

Thinking and modelling Systems-Oriented Solutions for Sustainability

Lake Como School of Advanced Studies, September 12-16, 2022



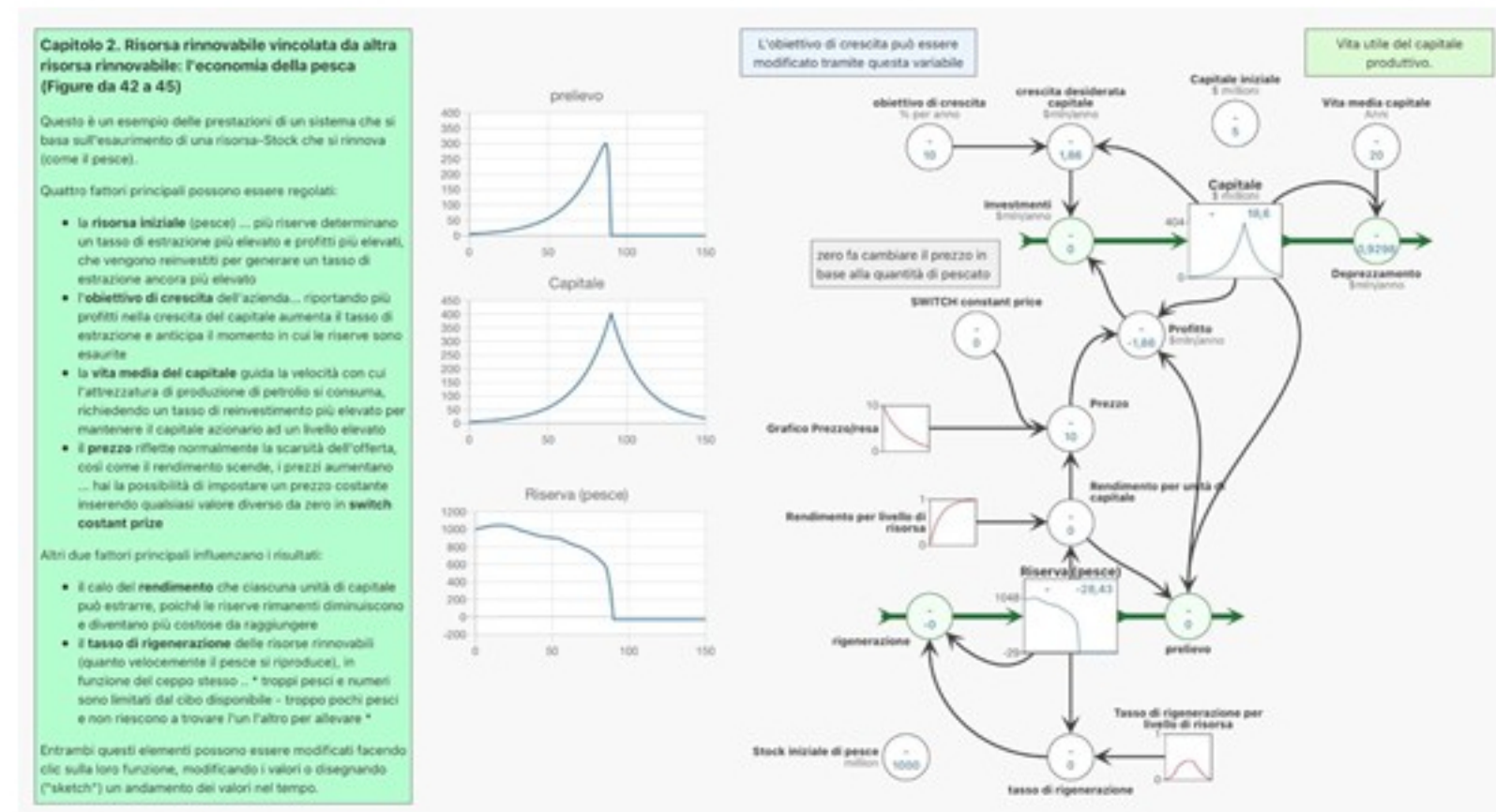
Thinking and modelling Systems-Oriented Solutions for Sustainability

More effective solutions to complex problems

In an increasingly interconnected, complex and rapidly changing world, decision makers in every sector should develop a deep understanding of their systems of interest and other systems that affect them. This is particularly crucial for contributing to achieve the Sustainable Development Goals, in which both public and private institutions are called to interdisciplinary action in social, economic and environmental systems, with collaborative perspectives in the long-term.

