

## Scientific Recognition: Advanced Systems Analysis

### Awards

#### Artem Baklanov

- Best paper award at 7th International Conference on Analysis of Images, Social Networks and Texts

#### Yuri Ermoliev

- Medal of the 100th Anniversary of the National Academy of Sciences of Ukraine (NASU)
- Honorable Certificate of the Ukrainian National Academy of Sciences (NASU) on the 25th Anniversary of the Committee of Systems Analysis, to emphasize achievements and contribution to mutual collaboration between IIASA and NASU

#### Elizabeth Tellez-Leon

- Distinction of National Researcher Level I, awarded by the National System of Researchers (CONACYT)

#### Sergey Orlov

- Scholarship for young teachers and researchers who achieved significant results in teaching and research, Lomonosov Moscow State University

#### Stefan Thurner

- Austrian Scientist of the Year 2018
- Visiting Fellow, Oxford Martin School, Oxford University
- Member of the European Academy of Science and Arts 2018
- Member of Senior Common Room Magdalen College, Oxford University

### Invited lectures

#### Sergey Aseev

- Infinite-horizon optimal control. Some recent advances and applications in economic growth theory. 17th IFAC Workshop on Control Applications of Optimization (CAO), Ekaterinburg, Russia, October 2018
- Infinite-horizon optimal control problems in economics. Dynamics, Economic Growth, and International Trade (DEGIT XXIII), Moscow, Russia, September 2018
- An existence theorem for infinite-horizon optimal control problems and its application to a model of optimal exploitation of a renewable resource. Systems Analysis: Modeling and Control, Moscow, Russia, May 2018

#### Alexey Davydov

- Stability of controllability of dynamic inequalities. International Conference on Optimal Control and Differential Games dedicated to the 110th Anniversary of L. S. Pontryagin, Moscow, Russia, December 2018
- Stationary solution in population dynamics: stability and optimization. 14th Viennese Conference on Optimal Control and Dynamic Games, Vienna, Austria, July 2018
- Parametric optimization: Singularities, their stability, and applications. Operations Research and Control Systems (ORCOS) seminar devoted to 65th birthday of V.M. Veliov, Vienna, Austria, May 2018
- Existence of stationary solutions in population dynamic and their optimization. Moscow Winter Academy on Age-Structured Modeling and Management of Biological and Economic Resources (MWA 2018), Moscow, Russia, February 2018

#### Yuri Ermoliev

- Integrated modeling of robust food, energy, and water security management for sustainable socioeconomic and environmental developments: IIASA-NASU project. Norwegian-Georgian-Moldavian-Ukrainian Summer School on Quantitative Risk Management, Batumi, Georgia, October 2018
- Risk, security, and robust solutions: IIASA case studies. Norwegian-Georgian-Moldavian-Ukrainian Summer School on Quantitative Risk Management, Batumi, Georgia, October 2018
- 100 Year Anniversary of Ukrainian National Academy of Sciences (NASU) and 25 years' experience of IIASA-NASU cooperation. IIASA-NASU Project General Meeting, Kiev, Ukraine, August 2018

- IIASA-NASU cooperation: 25th Anniversary of Committee for Systems Analysis. IIASA-NASU Project Workshop Lecture and Presentation of Honorable Certificates, Kiev, Ukraine, March 2018

### **Brian Fath**

- Network Models and Applications, Beijing, China, December 2018
- Investigations of sustainability and resilience using a network of networks approach. College Station TX, USA, September 2018
- Flourishing within limits: Using ecological systems' principles for regenerative economics. Alternative Economic and Monetary Systems Summer School BOKU, Laxenburg, Austria, August 2018
- Advanced Systems Analysis and Young Scientists Summer Programs, Washington DC, USA, April 2018
- Ecological network analysis as a basis for regenerative economics, Quebec City, Canada, April 2018
- Ecological perspective: Governance resilience and natural resources management, Washington DC, USA, April 2018
- Flourishing within Limits to Growth: Revising Economic Systems by Using Nature as a Model. Energy Sustainability in the Transition to Renewables: Framings from Social Practices and Complex Systems Theories Exploratory Workshop, Ispra, Italy, March 2018
- Systems Theory and Application: An ecologist's perspective, Landau, Germany, January 2018
- Introduction to systems thinking. The craft of systems analysis. From Sustainable to Sustainable: Systems analysis to make the world a better place, Cape Town, South Africa, January 2018
- Information based ecological network analysis for environmental management, Durban, South Africa, January 2018
- Food, Energy, Water Nexus: Intersection of human consumption and well-being, Beijing, China, January 2018
- Application of systems thinking and ecological models to reduce environmental fragmentation, Jinan, China, January 2018

