



Mikhail Medvedev

Doctor of Science,

Professor,

Head of the Department of Electrical Engineering and Mechatronics,

Deputy Director of Research Institute of Robotics and Control Systems

Date of Birth: 19th April 1974

Email medvmihal@gmail.com

mobile: +7(919) 892 73 49

1. Education

University	Degree	Year	Specialization
Taganrog State University of Radioengineering (Russia, Rostov region, Taganrog)	Engineer	1996	Control and informatics of technical systems
Taganrog State University of Radioengineering (Russia, Rostov region, Taganrog)	Candidate of science	1999	Control of technical systems
Rostov-on-Don State University (Russia, Rostov-on-Don)	Doctor of science	2011	System analysis, control and data processing

2. Professional qualification

<i>Job Title</i>	<i>Years</i>	<i>Place of the work</i>
Graduate student	1996	Taganrog State University of Radio Engineering (Russia, Rostov region, Taganrog)
Assistant	1999	
Associate Professor the Department of synergy and control processes	2002	
Associate Professor the Department of Theory of Electrical Engineering	2005	Taganrog State University of Radio Engineering (Russia, Rostov region, Taganrog)

		Southern Federal University (Russia, Rostov region, Taganrog)
Associate Professor the Department of Electrical Engineering and Mechatronics	2007	Southern Federal University (Russia, Rostov region, Taganrog)
Professor the Department of Electrical Engineering and Mechatronics	2012	
Head of the Department of Electrical Engineering and Mechatronics	2015	
Deputy Director of Research Institute of Robotics and Control Systems	2015	

3. Educational work

Academics Courses:

1. Introduction to Robotics.
2. Control Theory Fundamentals.
3. Methods and theory of optimization
4. Robots and robotic systems design
5. Robots and robotic systems control
6. Adaptive systems
7. Optimal and adaptive control

Scientific advisor of bachelor and master students.

Scientific advisor of 2 candidates of science on System analysis, control and data processing”

4. Projects

Since 2003 was a leading researcher and engineer in over 30 completed projects.

The most important:

№	Project title	Time terms	Organization, financing project	Role
1.	Intelligent Mobile Robots Based on Mini-Airships Research and Synthesis Methods Development. Project 03.01.062 research program "Scientific studies of the high school on priority directions of the science and technology"	2003 – 2004	RF Ministry of the education	Leading researcher and engineer
2	Analytical Synthesis Methods and Neurocomputer Realization of the Control Performance Optimal Dynamical Systems Along Set Trajectories. Project E02-2.0-73 contests 2002 on competition grants RF Ministry of the	2003-2004	RF Ministry of the education	Leading researcher and engineer

	education on fundamental studies in the field of natural and exact sciences			
3.	Structure-Algorithmic Motion Control System Realization for the Intelligent Mobile Robots Operating in Extreme Environments. Grant A03-3.16-87 contests 2003 on undertaking young scientist scientific studies in leading scientifically-pedagogical group of the high educational institutions and scientific organizations of the RF Ministry of the education. (executer - a post-graduate student Korneev I.G.)	2003-2004	RF Ministry of the education	Leading researcher and engineer
5.	Project 14800 "Development, Production, Mounting and Adjustment of the Automated Street Illumination Control System in Chelyabinsk"	2004	Administration of city of Chelyabinsk	Leading researcher and engineer
6.	Development of an integrated set of navigation and motion control for autonomous unmanned underwater vehicles	2010	Russian Ministry of the Education	Scientific Leader
7.	Development of analytical method for synthesis of optimal interrelated nonlinear control systems	2010 – 2012	Russian Foundation for Basic Researches	Scientific Leader
8.	Development of the fundamentals of construction and researching of systems for mobile units operating in a priori nonformalized environments with unstable regimes	2010 – 2012	Russian Foundation for Basic Researches	Scientific Leader
9.	Project "Development of control and telecommunication system for unmanned airship"	2011-2013	Hunan Space Agency, China	Scientific Leader
10.	Project "MAAT – Multibody advanced airship for transport", FP7 Grant №285602	2011-2015	European Commission	Scientific Leader
11.	Project "Development of the method of robust control of mobile units under unmeasured disturbances by Lyapunov block functions"	2013-2014	RF President grant	Scientific Leader
12.	Project 14-19-01533, Development of theory and methods for intelligent position-trajectory control systems for mobile robots in conditions of uncertainty	2014-2016	Russian Scientific Foundation	Scientific Leader
13.	Project "Theory and methods of energy-saving control of distributed systems of generation, transportation and consumption of energy"	2014-2016	Southern Federal University	Scientific Leader