The aim of this School is to provide scholars, researchers and professionals, from a variety of fields or backgrounds, with theories, methodologies and tools to understand the root causes of the complex problems in sustainability, and to identify systemic solutions. These methodologies and tools consist in the possibility to create shareable models (qualitative, quantitative and dynamic) through which organizations can enhance their understanding about the complexity at stake and can align their efforts in the implementation of the SDGs.

The learning and teaching approach of the School is collaborative and challenge-based: each participant will develop their own dynamic models and will implement them in **Silico**, an open access simulation environment. The experience will be enriched with group exercises from the **Systems Thinking Playbook** (Booth Sweeney, Meadows) on systems thinking skills (which will constitute also the fun part of the School).



An added value for participants is that, even though the activities will be initially differentiated for scholars and for professionals in order to align competences, the practical exercises will be developed in mixed working groups, thus improving the learnings from experience sharing and different perspectives.

Beneficiaries: anyone interested in understanding and interacting with systems associated with the complex environmental, social, and economic problems of sustainability and unsustainability. They will be aggregated into two main groups:

Academics and scholars: postgraduate students, researchers, educators and trainers

Professionals: civil servants, consultants, managers, practitioners

Assuming different availability of time and different previous experiences, the start of learning activities at the School has been set slightly differently for the two groups:

- for Academics: activities start on September 12
- for Professionals: activities start on September 14

[For further details, see the full Program.](#)

SCHOOL ORGANIZATION

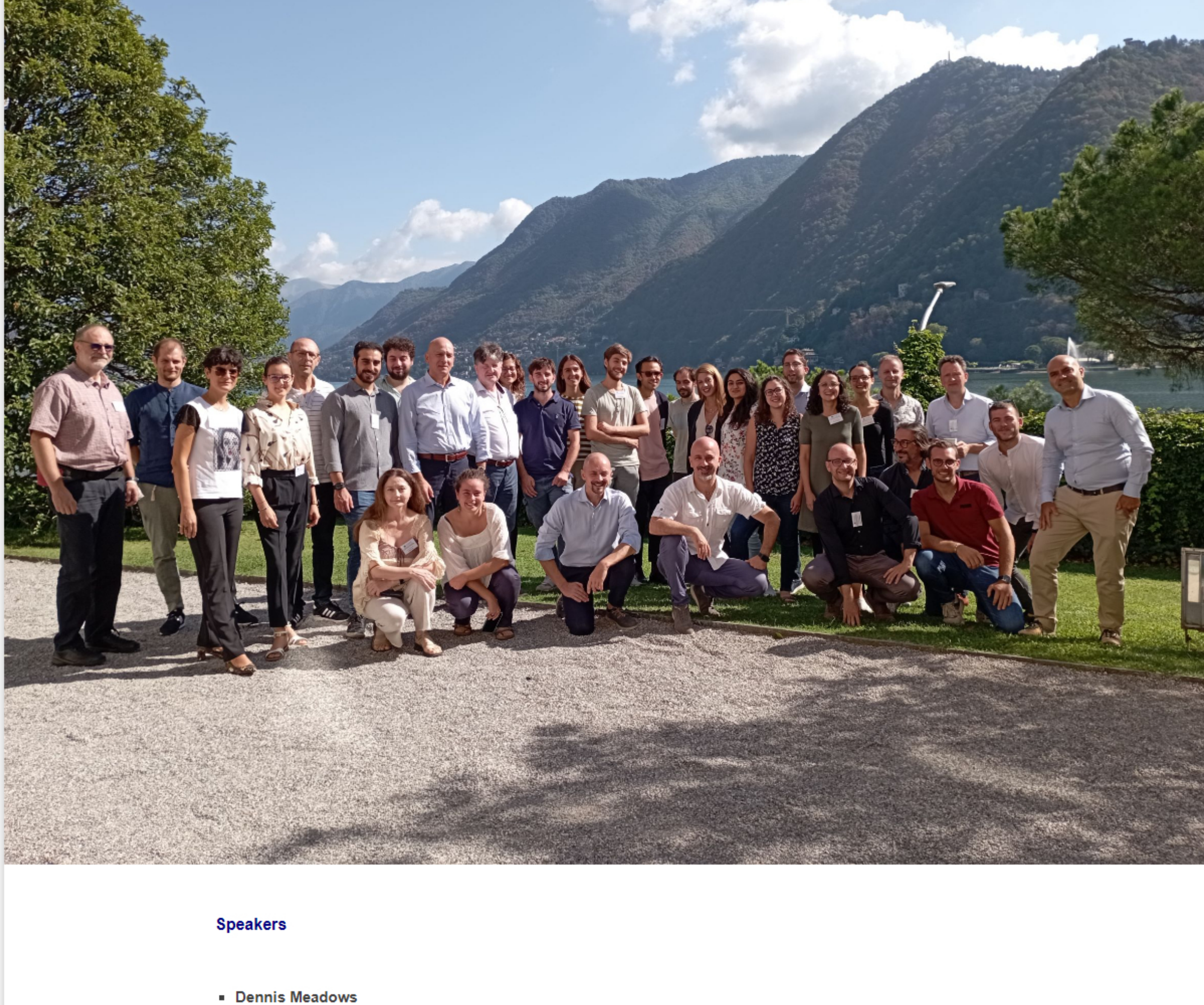
The school has been organized by System Dynamic Italian Chapter (SYDIC)

