

SYSTEMS ANALYSIS 2015: PROGRAM & TIMETABLE

Wednesday 11 November 2015

(Version: 10 November)

<p>09:00-09:35</p>	<p style="text-align: center;">Opening Session: Welcome Addresses</p> <p>Welcome by:</p> <ul style="list-style-type: none"> • IIASA Director General & CEO, Pavel Kabat (Chair) • IIASA Council Chair, Don Saari • Howard Raiffa (video message) • INFORMS President, L. Robin Keller • NTU Complexity Institute Director, Peter Sloot • Santa Fe Institute, Luís Bettencourt • Vice-Chairs, Conference Scientific Committee, Elena Rovenskaya & Ulf Dieckmann
<p>09:35-10:45</p>	<p style="text-align: center;">Framing Session: Two Keynote Lectures (2 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Don Saari, IIASA Council Chair & University of California, Irvine</p> <p style="text-align: center;">Keynote Lectures</p> <ul style="list-style-type: none"> • Simon Levin, Princeton University: Current revival of systems thinking and major challenges for systems analysis • Nebojsa Nakicenovic, IIASA: Recent applications of systems analysis for achieving sustainable futures for all on a safe planet
<p>10:45-11:15</p>	<p style="text-align: center;">Coffee Break</p>
<p>11:15-12:45</p>	<p style="text-align: center;">Session 1: Requirements for Methodological Advances in Systems Analysis (3 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Marten Scheffer, Wageningen University</p> <ul style="list-style-type: none"> • Jill Jäger, Independent Scholar: Methodological advances for transformative research • Beth Fulton, CSIRO: Linking scales & “I am not a modeller” – The biggest challenges in socioecological modelling

	<ul style="list-style-type: none"> Wolfgang Lutz, IIASA & Wittgenstein Centre: What should be the sustainability criteria in systems models?
12:45-13:45	Lunch
13:45-15:45	<p style="text-align: center;">Session 2: Trans-disciplinary Inspiration in Systems Thinking (4 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Mark Stafford-Smith, CSIRO & IIASA NMO Secretary for Australia</p> <ul style="list-style-type: none"> Brian Fath, IIASA & Towson University: Sustainability of complex systems: Insights from ecological dynamics Yamir Moreno, University of Zaragoza: From small to big data: The physics of human behavior Alexei Gvishiani, Russian Academy of Sciences: Systems analysis for geophysics: Challenges of the 21st century Luciano Pietronero, University of Rome Sapienza: New metrics for economic complexity: Measuring the intangible growth potential of countries
15:45-16:15	Coffee Break
16:15-17:45	<p style="text-align: center;">Session 3: The Art and Craft of Systems Analysis (Part 1: 3 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Prabhat Ranjan, TIFAC & IIASA Council Member for India</p> <ul style="list-style-type: none"> Mark Beaumont, University of Bristol: Approximate Bayesian computation: Methods and applications for complex systems Werner Römisch, Humboldt Universität Berlin: Energy systems under uncertainty: Modeling and computations Petr Shebalin, Russian Academy of Sciences: Linking probabilistic and deterministic forecast methods: Systems analysis for predicting earthquakes
18:00-18:30	<p style="text-align: center;">Music and Science: IIASA's Goodwill Ambassador, Vienna Philharmonic</p> <p>Introduction & chair: Pavel Kabat, IIASA</p> <p style="text-align: center;">Concert by members of the Vienna Philharmonic Orchestra</p>
18:30-20:30	Poster Session and Reception

Thursday 12 November 2015

09:00-11:00	<p style="text-align: center;">Session 3: The Art and Craft of Systems Analysis (Part 2: 4 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Prabhat Ranjan, TIFAC & IIASA Council Member for India</p> <ul style="list-style-type: none"> • Marten Scheffer, Wageningen University: Foreseeing critical transitions • Ronald R Yager, Iona College: Fuzzy sets methods for constructing multi-criteria decision functions: Mixing words and mathematics • Andrzej Ruszczyński, Rutgers University: Risk quantification and control: Challenges and opportunities • Yoshihide Wada, Utrecht University: Reducing water scarcity possible by 2015: Linking global assessments to policy dimensions
11:00-11:30	Coffee Break
11:30-13:15	<p style="text-align: center;">Howard Raiffa Session (4 talks of 20 mins & 25 mins panel discussion)</p> <p>Introduction & chair: Detlof von Winterfeldt, University of Southern California</p> <ul style="list-style-type: none"> • David E. Bell, Harvard Business School: Policy, probability and preference • Ali E. Abbas, University of Southern California: The need for a sound decision-making system in systems analysis • Raimo P. Hämäläinen, Aalto University: Behavioral aspects of decision analysis • Ralph L. Keeney, Duke University: Constructing value models for applied systems analysis
13:15-14:15	Lunch
14:15-15:45	<p style="text-align: center;">Session 4: New Methods for Understanding Complex Systems (Part 1: 3 talks of of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Ulf Dieckmann, IIASA</p> <ul style="list-style-type: none"> • Luis Bettencourt, SFI: The city as a system • Dirk Helbing, ETH Zürich: From computational social science to global systems science

