CURRICULUM VITAE

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Petro I. BIDYUK
Professor

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- Kyiv Polytechnic Institute,
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EDUCATION

M.S. (Electronics and Control System Engineering), Kyiv Polytechnic Institute, 1972
Ph.D. (Electronics and Control Engineering), Kyiv Polytechnic Institute, 1986
Dr. of Sciences in Control Engineering, National Technical University of Ukraine – Kyiv Polytechnic Institute, 1995

ACADEMIC POSITIONS

Associate and Full time Professor, Department of Mathematical Methods of System Analysis at the National Technical University of Ukraine Kyiv Polytechnic Institute (NTUU KPI) since 1997.
Instructor, at the Flagler College (St. Augustine, FL, USA), 1995 (spring semester)

Associate Professor, Department of Applied Mathematics at the NTUU Kyiv Polytechnic Institute, 1986-1992

Researcher and assistant professor, Departments of Engineering Cybernetics and Applied Mathematics at the Kyiv Polytechnic Institute, 1978-1986

COURSES LECTURED

Applied Analysis of Time Series (theory and applications to engineering and economic problems).
The course is based on modern developments in the field, and includes difference equations, stationary time-series models, trends and volatility, heteroscedastic processes, cointegration analysis, multiple equation time-series, state space representation, optimal filtering and parameter estimation techniques.

Applied Statistics (theory and applications to finances and economy).

Optimal State and Parameter Estimation (theory and applications to engineering systems, and economy).
The course includes Kalman filtering techniques (+ linearized, extended, and adaptive versions), LSE, Maximum Likelihood Estimation, Minimum Output Error Method, nonlinear estimation techniques such as Nonlinear LSE, and MLE, recursive versions of LSE (RLS), MLE (RML), Recursive Instrumental Variable, and other approaches.

Optimal Control Theory (theory and applications to engineering and economic problems).
The course includes topics on Calculus of Variations and Control Theory, Pontryagin Maximum Principle, Dynamic Programming, Riccati Equation approach, LQG-problem, and L1-optimal control approach. Some computational methods are considered such as

Shooting Method, the Newton-Raphson Method, the Conjugate Gradient Method. A wide range of applications is given that are related to engineering and economic problems.

Decision Support System Design

Design of computer based information storing and processing systems for industrial, engineering, financial and economic applications. A special attention is given to Decision Support Systems design with emphasis to systemic approach for development and implementation, architecture and functional layout, criteria bases, decision making techniques, and dynamic optimization of decisions.

COURSES QUALIFIED TO TEACH

Applied Analysis of Time Series
Applied Statistics
Forecasting Methods and Models (theory and applications)
Decision Support Systems: knowledge based approach
Modeling Financial Risks
Econometric Analysis
Optimal State and Parameter Estimation
Optimal Control Theory

RESEARCH EXPERIENCE:

Senior Scientist at the departments of Technical Cybernetics, and Mathematical Methods for System Analysis at the NTUU "Kyiv Polytechnic Institute", 1978 – 2016

Research in the field of computer based identification and control system design for large mechanical (space) structures, industrial plants, self-tuning and adaptive controllers and optimal filtering (Kalman filtering techniques), dynamic system identification (specifically, mechanical structures, environment pollution, and industrial plants in oil processing industry). A new approach to the study of robust Kalman filter convergence was developed, and used to solve specific practical problems regarding analysis of filtering algorithms. An improved version of classic PID control algorithm was proposed that allows to control time-varying plants in stochastic environment. Several versions of optimal control systems were constructed for industrial plants, and large space structures. Developed a program package in Fortran for dynamic system identification, and adaptive control. Developed microcomputer based digital control system for the paraffin production plant based on software in Assembler and C. Special measures were undertaken to provide quality control in conditions of randomly varying plant parameters, and absence of measurements of output variables with necessary time rate.
Several decision support systems have been developed that are based on Bayesian networks, optimal filtering algorithms, optimal control techniques, statistical data processing, forecasting, financial risk modeling, and regression analysis.

Senior Engineer at the Kyiv Industrial Plant, Department of Computerized Direct Numerical Control Systems, 1974 – 1978

Developed a minicomputer-based real-time multi-task numerical control system for milling machines.

