



PAVLO KASYANOV

DIRECTOR

Educational and Scientific Complex "Institute for Applied System Analysis" at the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" of the Ministry of Education and Sciences of Ukraine and the National Academy of Sciences of Ukraine (IASA)

**CORRESPONDING MEMBER OF THE NATIONAL
ACADEMY OF SCIENCES OF UKRAINE
DR. HAB. , PROFESSOR**

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Prosp., Kyiv, Ukraine, 03056**

AREAS OF EXPERTISE

- System Analysis
- PDEs
- AI, DL, RL
- MDPs, POMDPs
- Stochastic Models of Operations Research
- Data Sciences
- Statistics

PROFILES

- [Scopus](#)
- [Web of Science](#)
- [ORCID](#)
- [Google Scholar](#)
- [YouTube](#)

APPOINTMENTS

IASA

Director

2015 - present

Head of the Research Department

2010-2015

Doctoral Student

2008-2010

Professor

2010 - present (part time)

Associated Professor

2008-2010 (part time)

Assistant Professor

2007-2008 (part time)

Senior Researcher

2007-2008 (part time)

Department of Applied Mathematics & Statistics, Stony Brook University

Visiting Scholar

2012, 2013, 2014, 2015, 2016, 2018 (leaves from IASA)

Volunteer and Adjunct Professor

2012 - present

National Taras Shevchenko University of Kyiv, Kyiv, Ukraine

Assistant Professor

2006-2008

Associated Professor

2008-2010 (part time)

Geo Management and Logistics Inc., NY, USA

Senior Data Scientist

2020 - present (contractor)

PROFESSIONAL PREPARATION

National Taras Shevchenko University of Kyiv, Ukraine

BS in Mathematics

2003

MS in Statistics

2005

Ph.D. in Differential Equations

2007

V.M. Glushkov Institute of Cybernetics of the National Academy of Sciences of Ukraine

Dr. Hab. in Theoretical Bases of Computer Sciences and Cybernetics

2010

SYNERGISTIC ACTIVITIES

Presidium of the National Academy of Sciences of Ukraine, Commission for Work with Scientific Youth of the National Academy of Sciences of Ukraine

Member
since 2020

International Community for CODATA, ICSU

Fellow
since 2011

INFORMS

Fellow
since 2022

60th IEEE Conference on Decision and Control (CDC)

co-chair of the session "Advances in Stochastic Control with Partial Information II"
2021

Journal of Applied Mathematics and Computing

Associate Editor
2013-2022

COLLABORATORS AND OTHER AFFILIATIONS

Eugene A. Feinberg, Distinguished Professor, Department of Applied Mathematics and Statistics, Stony Brook University

David Kraemer, PhD student, Department of Applied Mathematics and Statistics, Stony Brook University

Johannes O. Royset, Professor of Operations Research at the Naval Postgraduate School

Ilya A. Vakser, Professor and Director, University of Kansas Center for Computational Biology

Michael Zgurovsky, Principal Research Scientist, Research Adviser, IASA

SELECTED PUBLICATIONS

Monographs

- M.Z. Zgurovsky and P.O. Kasyanov, Qualitative and Quantitative Analysis of Nonlinear Systems. Theory and Applications, Springer Series: Studies in Systems, Decision and Control, Springer, Berlin, Cham, 2018, XXXIII, 240 p., ISBN 978-3-319-59839-0. DOI: <https://doi.org/10.1007/978-3-319-59840-6>
- M.Z. Zgurovsky, P.O. Kasyanov, O.V. Kapustyan, J. Valero, and N.V. Zadoianchuk, Evolution Inclusions and Variational Inequalities for Earth Data Processing III. Long-Time Behavior of Evolution Inclusions Solutions in Earth Data Analysis, Advances in Mechanics and Mathematics, vol. 27, Springer, Berlin, 2012, XLI, 330 p., ISBN 978-3-642-28511-0. DOI: <https://doi.org/10.1007/978-3-642-28512-7>
- M.Z. Zgurovsky, V.S. Mel'nik, and P.O. Kasyanov, Evolution Inclusions and Variational Inequalities for Earth Data Processing. II. Differential-Operator Inclusions and Evolution Variational Inequalities for Earth Data Processing, Advances in Mechanics and Mathematics, vol. 25, Springer, Berlin, 2011, XXV, 274 p., ISBN 978-3-642-13877-5. DOI: <https://doi.org/10.1007/978-3-642-13878-2>
- M.Z. Zgurovsky, V.S. Mel'nik, and P.O. Kasyanov, Evolution Inclusions and Variational Inequalities for Earth Data Processing. I. Operator Inclusions and Variational Inequalities for Earth Data Processing, Advances in Mechanics and Mathematics, vol. 24, Springer, Berlin, 2011, XXX, 247 p., ISBN 978-3-642-13836-2. DOI: <https://doi.org/10.1007/978-3-642-13837-9>

