Scientific Recognition: Advanced Systems Analysis

Invited lectures and presentations

- S. Aseev, V. Veliov. Pontryagin maximum principle under relaxed assumptions on the convergence of the integral utility functional. International Conference "Mathematical Control Theory and Mechanics", Suzdal, Russia, 5 – 9 July 2013.
- S. Aseev, K. Besov, S. Ollus, T. Palokangas. Two-sector model of optimal economic growth with random jump in prices. Memorial Conference "Optimal Control and Applications" dedicated to 105th anniversary of L.S. Pontryagin, Steklov Mathematical Institute, Moscow, Russia, 24—25 September 2013 [In Russian].
- S. Aseev. On some properties of adjoint variable in relations of the maximum principle for optimal economic growth problems. Workshop "Renewable Resources, Sustainability, and Search", Heidelberg, Germany, 12—14 December 2013.
- B.D. Fath. Conceptual models of ecological dynamics: Indicators of regime change. International Society for Ecological Modelling, Toulouse, France, 28 – 31 October 2013 (Invited Keynote Speaker).
- B.D. Fath. Quantifying Economic and Ecological Sustainability. ECSA 53: Estuaries and coastal areas in times of intense change, Shanghai, China, 13–17 October 2013 (Invited Keynote Speaker).
- B.D. Fath. Cohesively Clinging to the Complex Systems Cycle: Ecosystem Growth Development, and Collapse. 3rd Viennese Talks on Resilience Research & Networks, Vienna, Austria, 21 June 2013.
- B.D. Fath. Systems Perspective in Ecosystem and Environmental Management.Department of Ecological Sciences, Tsinghua University, Beijing, China, 29 May 2013 (Invited Presentation).
- B.D. Fath. City as a system: energetic and organizational design principles to measure and cope with rapid urbanization, International Workshop "Ecological Integration to Meet the Challenge of Fast Urbanization", State Key Laboratory of Urban and Regional Ecology, Chinese Academy of Sciences, Beijing, China, 26 – 27 May 2013 (Keynote Presentation)
- B.D. Fath. Ecosystem service valuation of land use change in Baltimore County: Change along the complex systems cycle. Ecosystem Services Partnership Workshop, Kiel, Germany. 6–8 May 2013.
- B.D. Fath. Sustainable systems have interlocking enviro-types: The contributions of systems thinking. Systems Ecology: A Network Perspective and Retrospective, Odum School of Ecology, University of Georgia, Athens, Georgia. 12 – 14 April 2013.
- B.D. Fath. The Science of sustainability from the perspective of ecological system dynamics. SA-YSSP, University of Free State, Bloemfontein, South Africa, 23 January 2013.
- B.D. Fath, R. Levien. The Craft of Systems Analysis. SA-YSSP, University of Free State, Bloemfontein, South Africa, 16 January 2013.
- A. Davydov. Optimization of stationary exploitation of two size-structured populations in the presence of competition. International Workshop "Heterogeneous Dynamic Models of Economic and Population Systems", Technical University of Vienna, Vienna, Austria, 25—26 November 2013.
- A. Davydov, A.Platov. Optimal stationary exploitation of two size-structured competing populations.Workshop "Renewable resources, Sustainability, and Search", Heidelberg, Germany, 12—14 December 2013.
- A. Davydov. Optimal stationary cyclic exploitation of renewable resources.International Conference "Dynamics, Bifurcations and Strange Attractors",Nizhny Novgorod State University, Nizhny Novgorod, Russia, 1—5 July 2013.
- A.Davydov. Structural stability of control systems.Conference «Optimal control and Applications" devoted to 105thanniversary of L.S.Pontryagin, Steklov Mathematical Institute, Moscow, Russia, 24—25 September 2013.
- A.Davydov. Implicit differential equation. Novosibirsk State University, Novosibirsk, Russia (Mini-course).
- Y.Ermoliev. Systemic risks and robust food, water, energy security management.XXII International Conference "Problems of Decision-making under Uncertainties",23—27 September 2013, Foros, Ukraine (Plenary Talk).
- Y. Ermoliev, T. Ermolieva, L .Sun, G-Y. Cao, W. Xie, Z. Ying. Household Decision under Systemic Risks on Land Abandonment, Migration, and Off-farming Activities.Workshop in the framework of theproject "Efficiency and security of land resource management under rapid agricultural land use transformation and increasing interactions between urban-rural processes sloping areas in China: Case studies in Chongqing", Chongqing, 22—23 December 2013.
- Y.Ermoliev, P.Kabat. IIASA and Systems Analysis: history and new challenges of global change processes, International School for young scientists "Problems of Decision Making under Uncertainties", 16—22 September 2013, Jalta, Ukraine (Invited Lecture).
- Y. Ermoliev, A. Zagorodnij, V. Bogdanov. Methodological problems of integrated food, energy, water security management. Workshop in the framework of the project "On Integrated Management of food, energy, and water security for sustainable social, economic and environmental developments", 25—29 April 2013, Kiev, Ukraine.
- Y. Ermoliev, T. Ermolieva, P. Havlik, A. Mosnier, M. Obersteiner.Robust rescaling methods for integrated water, food, energy security management under uncertainty, XIII International Conference "Stochastic Programming" (ICSP2013), 8—12 July, 2013, Bergamo, Italy.
- Y. Ermoliev, T. Ermolieva, P. Havlik, A. Mosnier, M. Obersteiner. Dynamic recursive procedure for downscaling SSP-based land cover changes from GLOBIOM model, IIASA, Laxenburg, Austria 14 August 2013 (Institute Lecture).