ADDITIONAL AREAS OF INTEREST

An application of mathematical model constructing techniques, system identification, optimal filtering methodology and control theory to analysis of dynamic processes in finances, economy and human engineering. Application of Bayesian networks, modern fuzzy sets theory to modeling, decision making and control. I have taken part in modeling and

development of method and algorithm for project scheduling in conditions of restricted and time-varying funding (that is characteristic for economy in transition). Also I had taken part in the project relevant to application of mathematical techniques in gerontechnology (Eindhoven, The Netherlands, 1995 – 1997).

EDITORIAL POSITIONS

Member of the editorial board: Research Bulletin of NTUU "KPI", 2015
Member of the editorial board: System Technologies, 2010
Member of the editorial board: Research Bulletin of the Black Sea State University named after Petro Mogyla, 2009

JOURNAL ARTICLES AND BOOK CHAPTERS (about 185, among them 25 in international journals, and a chapter in a book)

1. Zgurovsky M.Z., Trukhan S.V., Bidyuk P.I. Application of the Extreme Value Theory Methodolgy to Data Analysis // Research Bulletin of NTUU "KPI", 2016, No.1, pp. 47–57.
2. Matsuki Y., Bidyuk P.I. System Analysis for Chornobyl Reactor Core Problem // *System Analysis and Information Technologies*, 2016, No. 3, pp.
3. Bidyuk P.I., Trukhan S.V. Application of Extreme Value Theory to Generation and Analysis of Pseudorandom Samples // *Journal of Applied Mathematics and System Science* // 2016, No. 6, pp. 129 – 138.
4. Bidyuk P.I., Terentyev O.M., Prosyankina-Zharova T.I., Makukha M.M. *Journal of Applied Mathematics and System Science* // 2016, No. 6, pp. 112 – 122.
5. Karayuz I.V., Bidyuk P.I. Forecasting GDP Growth Rate in Ukraine with Alternative Models // *Applied Computer Science*, 2015, Vol. 11, No. 3, pp. 88 – 97.
6. Bidyuk P.I., Gozhyj O.P., Trofymchuk O.M., Bidiuk O.P. DSS for Implementing Systemic Approach to Forecasting // *International Journal of Computers and Technology*, 2015, Vol. 14, No. 5, 2015, pp. 5769 – 5778.
7. Bidyuk P.I. Modeling and Forecasting of Heteroscedastic Processes // *System Research and Information Technologies*, 2003, No. 3, pp. 88-110.
8. Bidyuk P.I. A System Approach to Forecasting Using Time Series Models // *System Research and Information Technologies*, 2003, No. 3, pp. 88-110.
9. Bidyuk P.I., Baklan I.V., Rifa V.N. A System Approach to Model Building Using Time Series // *System Research and Information Technologies*, 2002, No. 3, pp. 114-131.
10. Bidyuk P.I., Gasanov A.S., Podladchikov V.N. Prediction of Dynamic System States Using Adaptive Kalman Filter Filter // Cybernetics and System Analysis, 2001, No.4, pp. 21-32.
11. Bidyuk P.I., Fomichov S.K. Statistical Methods, Regression Analysis, and Prognosis in the TQM Concept Implementation. – Kyiv: Academia Yakosti, 2001. – 51 p.
12. Ryfa V.M., Bidyuk P.I. Quality Management System as an Object for Automated Control // Proc. of the Kherson State University (Ukraine), v.10, No.1, 2001, pp. 75-81.
13. Bidyuk P.I., Pidmogylnyj M.V., Reznichenko V.M. Analysis of Decision Support Systems Architectures and Their Applications // Proc. of the Kherson State University (Ukraine), v.10, No.1, 2001, pp. 22-26.
14. Bondarenko V., Bidyuk P., Bernatska J. Solving Parabolic Equations by Using the Method of Fast Convergent Iterations // *Int. J. Appl. Math. and Comp. Sci*., v.10, No.2, 2000, pp. 333-344.
15. Bidyuk P.I., Graafmans J.A.M., Harrington T.L., Hautus M.L.J. Mathematical Modeling and Simulation. (Chapter 7 in the book: *Gerontechnology: Why and How* by T. Harrington, and M. Harrington). – Maastricht: Shaker Publishing B.V., 2000, pp. 165-186.
16. Boychuk L., Bidyuk P., Gologorskaya O. The Balanced Dynamic Model to Control the Bank Payments // in *Math. Modeling and Its Applications* (Proc. of the Intl. Solomon University in Kiev), No.1, 1999, pp. 103-112.