SYDIC. SHORT DESCRIPTION

SYDIC is the Italian national branch of the System Dynamics Society (www.systemdynamics.org). The Chapter has been founded back in 1995 but legally recognized by the Italian Law as a Cultural Association for Social Promotion, in 2015. The mission of SYDIC is to support the SD Society to promote, spread out and disseminate the wide use and uptake of the system dynamics methodology and, more in general, of all systemic approaches to modelling & simulation at national and international level. SYDIC counts around 60 ordinary associates from all over Italy and a few also from abroad, as well as a wider audience of around 200 volunteer associates (members of our community, they signed up on the website and mailing list). Among its members, SYDIC includes experts, consultants and entrepreneurs interested in the System Dynamics methodology in various ways, as well as several top-notch scholars from the Italian academic & scientific community (Research Centers and Universities in Rome, Milan, Bologna, Turin, Naples, Genoa, Firenze, Palermo, etc.), representing knowledge and competences from Management & Social Sciences to Engineering and Natural Sciences. SYDIC is currently deeply involved in disseminating and promoting the uptake of Systems Thinking & System Dynamics at various levels, from the Primary and Secondary education to the development of such competencies in youngsters and adults in managing positions. Additionally, SYDIC is promoting the Systems Thinking approach also in various vertical sectors, especially by means of the development of research projects (already a few important experiences at national and international level).

Partners





Speakers

Dennis Meadows



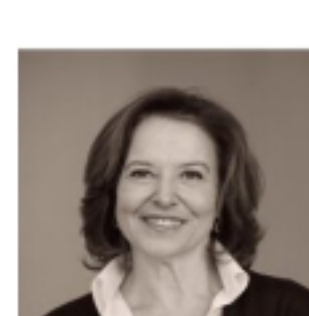
Dennis Meadows was born on June 7, 1942. He received a BA from Carleton College, a PhD in Management from the MIT Sloan School of Management, and holds four honorary doctorates. He started working at the faculty of the Massachusetts Institute of Technology in the late 1960. From 1970 to 1972 at MIT he was director of the "Club of Rome Project on the Predicament of Mankind". Further on Meadows has been a tenured professor in faculties of management, engineering, and social sciences. For many years he was the director of a graduate program based in business and engineering. He has facilitated workshops and developed innovative and complex strategic games all over the world for decades. In addition, Dr. Meadows has lectured in over 50 countries. He has been the Director of three university research institutes, at MIT, Dartmouth College and the University of New Hampshire. He is the Past President of the International System Dynamics Society and the International Simulation and Games Association. He has been a corporate board member and a consultant for government, industry and non-profit groups in the U.S. and many countries abroad. He co-founded the Balaton Group, an international network of over 300 professionals in over 30 nations involved in systems science, public policy and sustainable development.