### **Leena Iimola**

- Digitalization and its impacts. Finnish Innovation Fund (SITRA) Foresight Conference Visio Fest, Vantaa, Finland, September 2018
- Digitalization and platforms; Threats and opportunities, Helsinki, Finland, June 2018
- Digitalization; Threats and opportunities from national economy perspective. Second Preparatory Meeting of OSCE Economic and Environmental Forum, Venice, Italy, May 2018
- Globaali datatalous - uhka vs mahdollisuus, Helsinki, Finland, March 2018

### **Nadejda Komendantova**

- Deployment of Concentrated Solar Power (CSP) in the Middle East and North African (MENA) region and the need for water-energy nexus. Workshop on Promoting renewable energy investments with a nexus approach: Co-benefits across sectors, Kiev, Ukraine, November 2018
- Deployment of renewable energy sources in Austria: Example of climate and energy model regions. Workshop on Renewable energy prospects for South East Europe, Kiev, Ukraine, November 2018
- Risk governance of critical energy infrastructure: Benefits of a multi-risk approach. Ninth International Forum of Energy for Sustainable Development, Kiev, Ukraine, November 2018
- Critical Energy Infrastructure: Stakeholders Dialogue and Negotiations in the Middle East and North African Region. 2018 OSCE Mediterranean Conference: The Importance of Energy for Economic Growth and Cooperation in the Mediterranean, Malaga, Spain, October 2018
- Elements of green economy in the strategic elements of industrial development in Kyrgyzstan. UNIDO Workshop on Green Industry: Policy and Practice, Bishkek, Kyrgyzstan, October 2018
- Participatory governance of energy transition and interconnectivity. Economic and Environmental Dimension Implementation Meeting (EEDIM), Vienna, Austria, October 2018
- Energy transition and public participation in decision-making processes. Union for Mediterranean 1st Working Group Meeting, Brussels, Belgium, September 2018
- Participatory governance of energy transition: Example of the Climate and Energy Model Regions in Austria. International Renewable Energy Forum, Vienna, Austria, September 2018
- Priorities for industrial development of Kyrgyzstan. Second Steering Committee Meeting, Bishkek, Kyrgyzstan, August 2018

### **Elizabeth Tellez-Leon**

- Are all types of capital flows driven by the same factors? Evidence from Mexico, Vienna, Austria, October 2018
- Which network measures explain the interest rate spread in the Mexican secured and unsecured interbank markets? An econometric analysis of financial networks, Vienna, Austria, October 2018

### Michael Miess

- Agent-based model of the Austrian economy. The Internal Market Advisory Committee (IMAC) on Data for Real-Time Economy Monitoring, Brussels, Belgium, October 2018

### Tapio Palokangas

- Optimal Taxation with Endogenous Fertility and Health-Damaging Emissions. 17th IFAC Workshop on Control Applications of Optimization (CAO) 2018, Ekaterinburg, Russia, October 2018
- Labor Market Regulation with International Trade and Footloose Capital, Barcelona, Spain, October 2018
- Fertility, Mortality, and Emission Policy. Dynamics, Economic Growth, and International Trade (DEGIT XXIII), Moscow, Russia, September 2018
- Fertility, Mortality and Optimal Emission Policy. 14th Viennese Conference on Optimal Control and Dynamic Games, Vienna, Austria, July 2018