17. Pidmogylny M., Boykova V., Bidyuk P. Modeling and Control of the Process of Property Type Transformation // *Proc. of the National Technical University of Ukraine* "*KPI*", v.3, No.3, 1999, pp. 34-42.
18. Pidmogylny M., Bidyuk P. The Model of Investment Function Based on the Cointegration Approach // *Adaptive Control Systems*, v.22, No.2, 2000, pp.114-121.
19. Bidyuk P., Podladchikov V., Naumov O. Optimal State Estimation for Dynamic Systems with Substantial Uncertainties // in *Proc. of the Central Research Institute* (Kiev), v.3, 1999, pp. 88-104.
20. Bondarenko J., Bidyuk P. A Stochastic Criterion for the Optimal Investment Process // *Int. J. Appl. Math. and Comp. Sci*., v.8, No.3, 1998, pp. 505-510.
21. Bidyuk P.I., Polovtsev O.V. Analysis and Modeling of the Transition Processes in Economy *// Problems of Information and Control* (Kyiv), No.5, 1998, pp.138-146.
22. Bidyuk P.I., Pavlenko A.R. Protection of Computer Users Against Harmful Influence of Torsion Field *// Electronics and Communications* (Kyiv, Ukraine), No.4, 1998, pp.362-366.
23. Bidyuk P.I., Polovtsev O.V. Modeling of Privatization Process During Transition *// Proc. Intern. Conference on The Problems of Transition to The Market Economy: Informational and Financial Support for Business Structures*. - Sevastopol, May 6-8, 1998, pp. 37-42.
24. Bidyuk P, Zgurovsky M. An Approach to Adaptive Control of large Space Structures // *Problems of Information and Control* (Kyiv), No.6, 1996, pp.44-54.
25. Korbicz J., Bidyuk P.I., Podladchikov V.N. Integrating Multisensor Measurements Using Modified Extended Kalman Filter // *Int. J. Applied Math. and Computer Science*, v.4, No.1, 1994, pp.39-51.
26. Bidyuk P. The Newly Independent States' Economies in Transition and Opportunities for U.S. Business // *Ukrainian Engineering News* (New York), N.1/3, 1994, pp. 21-30.
27. Bidyuk P., Podladchikov V.N., Peshkov S.S. Analytical Study of Filtering Errors in a Case of Correlated Measurement Noise // *Ukrainian Engineering News* (New York), No.4, 1993, pp. 29-33.
28. Bidyuk P.I., Podladchikov V.N., Podladchikova I.Y. Analytical Study of the Kalman Filter for Stationary Dynamic Systems // Int. J. Applied Math. and Computer Science (Poland), vol.3, No.2, 1993, pp.313-328.
29. Korbicz J., Bidyuk P.I., Podladchikov V.N. Suboptimal Control Algorithm for Discrete Time Systems // *Problems of Control and Information Theory* (Kyiv), 1991, v.20, No.4, pp. 281-290.
30. Bidyuk P., Zholnarsky A. An Approach to Large Space Structures Identification // *Adaptive Control Systems*, v.19, Kyiv, 1991.
31. Korbicz J., Bidyuk P.I., Podladchikov V.N. An Asymptotic Analysis of the Optimal Discrete Time Controller // *Int. Journal of System Science*, 1990, v.16, No.1, pp.77-88.
32. Bidyuk P.I. *The Methods for Large Space Structures Identification (review).* Ukrainian Eng. Soc. Paper No.635, Uk-90, 1990, 65 p.
33. Bidyuk P. Adaptive Control System for a Class of Distributed Mechanical Structures / In *Proc. of the 4th Intern. Conf. on the Problems of Automation*, Kyiv, October, 1990, pp.32-36.
34. Bidyuk P., Harrington T. Operator Feedback from Displays With Embedded Histories / In *Proc. of the 4th Intern. Conf. on the Problems of Automation*, Kiev, October, 1990, pp.136-140.
35. Zgurovsky M., Bidyuk P. An Algorithm for Large Mechanical Structure Control Subjected to Stochastic Disturbances // *Adaptive Control Systems*, v.18, Kyiv, 1990, pp.18-27.
36. Bidyuk P., Litvinov E., Zholnarsky A. Adaptation of Industrial Robot to Unknown Load *// Adaptive Control Systems*, v.18, Kyiv, 1990, pp.98-103.
37. Bidyuk P., Romanenko V.D. Self-Tuning Controller for Non-Minimum Phase Systems *// Technical Cybernetics*, v.14, Kyiv, Vyscha Shkola, 1990, pp.7-13.
38. Bidyuk P., Zholnarsky A. Fast Algorithm for Suboptimal Control of MIMO Systems // Technical Cybernetics, v.13, Kyiv, Vyscha Shkola, 1990, pp.18-26.
39. Bidyuk P., Podladchikov V.N. An Asymptotic Analysis of a Class of Discrete Linear Controllers // Adaptive Control Systems, v.17, Kyiv, 1989, pp.58-63.

