

Personal Details

Name: Agranovich Grigory

ID: 3 2087 3888

Place of birth: USSR, Azerbaijan SSR, town Baku, 2.07.1948

Family Status: married, 2 children

Date of immigration: 24.11.1998

Address and telephone number at work: Ariel University of Samaria, Faculty of Engineering,
Dept. of Electrical and Electronic Engineering, tel. 03-9066314

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Languages: Russian (native), Hebrew, English, Ukrainian



Education

M.Sc.: 1966-1971, in Automatics and Remote Control, Sevastopol State Technical University, Thesis "Computer Design of Multi-rate Digital Control Systems for Flying Machines", Advisor: prof., D.Sc. Barabanov A.T.

Ph.D: 1971-1973, Theory of Automatic Control, Leningrad Institute of Aviation Instrument Making, Thesis "Theory of Kalman Filtering and Means of Quadratic Optimal Control for Continuous/Discrete Systems with Applications to Homing Missiles Guidance", Advisor: prof., D.Sc. Barabanov A.T.

Employment History

From april 2007. Associate Prof. at the Dep. of Electrical and Electronics Engineering, Ariel University of Samaria.

1999-2007. Senior Lecturer at the Department of Electrical and Electronics Engineering, Academic College of Judea and Samaria.

1998-1983. Associate Prof. at the Department of Technical Cybernetics of Sevastopol State Technical University (SSTU).

1998-1991 (pluralistically) Teacher of Mathematics, Mathematical Logic, Information and Computers at the First Sevastopol Gymnasium and the Sevastopol Lyceum.

From 1993 - (pluralistically) Leader of the Sevastopol Gifted Scholars' Mathematical Seminar.

1998-1983 (pluralistically) Vice Director of the Scientific Research Laboratory at the department of Technical Cybernetics at SSTU. Head of Four State Level Research Projects. Participated in 10 Research Projects for leading Weapon Enterprises and Institutes of the USSR.

1983-1979 Senior Lecturer and Senior Research Fellow at the SSTU, Department of Technical Cybernetics.

1979-1973 Assistant Professor and Research fellow at the Department of Technical Cybernetics at the SSTU.

Professional Activities

1998-1983: Head of Four State Level Research Projects. Participated in 10 Research Projects for leading Weapon Enterprises and Research Institutes (Granit and others) of the USSR.

2009-2012: Two research projects for The Israel Ministry of National Infrastructures, "Improving Seismic Response of Structures using Optimal Dampers", "Optimization of Hybrid Energy Dissipation Systems for Improving Structural Seismic Response"

Educational activities

Courses taught

Main Courses in Sevastopol State Technical University: "Impulsive and Digital Automatic Systems", "Calculation methods and Computer Programming", "Automatic Control Theory", "Mathematical Foundations on System Theory", "Foundations of Signal and Systems Theory", "Special Chapters of Cybernetics".

Main Courses in Ariel University:

B.Sc. "Control Systems", "Modern Control", "Digital Control", "Linear Dynamical Systems", "Principles of Structures Control"

M.Sc. "Adaptive Control", "Processes Optimization and Optimal Control"

Research students

- **Sevastopol State Technical University:** about 100 M.Sc. students, about 10 Ph.D students (in guidance collaboration).

- **Ariel University:** 4 M.Sc. students, 3 Ph.D. students (in guidance collaboration)

Research Interests

Theory: Theory of dynamical discrete/continuous (hybrid) systems: unified state models of single-rate and multi-rate systems, integral representation, stability, controllability, observability, optimal control and estimation, filtering, terminal control. Computer-aided methods of control systems design, parametrical optimization and simulation.

Applications: Computer-aided Design, Parametrical Optimization and Stochastic Simulation of Control Systems for Missiles, Homing Guidance Systems and other Vehicles. Control Systems Design for Damping of Seismically Excited Structures, computer-aided design, analysis and simulation.