### Sebastian Poledna

- How to estimate the risk of cascading flood losses: The Austrian case. International Workshop on Cascading Disasters: Theory, Methods and Empirics, Haifa, Israel, November 2018
- Assessing cascading disaster losses with an agent-based model: An application to floods in Austria. International Workshop on Cascading Disasters: Theory, Methods and Empirics, Haifa, Israel, November 2018
- Economic forecasting with an agent-based model, Amsterdam, The Netherlands, March 2018
- Economic forecasting with an agent-based model. TI Complexity in Economics Seminars, Amsterdam, The Netherlands, February 2018

### Elena Rovenskaya

- Challenges and Opportunities of the Economic Integration in the Greater Eurasia. RBWC-OeNB Conference on Connecting Europe and Asia, Vienna, Austria, December 2018
- Challenges and Opportunities of the Transportation Developments and Economic Integration Processes in the Greater Eurasia. Promoting Economic Connectivity in the OSCE area: Side Event, Milan, Italy, December 2018
- Challenges and Opportunities of the Transportation Developments and Economic Integration Processes in the Greater Eurasia. Northern Dimension Future Forum on Transport: Emerging Trade Routes between Europe and Asia – Impacts of China's Belt and Road Initiative on Northern Europe, Brussels, Belgium, November 2018

### Stefan Thurner

- If we understand systemic risk-why not eliminate it? Washington DC, USA, December 2018
- Elimination of systemic in financial markets, Charlottesville VA, USA, December 2018
- Elimination of systemic risk in the financial system. Complex Systems Workshop, Princeton NJ, USA, November-December 2018
- Where do all these Distribution Functions come from? Symposium on Concepts of Probability in the Sciences, Vienna, Austria, October 2018
- Big Data in der Medizin, Vienna, Austria, October 2018
- Nur wer Sinn aus Daten ziehen kann, hat künftig eine Chance. Symposium Österreich 22 - Neue Impulse, Graz, Austria, October 2018
- Big data & health care research. 2nd Annual Meeting of the Austrian Platform for Personalized Medicine, Graz, Austria, October 2018
- Die Wissenschaft komplexer Systeme am Beispiel der Medizin. Interdisziplinäre Forschung 4.0, Holzhausen Science Forum, Vienna, Austria, October 2018
- Mr. Watson - ohne Datenbanken keine, Personalisierte Medizin? Krankes Netz - 49. Jahrestagung der Österreichischen Gesellschaft für Innere Medizin: Personalisierte Medizin, Salzburg, Austria, September 2018
- Safeguarding human rights. Ethics in Science and New Technologies (EGE), Vienna, Austria, September 2018
- Safeguarding human rights - or exploiting big medical data - or both? Ethics Committee of the Chancellor of Austria, Vienna, Austria, September 2018
- Large scale agent based models in economics and finance. International School on Computational Social Science and Complex Systems, Varenna, Italy, July 2018
- Curse and Chances of Big Medical Data. 12. Carinthische Dialoge 2018 - Digitale Zukunft - zwischen Faszination und Manipulation. Was bleibt uns Menschen? St. Urban, Austria, July 2018
- Using big data analytics to reduce systemic risk in financial markets, Nanyang, Singapore, June 2018
- Big Data - New Medicine? Vienna, Austria, May 2018
- Panel discussion. Humanity and Technology - Empowerment instead of Fear, Katowice, Poland, May 2018
- Digitalisierung im Gesundheitswesen. 3. PRAEVENIRE Gesundheitsforum, Seitenstetten, Austria, April 2018
- From Judgement to Impact. Santa Fe NM, USA, April 2018
- On the origin of power laws in complex systems, Nanyang, Singapore, March 2018

- Understanding Evolution as a Complex System, Frankfurt, Germany, March 2018
- Entropy for Complex Systems, Leipzig, Germany, January 2018
- Sofia Earth Forum - 1st Symposium on Grand Challenges, Solutions and Legitimacy, Helsinki, Finland, June 2016
- International Conference on Data Intensive System Analysis for Geohazard Studies, Sochi region, Mountain cluster, Russia, July 2016
- US National Science Foundation - Arctic System Science Program Community Workshops for Synthesis Studies of the Pan-Arctic/Earth System, Workshop 1: Extreme Events in Contemporary and Future Timeframes hosted by Environmental CrossRoads Initiative, Advanced Science Research Center, The City University of New York, USA, November 2016