Enrico Giovannini



Enrico Giovannini was born in Rome in 1957. In 1981, he received a bachelor's degree with honours in Economics and Commerce at the Sapienza University of Rome, where he defended a thesis on "Technologies and combinations of factors in developing countries". He continued his post-graduate education at the Institute of Economic Policy at the Sapienza University in the field of applied economic analysis, with a focus on the statistical/economic analysis of the business cycle. In 1982, he joined the Italian National Institute of Statistics (Istat) as a researcher, focusing on national accounts and economic analysis. Giovannini was a consultant of the Ministry of Treasury and of the Italian Manufacturers' Association for the development of their economic model. During his career, he took part in several national and international committees, including the Council of the Interuniversity Committee for Econometrics (CIDE) and the Council of the Italian Statistical Society. He was member of the high-level Committee for the introduction of euro in Italy established by the Ministry of Treasury. From January 2001 to July 2009, he was Chief Statistician and Director of the Statistics Directorate of the Organization for Economic Co-operation and Development (OECD) in Paris. As Chief Statistician he designed and implemented a thorough reform of the statistical system of the organization and launched the "Global Project on the Measurement of Progress in Societies", which fostered the setting up of numerous worldwide initiatives on the issue "Beyond GDP". He also established the "World Forum on Statistics, Knowledge and Policies", organising the first editions of the Forum, held in Italy (2004), Turkey (2007) and South Korea (2009). During these years, Giovannini was also a member of several important international bodies: Chair of the Conference of European Statisticians, a body of the United Nations Economic Commission for Europe (UNECE), Chair of the Board of the World Bank International Comparison Program for the measurement of purchasing power parities worldwide, advisor to the European Commissioner for the Environment and member of the Board of the Canadian Index of Wellbeing and of the UK Measuring National Wellbeing Advisory Forum. He has also been a member of the "Stiglitz Commission", established by French President Nicolas Sarkozy and Chair of the Global Council on "Benchmarking of Societal Progress" established by the World Economic Forum. For his work on the measurement of societal well-being, in 2010, he was awarded the Gold Medal of the President of the Republic of Italy by the Pio Manzù International Center and became a member of the Club of Rome. Since 2002, he is a Professor of Economic Statistics at the Economics and Finance Department of the University of Rome Tor Vergata. Since 2014 He is Senior Fellow of the LUISS "School of European Political Economy".

Patrizia Lombardi



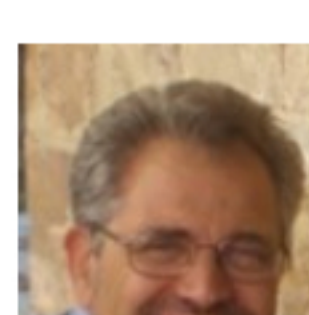
Patrizia Lombardi is Professor in Planning evaluation and decision making for sustainable development at Politecnico di Torino where she also coordinates the Green team office since 2015, managing all issues related to sustainable campus. Founder and President-elect of the Italian Network of Universities for Sustainable development since 2019, she chairs the Coordination Committee which provides guidance to the 81 associated universities and to the 800 delegates across seven working groups. She is an established figure in the field of Sustainable urban development for over 25 years, she has coordinated several Pan-European Projects and published over 250 papers in specialized textbooks and international journals. She received several awards for both career development and scientific papers.

Pål Davidsen



Pål I. Davidsen is Professor of System Dynamics (SD) at UiB, Norway (<https://www.uib.no/en/ig/dynamics>). He has served with Professor Jay W. Forrester (MIT) as Associate Chair of the Pre-College Education Project. At UiB, he founded the System Dynamics Group and the Educational Information Science and Technology Programme and is co-founder of the European Masters Programme in SD. He served as President and as VP of Publications in the System Dynamics Society (SDS) and received the SDS Outstanding Service Award. Davidsen has published e.g. on natural resource management, public health, analysis of complex, dynamic systems, and model-based interactive learning environments.