40. Bidyuk P., Kvasko M., Bulgakov A. Optimal Microcomputer Control System for the Process of Evaporation // Chemical Engineering, Kyiv, 1989, pp.93-96.
41. Bidyuk P. ARMA Model Reduction Algorithm // Adaptive Control Systems, Kyiv, 1988, pp.29-38.
42. Korbicz J., Bidyuk P.I., Podladchikov V.N. A Stability Analysis of the Discrete Kalman Filter Using its Transition Matrix (in Polish) // *Archiwum Awtomatiky i Telemechaniky*, 1988, v.33, No.3, pp.433-445.
43. Bidyuk P. Estimation of the Kalman Filter Gain in Steady State // Technical Cybernetics, v.12, Kyiv, 1988, pp.34-39.
44. Romanenko V., Bidyuk P., Morgun V. Microcomputer Based Control System for Time Delay Processes // Technical Cybernetics, v.12, Kyiv, 1988, pp.40-47.
45. Bidyuk P.I. Estimation of Transfer Function Parameters Using the Kalman Filter // Radio and Electronics, Kyiv, 1987, 7p.
46. Azhogin V., Bidyuk P., Demchenko A. Improving Direct Numerical Control Quality by Making Use of the Kalman Filter // Chemical Engineering, v.43, Kyiv, 1986.
47. Demchenko A., Bidyuk P. Improving Control of Chemical Processes Using Linguistic Variables // Chemical Engineering, v.43, Kyiv, 1986.
48. Bidyuk P., Yatsenko I. CAD The System for Microprocessor Software Development for the Thyristor Transformers Design // Radio and Electronics, v.22, Kyiv, 1985.
49. Artyukhov V., Bidyuk P., Makeyenok A. Cross-Assembler for the Signal Processor RENATA // CAD Systems in Electronics, v.32, Kyiv, 1985.
50. Zgurovsky M., Fomin M., Bidyuk P. Mathematical Model for Distributed Dynamic Processes in Heterogeneous Medium // Adaptive Control Systems, v.13, Kyiv, 1985.
51. Bidyuk P.I. Self-tuning Controllers - Basic Concepts of Design and Realization // Ukrainian Eng. Soc. Paper N.1819, 1984, 53 p.
52. Bidyuk P.I. Divergence Analysis in the Stochastic Filtering Problems // Radio and Electronics, Kyiv, 1985, 5p.
53. Azhogin V., Bidyuk P., Demchenko A. Time Delay Estimation for Chemical Processes // Chemical Technology, N.3, 1984.
54. Azhogin V., Bidyuk P., Podladchikov V. An Asymptotic Analysis in the Problem of Optimal Linear Filtering // Chemical Technology, N.2, 1984.
55. Demchenko A., Bidyuk P. Control System for Paraffin Production Based Upon Fuzzy Set Theory // Chemical Technology, N.6, 1983.
56. Azhogin V., Zgurovsky M., Bidyuk P. Analytical Approach to Determining the Direct Numerical Controller Errors // Chemical Engineering, v.38, 1983.
57. Bidyuk P., Podladchikov V. The Estimation of Unknown Signal Amplitude By The Use of Kalman Filer // Radio and Electronics, v.21, Kyiv, 1983.
58. Bidyuk P., Zaichenko L. Software Utilities for Microcomputer System // CAD Systems in Electronics, v.26, 1983.
59. Bidyuk P.I. Software and Hardware Means for Establishing Connect Between Minicomputers and Microcomputers // CAD Systems in Electronics, Kyiv, 1982, 7p.
60. Artyukhov V., Bidyuk P., Popich V. Design and Implementation of Digital Filters on Mini-Computer (practical results) // CAD Systems in Electronics, v.23, Kyiv, 1981.
61. Sadovsky V., Golubovich V., Bidyuk P. Utilization of The Re-writable Control Memory in Data Processing Systems // Communication Engineering, v.5, Moscow, 1980, 7 p.
62. Korchemny M., Mashevsky V., Bidyuk P. The Reliability Problem Study of Electric Motor Drives Working in Natural Environment Conditions // *Automation in Agriculture*, v.35, 1976.