## Organized events

### Sergey Aseev

- International Conference on Optimal Control and Differential Games dedicated to the 110th Anniversary of L.S. Pontryagin, Moscow, Russia, December 2018
- International Conference in memory of Academician A.V. Kryazhimskiy on Systems Analysis: Modeling and Control, Moscow, Russia, May-June 2018

### Alexey Davydov

- International Conference on Differential Equations and Dynamical Systems, Suzdal, Russia, July 2018
- International School of Young Scientists on Modelling and Optimization of Complex Systems (MOCS2018), Suzdal, Russia, July 2018

### Yuri Ermoliev

- IIASA-Ukrainian National Academy of Sciences (NASU) Project General Meeting on Integrated robust management of food-energy-water-land use nexus for sustainable development, Kiev, Ukraine, August 2018
- IIASA-NASU Project Workshop, Kiev, Ukraine, March 2018

### Leena Iilmola

- OECD-IIASA Water Nexus Policy Strategic Planning Workshop, Laxenburg, Austria, October 2018

### Nadejda Komendantova

- Protection of Critical Energy Infrastructure: Creating Resilience, Mitigating Risks, and Ensuring Sustainability, Kiev, Ukraine, November 2018
- Stakeholders consultation on industrial development strategy, Bishkek, Kyrgyzstan, August 2018

### Sergey Orlov

- International Conference on Optimal Control and Differential Games dedicated to the 110th Anniversary of L. S. Pontryagin, Moscow, Russia, December 2018
- International Conference in memory of Academician A.V. Kryazhimskiy on Systems Analysis: Modeling and Control, Moscow, Russia, May-June 2018

### Elena Rovenskaya

- OECD-IIASA Water Nexus Policy Strategic Planning Workshop, Laxenburg, Austria, October 2018
- International Conference in memory of Academician A.V. Kryazhimskiy on Systems Analysis: Modeling and Control, Moscow, Russia, May-June 2018
- Seminar on Opportunities and Risks of Changing Geopolitics and Technology in Europe, Laxenburg, Austria, April 2018
- Workshop on How can advanced mathematical modeling tools be useful to address sustainability challenges? Laxenburg, Austria, March 2018
- Moscow Winter Academy on Age-structured Modeling and Management of Biological and Economic Resources (MWA2018), Moscow, Russia, February 2018

### Nikita Strelkovskii

- OECD-IIASA Water Nexus Policy Strategic Planning Workshop, Laxenburg, Austria, October 2018

### Stefan Thurner

- Complexity Science Hub (CSH)-Austrian Research Institute for Artificial Intelligence (OFAI) Workshop on Artificial Intelligence and Complexity Science: A First Meeting, Vienna, Austria, December 2018
- European Research Council (ERC) Synergy Grant Application Workshop, Vienna, Austria, October 2018

- Complexity Science Hub (CSH)-Eidgenössische Technische Hochschule (ETH) City Climate Olympics Workshop, Vienna, Austria, September 2018
- CSH Colloquium on Improving resilience in complex systems, Vienna, Austria, June 2018
- CSH External Faculty Meeting on Complexity: Where do we go from here? Vienna, Austria, May 2018
- CSH Public Conference on Complexity: Where do we go from here? Vienna, Austria, May 2018
- ERC Synergy Grant Application preparatory Workshop on FORESIGHT – A History of Possible Futures: Forecasting Social Breakdown, Recovery, and Resilience, Oslo, Norway, May 2018
- CSH-ETH City Climate Olympics preparatory Workshop, Vienna, Austria, May 2018

## Advisory boards

### Sergey Assev

- Technical Committee Member, Optimal Control (TC 2.4) of the International Federation of Automatic Control (IFAC) Member, Moscow, Russia
- Academic Council Member, Steklov Mathematical Institute, Russian Academy of Sciences, Moscow, Russia

### Alexey Davydov

- International Scientific Council Member, Stefan Banach International Mathematical Center, Warsaw, Poland
- Scientific Coordination Council Member, Mathematical Section, Russian Academy of Sciences, Moscow, Russia