- P. Havlik. Problems of Eurasian Economic Integration. Austrian Chamber of Commerce (WKÖ), Vienna, Austria, 17 June 2013 (Invited Lecture).
- P. Havlik. Eurasian Economic Integration: Problem Overview. IIASA kick-off workshop on Eurasian economic integration project, IIASA, Laxenburg, Austria, 27-29 June 2013.
- P. Havlik. Challenges of Eurasian economic integration. Ambassadors' conference, Austrian Ministry of Foreign Affairs, Vienna, Austria, 30 August 2013.
- P. Havlik. Challenges of Eurasian Economic Integration.Joint Vienna Institute, FDI course, Vienna, Austria, 25 September 2013 (Lecture).
- P. Havlik. Challenges and opportunities of Eurasian economic integration.Partnership Conference "Geophysical Observatories, Multifunctional GIS and Data Mining", Kaluga, Russia, 30 September – 2 October, 2013.
- P. Havlik. Challenges and opportunities of Eurasian economic integration. Conference "Deepening and enhancing of Eurasian integration", Eurasian Development Bank, Moscow, Russia, 12—14 November 2013.
- P. Havlik. Challenges of Eurasian Economic Integration.Joint Vienna Institute Course on institutional developments, Vienna, Austria, 28 November 2013 (Lecture).
- P. Havlik. Challenges of Eurasian Economic Integration.International Management Conference, Pan-European University, Bratislava, Slovakia, 5 December 2013.
- L. Ilmola-Sheppard. Resilience as a National Competitive Advantage.Finnish Innovation and Technology Fund, Helsinki, Finland, 22 February 2013 (Invited Lecture).
- L. Ilmola-Sheppard, Y. Yamagata. Resilience as a part of the Smart City concept.Finnish Innovation and Technology Fund, Helsinki, Finland, 14 March 2013 (Invited Lecture).
- L. Ilmola-Sheppard. Resilience as a competitive advantage for an open economy. Course for Decision-makers "Emerging Risks", Finnish Innovation Fund Sitra, Helsinki, Finland, 14 June 2013.
- L. Ilmola-Sheppard. Resilience building instead of risk management.Course for Decision-makers "Emerging Risks", Finnish Innovation Fund Sitra, Helsinki, Finland, 15 October 2013.
- L. Ilmola-Sheppard. Regional economy and shocks.Kick-off Meeting of the Project "Structural change of the Finnish Economy – a Systems Approach", IIASA 12—13 March 2013.
- L. Ilmola-Sheppard. Regional economy and resilience.Reporting Session on the Project "Structural change of the Finnish Economy – a Systems Approach", Ministry of Economy and Employment, Helsinki, Finland, 16 December 2013.
- L. Ilmola-Sheppard. Seven shocks and Korea. Government Expert Seminar, Science and Technology Policy Institute (STEPI), Seoul, Korea, 20 February 2013
- L. Ilmola-Sheppard. Shock resilience in Finland, Korea and Austria. International Seminar on Strategic Foresight, Science and Technology Policy Institute (STEPI), Seoul, Korea, 10 December 2013.
- L. Ilmola-Sheppard. Resilience as a strategy for coping with uncertainty. Tokyo Institute of Technology, Tokyo, Japan, 25 February 2013 (Invited Lecture).
- L. Ilmola-Sheppard. What do we know and do not know about uncertainty management. Keio University, Tokyo, Japan, 26 February 2013 (Invited Lecture).
- L. Ilmola-Sheppard. Three layers of resilience: national, regional and organizational. Results of recent studies.Tokyo Institute of Technology, Tokyo, Japan, 27 February 2013(Invited Lecture).
- L. Ilmola-Sheppard. IIASA and new research initiatives. NMO meeting, Academy of Finland, Helsinki, Finland, 9 March 2013.
- L. Ilmola-Sheppard. Three experiments: How to combine network theory and systems tools in foresight? IFA International Foresight Academy Academic Conference, ZHAW, Winterthur, Switzerland, 16—18 September (Peer-reviewed presentation).
- A. Kryazhimskiy. Closed-loop control problems with incomplete information: the method of open-loop control packages. International Conference "Mathematical Control Theory and Mechanics", Suzdal, Russia, 4—9 July 2013 (Invited Talk).
- A. Kryazhimskiy, E. Rovenskaya.On equilibrium calibration of multi-block models. Conference "Optimal Control and Applications", Moscow, 24—25 September 2013 (Invited Talk).
- A. Kryazhimskiy, A. Puchkova. Towards recognition of early warning signals.Partnership Conference "Geophysical Observatories, Multifunctional GIS and Data Mining", Kaluga, Russia, 30 September – 2 October 2013 (Plenary Talk).
- A. Kryazhimskiy. Modeling controllable economic growth.Proportional growth. Keio University, Tokyo, Japan, 5 February 2013 (Invited Lecture).
- A. Kryazhimskiy. Modeling controllable economic growth.Reasoning behind the infinite-horizon maximim principle. Keio University, Tokyo, Japan, 6 February 2013 (Invited Lecture).
- A. Kryazhimskiy. Modeling proportional economic development. Tsinghua University, Beijing, China, 9 October 2013 (Invited Lecture).
- A. Kryazhimskiy. Equilibrium fitting multi-disciplinary integrated assessment models. Tsinghua University, Beijing, China, 15 October 2013 (Invited Lecture).
- A. Kryazhimskiy. Competition of large-scale projects: winners, losers and equilibrium. China University of Mining and Technology, Beijing, China, 15 October 2013 (Invited Lecture).