Scientific Publications

Chapters in edited books – 4; refereed papers in scientific journals – 54; scientific reports and technical papers - 10; refereed conference presentations - 43; no refereed conference presentations - 14; educational booklets - 22; educational books - 1; methodical conference presentations – 6.

List of last Publications during 2013-2014:

Chapters in edited books

1. G. Agranovich, E. Litsyn and A Slavova, "Chaotic Systems and their Application in Industry", *Chapter in book Mathematics in Industry*, A Slavova – editor, Cambridge Scholars Publishing, UK ,2014, pp. 114 - 147

Refereed papers in scientific journals

2. G. Agranovich and Y. Ribakov. "Scaling ground motions using optimal feedback control for testing structures by shake table", *Journal of Structural Control and Health Monitoring*, vol. 20, 2013, 1176-1190.
3. G. Agranovich, E. Litsyn, A. Slavova, "Stabilization Of Fitzhugh-Nagumo CNN System", *Functional Differential Equations*, vol. 15, no. 3-4, 2013, 10 - 24.
4. V. Yuhimenko, M. Averbukh, G. Agranovich, A. Kuperman, "Dynamics of supercapacitor bank with uncontrolled active balancer for engine starting", *Energy Conversion and Management*, vol. 88 ,2014, 106–112.
5. I. Halperin, G. Agranovich, "Optimal Control with Bilinear Inequality Constraint", *Functional Differential Equations*, vol. 21, no. 3-4, 2014, 119-136.

Refereed Conference Papers

6. G.Agranovich, E.Litsyn, A.Slavova, "Feedback Stabilization of Complex System Behavior", *Proceedings of International Workshop on the Qualitative Theory of Differential Equations QUALITDE – 2013*, Tbilisi, Georgia, December 20 – 22, 2013, 3-6
7. G.Agranovich, E.Litsyn, A.Slavova, "Control Techniques For Complex Chaotic Systems", *8th Annual Meeting of the Bulgarian Section of SIAM BGSIAM'13, Dec. 18-19, 2013, Sofia.*
8. G.Agranovich, E.Litsyn, A.Slavova, "Feedback Stabilization of Complex System Behavior", *Proceedings of International Workshop on the Qualitative Theory of Differential Equations QUALITDE – 2013*, Tbilisi, Georgia, December 20 – 22, 2013, 3-6
9. Ribakov and G. Agranovich "Using Amplifiers and Effective Dampers Placing for Improving Structural Control Efficiency", *ViennaCongress on Recent Advances in Earthquake Engineering and Structural Dynamics*, Vienna, Austria, August 28-30 2013
10. G. Agranovich and Y. Ribakov "Using Pole-Assignment Method for Control of Structural Vibrations by Active Mass Dampers", *The Twelfth International Conference on Computational Structures Technology*, Naples, Italy, September 2-5 2014.
11. I. Halperin, G. Agranovich, Y. Ribakov, "Efficient Newton Method for Optimal Viscous Dampers Design", *Proceedings of 28th Convention of Electrical and Electronics Engineers in Israel*, 2014, 4 pp.
12. M. Harel, G. Agranovich and M. Brand, "Optimal periodic gain scheduling for bipedal walking with hybrid dynamics", *Robotica*, Cambridge University Press, 2014, 11 pages, available on CJO2014. doi:10.1017/S0263574714002586.

Conference Papers

13. Igor Arolovich, Grigory Agranovich, "Control Improvement Of Under-Damped Systems and Structures by Input Shaping", *Proceedings of The 8th Int. Conf. on Material Technologies and Modeling (MMT-2014)*, Ariel, Israel, July 28 – August 1, 2014, 3-1 – 3-10.
14. I. Halperin and G. Agranovich, "Optimal Control With Bilinear Inequality Constraints", *Functional Differential Equations and Applications (FDEA 2014)*, Ariel University, Israel, August 24-29, 2014.