5. Publications:

Total: over 150, including 6 monographs

The most important:

Patents:

1. Pshikhopov V.Kh, Medvedev M.Yu., Dorukh I.G. Krukhmalev V.A. Fedorenko R.V. The device for airship control// patent, utility models, № 137812, 05.02.2014;
2. Pshikhopov V.Kh., Medvedev M.Yu., Gurenko B.V. Software-modeling complex of autonomous marine mobile objects// Certificate program computers, № 2013660212, 28.10.2013 12.
3. Finaev V.I., Kharchistov B.F., Medvedev M.Yu., The Transmitting/receiving information in variable length code system// patent, № 2123765, 20.12.98;
4. Pshikhopov V.Kh., Medvedev M.Yu., Mazalov A.A. The programming model of control of asynchronous generator wind power plant// Certificate program computers, № 2010612690, 20.04.2010.

Recent papers cited by Scopus:

1. Pshikhopov V.Kh, Medvedev M.Yu. Control of mobile objects in definite and unknown environments. M: Science, 2011. 350 p. ISBN 978-5-02-037509-3.
2. Pshihopov V.Kh, Medvedev M.Yu., Haiduk A.R., Neudorf R.A., Belyaev V., Fedorenko R.V. Kostjukov V.A., Krukhmalev V.A. System of position-trajectory control robotic aeronautic platform: control algorithms. - Mechatronics, Automation and Control, 2013, № 7. Pp. 13 - 20.
3. Pshihopov V.Kh, Medvedev M.Yu. and others. Control of aeronautic complexes: theory and design technology. Fizmatlit, Moscow, 2010. 400 p.
4. Shanin D.A., Pshihopov V.Kh, Medvedev M.Yu. Neural network adaptive controller for the control problem of helicopter model through a global feedback // Proceedings of the SFedU. Engineering. Number 11. 2008. Pp. 107 - 110.
5. Pshikhopov, V.K., Medvedev, M.Y., Gurenko, "Homing and docking autopilot design for autonomous underwater vehicle", 2014, Applied Mechanics and Materials
6. Pshikhopov, V.Kh., Medvedev, M.Yu., Gaiduk, A.R., Gurenko, B.V., Control system design for autonomous underwater vehicle, 2013, Proceedings - 2013 IEEE Latin American Robotics Symposium, LARS 2013, doi:10.1109/LARS.2013.61
7. Pshikhopov, V., Sergeev, N., Medvedev, M., Kulchenko, A., The design of helicopter autopilot, 2012, SAE Technical Papers
8. Pshikhopov, V., Medvedev, M., Kostjukov, V., Fedorenko, R., Gurenko, B., Krukhmalev, V. "Airship Autopilot Design," SAE Technical Paper 2011-01-2736, 2011, doi:10.4271/2011-01-2736
9. Pshikhopov, V.Kh., Krukhmalev, V.A., Medvedev, M.Yu., Budko, A.Yu., Chufistov, V.M., Adaptive control system design for robotic aircrafts, 2013 IEEE Latin American Robotics Symposium, LARS 2013, doi:10.1109/LARS.2013.59

10. Pshikhopov, V.Kh., Medvedev, M.Yu., Block design of robust control systems by direct Lyapunov method, 2011, IFAC Proceedings Volumes (IFAC-PapersOnline), doi: 10.3182/20110828-6-IT-1002.00006
11. Pshikhopov, V.Kh., Medvedev, M.Yu., Robust control of nonlinear dynamic systems, 2010, IEEE ANDESCON Conference Proceedings, ANDESCON 2010

6. Conferences and exhibitions participation

Participated

1. International Conference SAUM-07, Nish Serbia
2. International Conference SIROCO 2009, 2009, Gifu, Japan
3. 2010 IEEE ANDESCON Conference, 14 September 2010 - 17 September 2010, Bogota, Colombia;
4. International Congress IFAC 2011, Milan, Italy
5. SAE AeroTech Congress and Exhibition, AEROTECH 2013; 24 - 26 September 2013; Montreal, QC; Canada;

7. Public acknowledgment

8. International official visits

University of Auckland, New Zealand, 2008