- M. Makowski. On methodology and tools for problem-solving oriented multiple-criteria analysis.RWTH, Aachen, Germany, 26 August, 2013 (Invited Lecture).
- E. Rovenskaya. Bridging the gap between agents' aims in socio-environmental models.SA-YSSP, University of Free State, Bloemfontein, South Africa, 22 January 2013 (Lecture).
- E. Rovenskaya. Coarse-graining of data: a better approach to building robust projections? Joint IIASA-SFI Conference "Theory and Knowledge Systems for Sustainability Science", Santa-Fe, New Mexico, USA, 22—24 October 2013.
- E. Rovenskaya. Methodology and results of the analysis of impact of different state subsidies on regional economy of Oulu, Joensuu and Pori. Reporting Meeting, Ministry of Employment and Economy, Helsinki, Finland, 22 August 2013.
- E. Rovenskaya. On methods of representation, visualization and analysisof large data arrays inexploration of systemic risks: Example of food-webs. Partnership Conference "Geophysical Observatories, Multifunctional GIS and Data Mining", Kaluga, Russia, 30 September - 2 October, 2013 (Keynote Talk).
- E. Rovenskaya. Bridging the gap between agents' aims in socio-environmental models. China University of Mining and Technology, Beijing, China, 15 October 2013 (Invited Lecture).
- E. Rovenskaya. IIASA's ASA Program. China University of Mining and Technology, Beijing, China, 14 October 2013.
- E. Rovenskaya. IIASA's ASA Program. Institute of Geographical Sciences and Natural Resources Research (IGSNRR) of the Chinese Academy of Sciences,Beijing, China, 15 October 2013.
- E. Rovenskaya. IIASA's ASA Program. National School of Development, Peking University, Beijing, China, 16 October 2013.
- E. Rovenskaya. IIASA's ASA Program. Center of Chinese Population, Health and Development, Institute of Population Research,Peking University,Beijing, China, 17 October 2013.
- E. Rovenskaya. Balancing ecology and economy in forestry.Workshop "Renewable Resources, Sustainability, and Search", Heidelberg, Germany, 12—14 December 2013 (Invited Talk).
- G. Silverberg. Outside The Black Box: Complexity Models of Innovation. Brisbane Club Meeting, Liechtenstein Stadtpalais, Vienna, Austria, 20 April 2013.
- A. Tarasyev, A. Usova. Analysis of Hamiltonian dynamics in optimal control problems of optimization of resource productivity. 9th International ISAAC Congress, Krakow, Poland, 5—9 August 5-9 2013.
- A.M. Tarasyev, A.V. Kryazhimskiy. Adaptive Economic Growth. Conference "Optimal Control and Applications", dedicated to 105th anniversary of L.S. Pontryagin, Steklov Mathematical Institute, Moscow, Russia, 24—25 September 2013 [In Russian].