Ugo Bardi



Ugo Bardi was teaching Physical Chemistry at the University of Florence until 2022. His research is focused on sustainability issues examined by means of system dynamics. He is a full member of the Club of Rome, senior editor of the Springer Journal "Bioeconomics and Sustainability", author of several books, the latest are "Before Collapse" (Springer 2019), "The Empty Sea" (Springer 2021) and "Beyond the Limits" (2022) (as editor). He keeps the blog "The Seneca Effect" www.thesenecaeffect.blogspot.com

Maria Chiara Pettenati



Research Director INDIRE (National Institute of Documentation, Innovation and Educational Research) I've spent the last years learning a lot about national plans for teachers' training. I'm currently applying this knowledge in my role as Research Director at INDIRE, where since 2014 I'm responsible for the online environment to support newly qualified teachers' induction period. On behalf of my institute and upon a mandate of the Italian Ministry of Education, University, and Research, one of my latest challenges has been coordinating a nationally distributed research team participated by about 70 members to study the first three years of implementation of the National Teachers CPD (Continuous Professional Development Plan).

Since December 2021, I have been appointed co-coordinator of the Italian Alliance for Sustainable Development working groups Goal 4 (Quality Education) and Target 4.7 (Education for Sustainable Development). I am passionate about bringing the United Nations' Agenda 2030 to teachers training through Global Citizenship and Sustainable Development Education.

Habib Sedehi



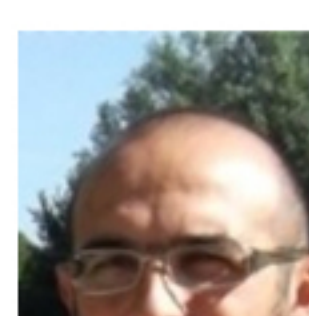
Habib Sedehi has a Master/Laurea degree in Electronic Engineering and a Specialization degree in Computer Science and Control Systems from Sapienza University of Rome, and is presently Professor of Project Management & Systems Thinking at LUMSA Master School University (Italy). He is a Steering Committee Member of the Master in Management of Sustainable Development Goals (<http://mastersdgl.lumsa.it>), and teaches Systems Thinking and System Dynamics for Strategic Decision Support Systems in Executive MBA courses in different national and international universities in Italy. Previous roles include Co-Founder and General Manager of a consulting and software development company specializing in methodologies and tools for software engineering, decision making, and change management. He is the Founder and past President of SYDIC (Italian Chapter of the System Dynamics Society). Founding Member of the Italian Association for Systems Science Research, and Co-Founder of Sustainities (<https://sustainities.it>). He has published two books and authored more than fifty publications.

Stefania Miglavacca



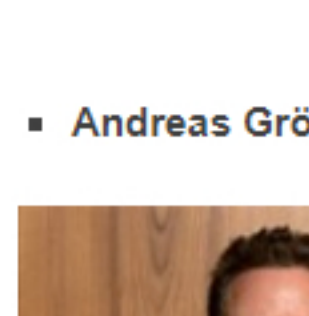
I hold a degree in Economics and a Master in Energy and Environmental Management and Economics. I am a faculty member at Scuola Mattei, a post-graduate school within the Corporate University of Eni. I am also part of Eni Faculty, the community of in-house trainers. Founded in 1967, Scuola Mattei offers every year several scholarships to Italian and non-Italian candidates to attend the MBA program promoted by the Italian Energy Company. I believe that offering scholarship opportunities to young students coming from different countries is the best way to promote energy transition, sustainable development and social inclusion. I am a passionate teacher of "System Dynamics Modelling" and "Energy Economics" within the School. I have been a contract professor of Microeconomics and Energy and Environmental Economics at the University of Pavia. My research interests include system dynamic modelling, energy and environmental modelling, economic impact of environmental policies, utility regulation and environmental taxation. I am author and co-author of several publications on these issues. I've been facilitating climate simulations since 2016 and in 2020 I joined the EN-ROADS Climate Ambassadors Community.