SCIENTIFIC MEETINGS AND CONFERENCES

135 papers delivered at scientific meetings and conferences in xUSSR and Ukraine related to digital signal processing, the design of computer-based control systems, optimal estimation and identification (with applications to industrial control systems design, and economic problems).
Took part in Seminars on Dynamic System Identification and Control in the U.S.A. (April, 1991, 1994, 1996), and in Poland (1988, 1989, 1991, 1992, 1994, 1996, 1997-2000, 2015).

BOOKS

1. Bidyuk P.I., Harrington T., Tkach B.P. *Mathematical Statistics*. – Kyiv: MAUP University Press, 2016. – 400 p.
2. Zgurovsky M.Z., Bidyuk P.I., Terentyev O.M., Prosyankina-Zharova T.I. *Bayesian Networks for Decision Support Systems*. – Kyiv: Edelweiss, 2015. – 300 p. (in Ukrainian)
3. Bidyuk P.I., Gozhyj O.P. *Forecasting Based on Statistical and Probabilistic Techniques*. – Mykolaiv: The Black Sea State University named after Petro Mogyla, 2015. – 320 p.
4. Dovgy C.V., Bidyuk P.I., Trofymchuk O.M. *Decision Support Systems on the Basis of Statistical and Probabilistic Techniques*. – Kyiv: Logos, 2014. – 419 c.
5. Bidyuk P.I., Terentyev O.M., Prosyankina-Zharova T.I. *Applied Statistics*. – Vinnytsya: Edelweiss, 2013. – 288 p. (in Ukrainian)
6. Bidyuk P.I., Romanenko V.D., Timoshchuk O.L. *Time Series Analysis*. – Kyiv: NTUU "KPI", 2013. – 600 p. (in Ukrainian)
7. Bidyuk P.I., Gozhyj O.P., Korshevnyuk L.O. *Computer-based Decision Support Systems*. – Mykolaiv: The Black Sea State University named after Petro Mogyla, 2012. – 380 p.
8. Polovtsev O.V., Bidyuk P.I., Korshevnyuk L.O., Semenchev I.I. *Systemic Approach to Modeling, Forecasting and Control of Financial and Economic Processes*. – Donetsk: Shidnyj Vydavnychyj Dim, 2009. – 286 p.
9. Bidyuk P.I., Savenkov A.I., Baklan I.V. *Time Series: Modeling and Forecasting*. – Kyiv: NTU "KPI", 2004. – 144 p. (in Ukrainian)
10. Dovgy C.V., Savenkov A.I., Bidyuk P.I. *Modeling and Forecasting of Privatization and Investment Processes*. – Kyiv: Ukrtelecom, 2001. – 235 p. (in Russian)
11. Kovalenko I.I., Bidyuk P.I., Baklan I.V. *System Analysis and Information Technologies in Project Management*. – Kyiv: "Ekonomika i Pravo", 2001. – 268 p. (in Ukrainian)
12. Gamache J., Bidyuk P.I. *Human Factors and Ergonomics* (theory and models). – Kyiv: NTUU "KPI", 2001. – 280 p. (in Ukrainian)
13. Pidmogylny M.V., Bidyuk P.I., Kovalenko I.I., Slobodenyuk A.V. (2000) *Information Technology for Modeling Economy in Transition*. – Kyiv: Taki Spravy Publishers. – 232 pp. (in Russian).
    The problems of modeling, prognosis, and control of economy in transition are considered. The basics of cointegration theory are presented, and cointegration model for investment process in Ukraine is constructed. The algorithms for prognosis of macroeconomic variables in conditions of uncertainty are constructed on the basis of neural nets with examples of models. Then the principles of collecting and accumulating of economic data are considered in the frames of databases. Also the main principles of decision support systems design are provided with applications to economic area.
14. Bidyuk P.I., Polovtsev O.V. (1999) *Analysis and Mathematical Modeling of Economy in Transition*. – Kyiv: National Technical University (KPI) Press. – 210 p. (in Ukrainian).
    A systematic analysis of transition economy in Ukraine is given from the point of view of model building, prognosis, and control. Various types of disturbances are described that influence the transition process. The models of transition from the command-and-administrative system to market economy are considered, property transformation process, and for some other relevant processes. Differential and difference equations are used as a basis for description of the processes.
15. Zgurovsky M.Z., Bidyuk P.I. (1997) *Analysis and Control of Large Space Structures*. - Kyiv: Naukova Dumka Publishers, 1997. – 450 p. (in Russian).
    A comprehensive analysis of large space structures (LSS) dynamics is given that provides a basis for further modeling and control. Existing models are classified, as well as approaches to structural and parametric identification, and control. Theoretical ground and algorithms are developed for identification, state estimation, optimal and adaptive control. An analytical convergence analysis is provided for the parametric identification schemes, and computer simulation results for all types of algorithms are presented. The methodology for practical design of control system for LSS is developed.