Other publications

- A. Singh, A.M. Tytarenko, V.K. Ambati, M.M. Copeland, P.J. Kundrotas, P.O. Kasyanov, E.A. Feinberg, and I.A. Vakser, GRAMMCell: Docking-based Cell Modeling Resource, J. Mol. Biol., (2025), 169085. DOI: <https://doi.org/10.1016/j.jmb.2025.169085>
- A.M. Tytarenko, A. Singh, V.K. Ambati, M.M. Copeland, P.J. Kundrotas, R. Halfmann, P.O. Kasyanov, E.A. Feinberg, and I.A. Vakser, Highly Optimized Simulation of Atomic Resolution Cell-Like Protein Environment, J. Phys. Chem. B 129 (2025), no. 12, 3183–3190. DOI: <https://doi.org/10.1021/acs.jpcc.4c07769>
- M.Z. Zgurovsky, P.O. Kasyanov, and L.B. Levenchuk, Formalization of methods for the development of autonomous artificial intelligence systems, Cybernet. Syst. Anal. 59 (2023), 763–771. DOI: <https://doi.org/10.1007/s10559-023-00612-z>
- E.A. Feinberg, P.O. Kasyanov, and J.O. Royset, Epi-convergence of expectation functions under varying measures and integrands, J. Convex Anal. 30 (2023), no. 3, 917–936. <https://www.heldermann.de/JCA/JCA30/JCA303/jca30043.htm>
- E. Feinberg, P. Kasyanov, and M. Zgurovsky, Semi-uniform Feller stochastic kernels, J. Theoret. Probab. 36 (2023), 2262–2283. DOI: <https://doi.org/10.1007/s10959-022-01230-9>
- E. Feinberg, P. Kasyanov, and M. Zgurovsky, Solutions for zero-sum two-player games with noncompact decision sets, Naval Res. Logist. 70 (2023), no. 5, 493–506. DOI: <https://doi.org/10.1002/nav.22111>
- E. Feinberg and P. Kasyanov, Equivalent conditions for weak continuity of nonlinear filters, Systems Control Lett. 173 (2023), 105458. DOI: <https://doi.org/10.1016/j.sysconle.2023.105458>
- E. Feinberg, P. Kasyanov, and M. Zgurovsky, Markov decision processes with incomplete information and semi-uniform transition probabilities, SIAM J. Control Optim. 60 (2022), no. 4. <https://doi.org/10.1137/21M1442152>
- O.V. Kapustyan, P.O. Kasyanov, and R.M. Taranets, Strong solutions and trajectory attractors to the thin-film equation with absorption, J. Math. Anal. Appl. 493 (2021), no. 2, 124562. DOI: <https://doi.org/10.1016/j.jmaa.2020.124562>
- E. Feinberg and P. Kasyanov, MDPs with setwise continuous transition probabilities, Oper. Res. Lett. 49 (2021), no. 5. DOI: <https://doi.org/10.1016/j.orl.2021.07.011>

PH. D. AND DR. HAB. THESES DIRECTED

Olha Kupenko (Kogut)

dr. hab

2010-2017

Current position: National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv/Ukraine, Scholarship of the Verhovna Rada of Ukraine (2019)

Liliia Paliichuk

PhD

2011-2018

Current position: Researcher, Educational and Scientific Complex "Institute for Applied System Analysis", National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv/Ukraine, Scholarship of the Cabinet of Ministers of Ukraine (2018-2020)

Olha Khomenko

PhD

2012-2018

Current position: Professor, Educational and Scientific Complex "Institute for Applied System Analysis", National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv/Ukraine

PH. D. STUDENTS

Nina Zadoianchuk

2006-2009

National Taras Shevchenko University of Kyiv

Andriy Titarenko,

Anton Bazdyrev,

Vlad Novykov

present

National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv/Ukraine

SERVICES

GRAMMCell Web Server (ku.edu)

GRAMMCell resource is being developed in collaboration with Eugene Feinberg, Stony Brook University & Andrii Tytarenko, Institute for Applied System Analysis at the Igor Sikorsky Kyiv Polytechnic Institute & Ilya Vakser, Vakser Lab, Kansas University

INTERNATIONAL PROJECTS

BSA24078 «Development of an integrated approach to high-throughput modeling of protein complexes, protein structure-function relationships, and prediction of the phenotypic effects of single amino acid variation based on the kinetic aspects of protein association in cellular environment»

2023-2024

Sponsoring Entity: University of Kansas Center for Research, Inc. ("KUCR"), USA

N000142412646 «New Foundations and Algorithms for Risk-Aware Sequential Decision Processes with Defense Applications»

2024-2027

Sponsoring Entity: Office of Naval Research, USA

7131 «Modeling of protein interactions to predict phenotypic effects of genetic mutations»

2025-2027

Sponsoring Entity: Science & Technology Center in Ukraine (IMPRESS-U)

«EuroSpaceHub —increasing the transfer of space innovations and technologies by bringing together the scientific community, industry and startups in the space industry»

2022-2024

Sponsoring Entity: Europe Commission HEI initiative, EuroSpaceHub

HONORS AND AWARDS

Corresponding Member of the National Academy of Sciences of Ukraine

April 26, 2024

Awarding Org.: National Academy of Sciences of Ukraine

Non-Residential Fellowship Program "Universities for Ukraine (U4U)"

November 17, 2022

Awarding Org.: University of California, Berkeley, USA

Second prize, International Mathematical Competition, IMC 2003

2003

Awarding Org.: University College London

Named Scholarships of the Verkhovna Rada of Ukraine for Young Scientists/Doctor of Sciences

2020, 2017, 2014, 2013, 2012

Awarding Org.: Verkhovna Rada of Ukraine

State Prize of Ukraine in Science and Technology

2017

Awarding Org.: Committee for the National Prize of Ukraine named after Borys Paton under the President of Ukraine

Grant of the National Academy of Sciences of Ukraine for young scientists

2019, 2017, 2015, 2013, 2012

Awarding Org.: Verkhovna Rada of Ukraine

Grant of the President of Ukraine for young scientists

2018, 2017, 2015, 2013, 2012

Awarding Org.: President of Ukraine

Grant of the President of Ukraine for Doctors of Sciences for Scientific Research

2016, 2014

Awarding Org.: President of Ukraine

National Academy of Sciences of Ukraine Award for Young Scientists and Students of Higher Educational Institutions for Best Scientific Works

2008, 2005

Awarding Org.: National Academy of Sciences of Ukraine