- A. Tarasyev, A. Usova. Global Stabilization of the Hamiltonian Dynamics in Problem of Investment Optimization. 44th All-Russian Conference of Young Scientists "Contemporary Problems in Mathematics", Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, 27 January– 2 February 2013.
- S.T hurner. Big social, financial, and medical multiplex data – What to do with it?Workshop "Games, Science & Society", IIASA, Laxenburg, Austria, 10—11 October 2013.
- S. Thurner. Entropy for complex and non-ergodic systems.Conference "Complex Systems – Foundations and Applications", Rio de Janeiro, Brazil, 29 October – 1 November 2013.
- S. Thurner. Is there a world behind Shannon? Entropies for complex systems. Interdisciplinary Symposium "Complex System", Prague, Czech Republic, 9—13 September 2013.
- S. Thurner. Global Computing for Our Complex Hyper-connected World. European Conference on Complex Systems(ECCS'13), Satellite Meeting, Barcelona, Spain, 18—19 September 2013.
- S. Thurner. The LASAGNE project. European Conference on Complex Systems (ECCS'13),Barcelona, Spain, 20 September 2013.
- S. Thurner. The world beyond Boltzmann, Gibbs and Shannon: entropies for complex systems. Summer School "Complex Quantum Systems",2—6 September 2013, Vienna, Austria.
- S. Thurner. Debt Rank-transparency: Eliminating systemic risk in financial networks. "Econophysics Colloquium", Pohang, Korea,28—31 July 2013
- S. Thurner. What can we learn from multiplex data of MMOGs? International School and Conference on Network Science (NetSci),Copenhagen, Denmark, 3—7 June 2013.
- S. Thurner. Systemic risk as a multiplex: three lessons from three of its layers. "Econophysics and Networks Across Scales" – Lorentz Workshop, Leiden, The Netherlands, 27—31 May 2013.
- S. Thurner. Entropy for non-ergodic systems - toward a world behind Shannon. Seminar "Dynamic Systems & Ergodic Theory", Institute for Mathematics, University of Vienna, Vienna, Austria, 22 April 2013
- S. Thurner. Systemic risk: leverage, defaults and cleaning up. "Complexity Models for Systemic Instabilities and Crises" – Lorentz Workshop, Leiden, The Netherlands, 8—10 April 2013.
- S. Thurner. An evolutionary model for Schumpeterian economics.Workshop "Complex Systems", Joint Centre de Recerca Matematica & Imperial College School, Barcelona, Spain, 8—13 April 2013.
- S. Thurner. Is there a world beyond Shannon? Entropies for complex systems.Workshop "Complex Systems", Imperial College School, Barcelona, Spain, 8—13 April 2013.
- S. Thurner. Systemic risk in financial networks: Quantification and control. Brisbane Club Meeting, Liechtenstein Stadtpalais, Vienna, Austria, 20 April 2013.