	<ul style="list-style-type: none"> Siew Ann Cheong, Nanyang Technological University: Critical transitions in markets and societies
15:45-16:15	Coffee Break
16:15-18:15	<p style="text-align: center;">Session 4: New Methods for Understanding Complex Systems (Part 2: 4 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Elena Rovenskaya, IIASA</p> <ul style="list-style-type: none"> Stefan Thurner, IIASA, Medical University of Vienna & Santa Fe Institute: Management of systemic risk Soo Hong Chew, National University of Singapore: Familiarity bias breeds investment if you have the right gene Boris Mirkin, National Research University Higher School of Economics, Moscow: Data summarization at clustering and ranking Mauro Martino, IBM: Data visualization and artificial intelligence: The real time exploration of unstructured big data
18:15-18:45	Coffee Break
18:45-20:00	<p style="text-align: center;">Public Lecture, jointly organized by IIASA and the Austrian Academy of Sciences (1 talk of 30 mins followed by Q&A)</p> <p>Introduction & chair: Pavel Kabat, IIASA Welcome by Anton Zeilinger, President, Austrian Academy of Sciences</p> <ul style="list-style-type: none"> Robbert Dijkgraaf, Director, Institute for Advanced Study in Princeton: Building bridges between science and policy
20:00-21:00	Reception

Friday 13 November 2015

09:00-10:30	<p style="text-align: center;">Session 5: Addressing Diversity in Social Systems (Part 1: 3 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Mary Scholes, University of the Witwatersrand & Chair, IIASA Science Advisory Committee (SAC)</p> <ul style="list-style-type: none"> • Sergio Rinaldi, IIASA & Polytechnic University of Milan: Modeling love dynamics • L. Robin Keller, INFORMS & University of California: Multi-objective multi-stakeholder decision analysis • Karl Sigmund, IIASA & University of Vienna: Institutions as tools for overcoming social dilemmas.
10:30-11:00	Coffee Break
11:00-12:00	<p style="text-align: center;">Session 5: Addressing Diversity in Social Systems (Part 2: 2 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Mary Scholes, University of the Witwatersrand & Chair, IIASA SAC</p> <ul style="list-style-type: none"> • Christoph Hauert, University of British Columbia: Honour, shame and climate change – Lessons from public goods experiments • Anna Scolobig, ETH Zurich: From stakeholder views to policy options
12:00-13:00	Lunch
13:00-14:30	<p style="text-align: center;">Session 6: Devising Integrated Solutions (Part 1: 3 talks of 25 mins & 5 min Q&A)</p> <p>Introduction & chair: Ali E. Abbas, University of Southern California</p> <ul style="list-style-type: none"> • Robert Lempert, RAND Corporation: A new decision science for complex systems: A decade of enabling tools • Xijin Tang, Chinese Academy of Sciences: Perception of societal risk from on-line community concern • David McCollum, IIASA: Harnessing systems analytical tools to develop sustainable energy scenarios for the 21st century

14:30-15:00	Coffee Break
15:00-16:30	<p style="text-align: center;">Session 6: Devising Integrated Solutions</p> <p style="text-align: center;">(Part 2: 2 panels of 45 minutes with 2 introductory presentations of 10 mins each followed by 25 minute discussion)</p> <p>Introduction & chair: Ali E. Abbas, University of Southern California</p> <p>Panel 1: Science-policy interface in regard to air-quality and climate negotiations in Europe</p> <ul style="list-style-type: none"> • Markus Amann, IIASA • Martin Williams, King's College London <p>Panel 2: Mobilizing mass action through mobile devices: Challenges and opportunities for science, policy and governance</p> <ul style="list-style-type: none"> • Linda See, IIASA • Paul Chatterton, WWF International Forest and Climate Program
16:30-17:00	Coffee Break
17:00-19:00	<p style="text-align: center;">Closing Session: A New Generation of Systems Analysis</p> <p>Introduction & chair: Pavel Kabat, IIASA</p> <p>Poster awards voted for by conference participants followed by 5 minute presentation from each winner</p> <ul style="list-style-type: none"> • Best poster by an early-career scientist • Best poster by a mid-career scientist • Best poster overall <p>Award for most popular tweet of a quote from the conference</p> <p>Conference synthesis and outlook for systems analysis</p> <ul style="list-style-type: none"> • Ulf Dieckmann & Elena Rovenskaya, IIASA <p>Panel: Outlook for systems analysis</p> <ul style="list-style-type: none"> • Luís Bettencourt, Santa Fe Institute • Nadya Komendantova, IIASA • Martin Lees, University for Peace of the United Nations & China Council for International Cooperation on Environment and Development • Raya Muttarak, IIASA • Stephen Robinson, University of Wisconsin Madison