16. Korbicz J., Bidyuk P.I. (1993) *State and Parameter Estimation*. – Zielona Gora: Technical University Press, 1993. – 303 p. (in English).
    Digital and optimal filtering techniques are considered with engineering and industrial applications. A special attention is given to Kalman filtering techniques with applications to linear and nonlinear plants. Analytic procedures are presented for analysis of filtering errors in continuous and discrete time. Model parameter estimation algorithms are considered that are based on nonlinear filters.

PATENTED INVENTIONS (12, X-USSR; 5, UKRAINE)

1. Terentyev O.M., Bidyuk P.I., Kyrychenko V.E., Svyazinska N.O. *Ukrainian Patent: Computer Program IMLBayes.net*, No. 64562, 17.12.2015.
2. Menyaylenko O.S., Bidyuk P.I., Zakhozhay O.I. *The Method for Image Recognition*, Ukrainian Patent № 100283, 27.07.2015.
3. Menyaylenko O.S., Bidyuk P.I., Zakhozhay O.I. *The Method for Image Recognition*, Ukrainian Patent № 100078, 10.07.2014.
4. Ryfa V.M., Dolgov D.S., Bidyuk P.I. *The Method of User Identification, Ukrainian Patent* № 4246, 10.07.2009.
5. Bidyuk P.I., Terentyev O.M., Korshevnyuk L.O. Bayesian Network for Data Analysis, Ukrainian Patent № 28751, 25.12.2007.
6. Azhogin V.V., Romanenko V., Bidyuk P.I. *The Vacuum Filter Control System*, USSR, 1107887, Bull. No.30, 1984.
7. Azhogin V.V., Zgurovsky M., Bidyuk P.I., *Control System for the Regenerative Crystallizers in Paraffin Production*, USSR, 1189474, Bull. No.41, 1985.
8. Azhogin V., Demchenko A., Bidyuk P. *Control System for The Thermal Mode of Operation for the Regenerative Crystallizers in Paraffin Production Plant,* USSR, 181675, Bull. No.36, 1985.
9. Azhogin V.V., Zgurovsky M., Bidyuk P.I. *Digital Control System for the Plants with Time Delay*, USSR, 1297009, Bull. N0.10, 1987
10. Azhogin V., Demchenko A., Bidyuk P., e.a. *Automatic Control System for the Extraction Process*, USSR, 1338871, Bull. N0.35, 1987
11. Romanenko V., Zgurovsky M., Bidyuk P. *Self-Tuning Digital Control System for the Distillation Plant*, USSR, 1316689, Bull. No.22, 1987.
12. Bidyuk P.I., Nikiforova E.N., Demchenko A. *Control System for Crystallizers in the Paraffin Production Plants*, USSR, 1346179, Bull. No.39, 1987.
13. Rudenko S.S., Bidyuk P.I., Romanenko V., Zgurovsky M. *Control System for a Gasoline Production Plant*, USSR, 1357423, Bull. No.45, 1987
14. Nikiforova E., Bidyuk P., Gusakova L. *Control System for the Complex Oil Processing Plant*, USSR, 1392544, Bull. No.16, 1988.
15. *Zgurovsky* M., Bidyuk P., Yakimchuk N., Korbich J. *Control System for Oil Processing Plant, USSR*, 1473795, Bull. No.15, 1989.
16. Rudenko S., Bidyuk P., Romanenko V. *Control System for the Catalytic Reforming Process*, USSR, 1447839, Bull. No.48, 1988.
17. Bidyuk P., Zholnarsky A., Zgurovska L. *Automatic Control System for the Silicon Oxidation Plant*, USSR, 1602859, Bull. No.40, 1990.