### Yuri Ermoliev

- Committee for Systems Analysis Member, National Academy of Sciences, Ukraine
- Organizing Committee Member, International Conference on Problems of Decision Making under Uncertainties, Ukraine
- Organizing Committee Member, International School Course on Problems of Decision Making under Uncertainties, Ukraine
- Organizing Committee Member, Workshop on Integrated modeling of food, water, energy security, Ukraine
- Organizing Committee Member, International Conference dedicated to the 100th Anniversary of the establishment of the National Academy of Sciences, Ukraine
- Organizing Committee Member, Norwegian-Georgian-Moldavian-Ukrainian Summer School on Quantitative Risk Management, Norway, Ukraine, Georgia, Moldavia

### Brian Fath

- Cochair, Ecosystem Dynamics, Focus Research Group, Community Surface Dynamics Modelling System, USA
- Secretary General, International Society for Ecological Modelling
- Baltimore County Commission on Environmental Quality (CEQ), USA
- Scientific Committee Member, International Society for Ecological Modelling Global Conference 2019, Salzburg, Austria

### Leena Ilmola

- Special Advisor, Finnish Government's Toimi Project, Helsinki, Finland

### Nadejda Komendantova

- Advisory Board Member, Advanced Mobile Institute for Studies on Technology and African Development (Amistad), Botswana

### Elena Rovenskaya

- Program Committee Member, International conference on Dynamics, Economic Growth, and International Trade, Moscow, Russia

### Stefan Thurner

- Scientific Advisory Board Member, Center for Research and Interdisciplinarity, Paris, France
- Scientific Advisory Board Member, European Forum Alpbach, Austria
- Scientific Advisory Board Member, Gesundheit Österreich GmbH – GÖG Vienna, Vienna, Austria
- Scientific Advisory Board Member, Internetoffensive Österreich, Vienna, Austria

## Editorships

### Sergey Aseev

- Deputy Editor-in-Chief, *Proceedings of the Steklov Mathematical Institute*

### Alexey Davydov

- Editorial Board Member, *Izvestiya: Mathematics*

- Editorial Board Member, *Journal of Dynamical and Control Systems*

### **Yuri Ermoliev**

- Editorial Board Member, *Cybernetics and Systems Analysis Journal*
- Coeditor, Integrated modeling of food, energy and water security management for sustainable social, economic and environmental developments book
- Editorial Board Member, *Economics and Forecasting Journal*

### **Brian Fath**

- Editor-in-Chief, *Ecological Modelling Journal*
- Editor-in-Chief, *Encyclopedia of Ecology*
- Editorial Board Member, Global Transitions
- Editorial Board Member, *Energies*
- Editorial Board Member, *Ecological Indicators*
- Editorial Board Member, *Environmental Accounting and Management*
- Editorial Board Member, *The Scientific World Journal*
- Editorial Board Member, *International Journal of Ecodynamics*
- Editorial Board Member, *Ecological Complexity*
- Editorial Board Member, *Ecological Informatics*

### **Matthias Jonas**

- Lead Guest Editor, Special Issue Quantifying Greenhouse Gas Emissions, Mitigation and Adaptation Strategies, *Global Change Journal*

### **Tapio Palokangas**

- Associate Editor, *Economics: Open-Access Open-Assessment E-Journal*

### **Elena Rovenskaya**

- Special Issue, What is blue growth? *Marine Policy Journal*

### **Gerald Silverberg**

- Editorial Board Member, *Clometrics Journal*
- Editorial Board Member, *Journal of Economic Behavior and Organization*
- Editorial Board Member, *Journal of Evolutionary Economics*
- Editorial Board Member, *Structural Change and Economic Dynamics Journal*

### **Stefan Thurner**

- Editorial Board Member, *Scientific Reports Journal*
- Associate Editor, Advances in Complex Systems, *World Scientific Journal*
- Editorial and Program Advisory Board Member, Springer Complexity Program
- Associate Editor, *Physica A Journal*
- Editorial Board Member, *Entropy Journal*
- Editorial Board Member, *Nature Journal*
- Editorial Board Member, *Journal of Coupled Systems and Multiscale Dynamics*