin[1], M.V. Arhipov[2], L.B. Kocherevskaya[3] ([1]CMRV SM, Moscow, [2]MOSPOLYTECH, Moscow, [3]MAI, Moscow)*** Robotics for increasing military capacity
10. ***A.V. Lopota, V.V. Kharlamov, S.A. Nikitin, A.Yu. Karseeva (RTC, Saint-Petersburg)*** Operating new generation for treatment of oncological diseases by proton therapy on the basis of robotized technologies of precisional positioning of the patient

14:00 – 16:30	**Meeting of Technical committee on standardization «Robotics» (TC 141)**	**4003 Room, third floor, RTC**

Chairman:
Doctor of Technical Science ***Alexander V. Lopota***
Responsible Secretary:
Candidate of Technical Science ***Vladimir A. Pavlov***

TC 141 Secretariat Work Statement 2018 (1 quarter).
TC 141 Secretariat Information on Work Schedule 2019.
General Discussion on Standardization in Robotics.

17:00 – 18:00	**Final Plenary Session. Conference closing**	**Conference Hall, second floor, RTC**

Co-chairmen:

Oleg Martyanov
Doctor of Technical Science, Professor ***Evgeny I. Yurevich***
Doctor of Technical Sciences ***Alexander V. Lopota***
Technical Assistant: ***Marina M. Burkina***

Summaries from Sessions Chairmen.
Discussion on conference results and issue points.
Adoption of the Conference decisions.