LANGUAGE PROFICIENCIES

Ukrainian, English and Russian – reading, writing, and speaking fluently.
German – with dictionary.

ACADEMIC SUPERVISION

1997 – 1999 **Polovcev Oleg**. – Thesis title (PhD): Analysis, Econometric Modeling and Optimal Decision Making in Conditions of Uncertainty.

1999 – 2001	**Pidmogylnyj Mykola**. – Thesis title (PhD): Control Optimization of Production Systems at Regional Level.
2001 – 2003	**Kordzadze Tea**. – Thesis title (PhD): Modeling and Optimization of Investment Processes in Conditions of Nonstationarity and Uncertainty.
2001 – 2003	**Gogoladze Nino**. – Thesis title: Modeling and Optimal Control of the Property Transformation and Inflation Processes.
2001 – 2003	**Demkivsky Olexander**. – Thesis title (PhD): Decision Support System for Modeling and Forecasting of Financial and Economic Processes.
2005 – 2007	**Pomazan Lyudmyla**. – Thesis title (PhD): Models and Methods for Structural Identification of Mobile Systems.
2005 – 2007	**Demkivsky Eugene**. – Thesis title (PhD): Information Technologies for Analysis and Forecasting of Nonstationary Processes.
2005 – 2007	**Korshevnyuk Lev**. – Thesis title (PhD): Systemic Methodology for Distributing Resources on the Basis of Fuzzy Logic.
2006 – 2008	**Mytnyk Oleg**. – Thesis title (PhD): Information Technologies for Synthesis of Robust Neuro-fuzzy Models of Stochastic Processes.
2006 – 2008	**Fefelov Andriy**. – Thesis title (PhD): Models and Methods for Solving Diagnostic Problems Using Artificial Immune Systems and Bayesian Networks.
2007 – 2009	**Terentyev Alexander**. – Thesis title (PhD): Models and Methods for Constructing and Analysis of Bayesian Networks for Intellectual Data Analysis.
2008 – 2010	**Lytynska Anna**. – Thesis title (PhD): Information Technology for Optimization of Hedge-fund Portfolio with Arbitrary Distribution of Risk Factors.
2008 – 2010	**Kroptya Arseniy**. – Thesis title (PhD): Models of Multidimensional Risks in Corporate Decision Support Systems.
2009 – 2011	**Baklan Yaroslav**. – Thesis title (PhD): Computer Net User Authentification Using Bayesian Networks.
2009 – 2011	**Kuznietsova Natalia**. – Thesis title (PhD): Information Technology for Analyzing Financial Risks Using Bayesian Networks.
2007 – 2012	**Ryfa Vasyl**. – Thesis title (PhD): Information Technology for Identification of Computer Net User when Controlling Dynamic System.
2011 – 2013	**Konovalyuk Maxym**. – Thesis title (PhD): Information Technology for Estimation and Forecasting Nonlinear Nonstationary Financial Processes.
2011 – 2013	**Fedorov Andriy**. – Thesis title (PhD): Information Technology for Performing Stock Operations Using Trading Robots.
2012 – 2015	**Zahirska Iryna**. – Thesis title (PhD): Modeling and Forecasting of Radionuclide Transfer from Soil to Vegetation Using Dynamic Bayesian Networks.
2013 – 2016	**Bondarenko Valeria**. – Thesis title (PhD): Modeling Time Series Using Fractal Brownian Motion.
2010 – 2016	**Gozhyj Alexander**. – Thesis title (Dr. of Sci.): Information Technologies for Dynamic Planning and Decision Making Based on Probabilistic and Statistical Methodologies.