- S. Thurner. Entropies for non-ergodic complex systems towards a world behing Shannon. Seminar, Ergodic Theory and Dynamical Systems group, Vienna, Austria, 22 April 2013 (Invited Lecture).
- S. Thurner. How to use DebtRank to eliminate risk in financial networks.Seminar Series - Hilary 2013, Said Business School, University of Oxford, United Kingdom, 1 March 2013
- S. Thurner. How to use DebtRank to eliminate systemic risk in financial networks.INET-Seminar
- Oxford, United Kingdom, 1 March 2013.
- S. Thurner. Of agents and networks, or what economy can learn from complex systems. Arbeiterkammer Wien, Vienna, Austria, 7 March 2013.
- S. Thurner. Learning - through games, Games - through learning. 8th BIOVISION: From Life Sciences to Sciences of Life, Lyon, France, 24—26 March 2013.
- S. Thurner. DebtRank-transparency: controlling systemic risk in financial networks, Institute for New Economic Thinking, Oxford Martin School, Oxford, United Kingdom, 28 February 2013.
- S. Thurner. Managing Complexity.Drucker Forum 2013, Vienna, Austria, 20 February 2013.

Advisory Boards

- S. Aseev, Member, Technical Committee 2.4 "Optimal Control", International Federation onAutomatic Control.
- L. Ilmola-Sheppard, Expert on the Finnish Governments Futures Resolution, The Prime Minister's Office of Finland.
- L. Ilmola-Sheppard, Advisor on the project Futures of Welfare Society 2030, Futures Committee, Parliament of Finland.
- T. Palokangas, Member, Technical Committee 2.4 "Optimal Control", International Federation on Automatic Control.
- T. Palokangas, Member, Academic Council, TheDEGIT Virtual Research Center.
- A. Tarasyev, Chair, Technical Committee 2.4 "Optimal Control", International Federation onAutomatic Control.

Organizing Committees and Program Committees

- S. Aseev, Member, Organizing Committee, Memorial Conference "Optimal Control and Applications" dedicated to 105thanniversary of L.S.Pontryagin, Steklov Mathematical Institute, Moscow, Russia, 24—25 September 2013.
- S. Aseev, Member, Program Committee, International Conference "Mathematical Control Theory and Mechanics", Suzdal, Russia, 5–9 July 2013.
- A. Davydov, Co-chair, Organizing Committee, International Conference "Mathematical Control Theory and Mechanics", Suzdal, Russia, 5–9 July 2013.
- A. Davydov, Member, Program Committee,2ndRussian Economic Congress, Suzdal, Russia, 18—22 February2013.
- Y. Ermoliev. Member, Organizing Committee and Program Committee, XXII International Conference "Problems of Decisions Making under Uncertianties", Foros, Ukraine, 23—27 September, 2013.
- Y. Ermoliev. Member, Organizing Committee, International School for young scientists "Problems of Decisions Making under Uncertainties", Yalta, Ukraine, 16-22 September, 2013.
- L. Ilmola, Co-organizer, Seminar "Arctic Futures", Helsinki, Finland, 9 May 2013.
- L. Ilmola, Co-organizer, Joint IIASA–Aalto University Workshop "Recent Development within Systems Studies Methodologies", IIASA, Laxenburg, Austria, 5 November 2013.
- L. Ilmola, Co-organizer, Joint IIASA—University of Eastern Finland Seminar "Extreme Events in Human and Environmental System", IIASA, Laxenburg, 6—8 October 2013.
- L. Ilmola, Co-organizer, IFA Summer School, IIASA, Laxenburg, Austria, 6—9 September 2013.
- A. Kryazhimskiy, Member, Organizing Committee, 2nd Conference "Prospects of Coordinated Socio-economic Development of Russia and Ukraine in a European Context", Moscow, Russia, 14—15 November, 2013.
- A. Kryazhimskiy, Member, Program Committee, Partnership Conference "Geophysical Observatories, Multifunctional GIS and Data Mining", Kaluga, 30 September – 2 October, 2013.
- A. Kryazhimskiy, Member, Organizing Committee, Memorial Conference "Optimal Control and Applications" dedicated to 105thanniversary of L.S.Pontryagin, Steklov Mathematical Institute, Moscow, Russia, 24—25 September 2013.
- S. Thurner, Co-organizer, Workshop "Games, Science & Society", IIASA, Laxenburg, Austria, 10—11 October 2013.
- E. Rovenskaya, Member, Program Committee, Partnership Conference "Geophysical Observatories, Multifunctional GIS and Data Mining", Kaluga, 30 September – 2 October, 2013.
- E. Rovenskaya, Organizer, 2nd Plenary COMPLEX Meeting, IIASA, 25—27 November 2013.
- E. Rovenskaya, Co-organizer, Workshop "Challenges and Opportunities of Eurasian Economic Integration", IIASA, 27—28 June 2013.

Editorships

- S. Aseev, Deputy Editor-in-Chief, "Proceedings of the Steklov Institute of Mathematics".
- A. Davydov, Member, Editorial Board, "Journal of Dynamical and Control Systems".
- A. Davydov, Member, Editorial Board, "Izvestia: Mathematics".
- Y. Ermoliev, Member, Editorial Board, "Cybernetics and Systems Analysis".

- B.D. Fath, Editor-in-Chief, "Journal Ecological Modelling".
- B.D. Fath, Member, Editorial Board, "Ecological Complexity".
- B.D. Fath, Member, Editorial Board, "Ecological Informatics".
- B.D. Fath, Member, Editorial Board, "Environmental Accounting and Management".
- B.D. Fath, Member, Editorial Board, "Chinese Journal of Population Resources and Environment (CJPRE)".
- B.D. Fath, Member, Editorial Board, "International Journal of Ecodynamics".
- M. Jonas, Member, Editorial Board,Special Issue of "Climatic Change" "Greenhouse Gas Inventories - Expanding Our Uncertainty Perspective", Ometto et al.(Eds.) – Proceedings of the 3rd International Workshop "Uncertainty in Greenhouse Gas Inventories" – 2010.
- A. Kryazhimskiy, Member, Editorial Board, "Computational Mathematics and Mathematical Physics".
- A. Kryazhimskiy, Member, Editorial Board, "Mathematical Game Theory and Its Applications".
- A. Kryazhimskiy, Associate Editor, "International Game Theory Review".
- M. Makowski, Member, Editorial Board, "International Journal of Knowledge and Systems Science".
- T. Palokangas, Associate Editor, "European Economic Review".
- T. Palokangas, Co-Editor, "Economics.The Open-Access, Open-Assessment E-Journal".
- A. Tarasyev, International Programme Committee Associate Editor, 19th World Congress of the International Federation of Automatic Control, Cape Town, South Africa, 24—29 August 2014.
- E. Rovenskaya. Member, Editorial Board, Special Issue – Proceedings of IIASA Conference "Worlds within Reach. From Science to Policy" – 2012.

Other recognition

- B.D. Fath, Appointed Guest Professor, State Key Laboratory of Urban and Regional Ecology, Chinese Academy of Sciences.
- B.D. Fath, Deputy Director, Low Carbon Research Center, Beijing Development Area, Beijing, China.
- L. Ilmola-Sheppard, Visiting Researcher and Advisor, Science and Technology Policy Institute (STEPI), Seoul Korea.