Alberto Atzori



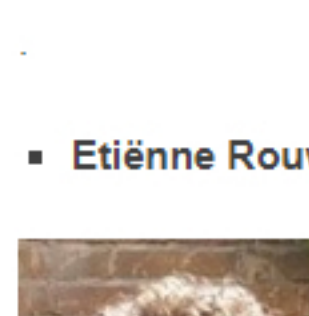
Alberto Stanislao Atzori held a degree in Agricultural Science and a PhD in Animal Science. He is Senior Researcher in Animal Nutrition at the Agriculture Dpt. of the University of Sassari. In the same Department he teaches Animal production at undergraduate level and System Dynamic to graduate and PhD students. His background is rooted in ruminant nutrition and dairy farm management. Special focus of his research was on the link among ruminant nutrition and production efficiency, to improve profitability and to reduce environmental impact of livestock farms. Specific research activity was devoted to mathematical modeling applied to animal science. Since 2011 he started working with System Thinking (ST) and System Dynamics (SD) modeling techniques. At the moment he actively participate as VP to the SD Italian Chapter (www.systemdynamics.it, Sydic) and promoted the SD group on Agriculture& Food (A&F-SIG) of the SD Society (www.systemdynamics.it). He is actually working with SD models to modeling intensive dairy cattle farm management, - to study sustainability of the dairy farming systems in South America and to formulate Econovivation policies aimed at improving technique, economic and environmental sustainability of the dairy sheep sector in Sardinia.

Andreas Größler



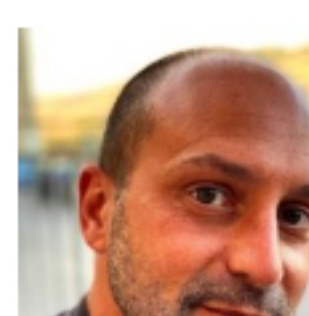
Dr Andreas Größler is full professor of operations management at the University of Stuttgart (Germany) where he currently is also managing director of the School of Management. He teaches operations strategy and behavioural operations management courses at the undergraduate, master, and doctoral level. His research interests lie in the fields of sustainable operations management, in applying system dynamics modelling and simulation in business and not-for-profit organizations, and in investigating individual and organizational dynamic decision-making. Dr. Größler is the managing editor of System Dynamics Review and has served on the editorial board of other scientific journals.

Eliénne Rouwette



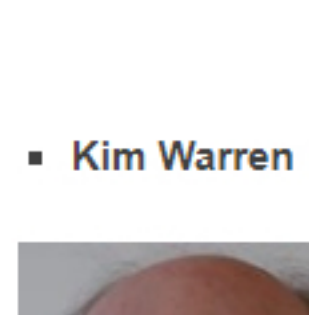
Eliénne Rouwette holds a position as professor at the Methodology Department of the Nijmegen School of Management, Radboud University (the Netherlands). He is the chair of the Research and Intervention Methodology group. His research focuses on group decision making and the impact of decision support methods on interaction, cognition and behavior. Eliénne currently supervises Ph.D. researchers involved in modeling health care, energy, security and economics, as well as information exchange in groups and the impact of modeling on cognition. He lectures on empirical methods and stakeholder engagement, facilitated modeling, multiple scenario development, Electronic Meeting Systems and gaming simulation in bachelor, master and post doctorate modules at Radboud University, Sioo and Vianick Business School. Eliénne is Academic Director of the European Master in System Dynamics, treasurer of the EURO OR Behavioural Operational Research working group, program chair for the 2020 ISDC conference and past President of the System Dynamics Society.

Franco Fassio



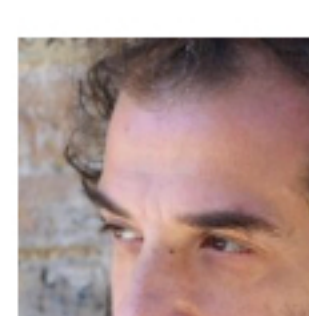
Franco Fassio is a Systemic Food Designer, Associate Professor at the University of Gastronomic Science of Pollenzo (www.unisg.it), Delegate for University Sustainability Policies and to Relations with Partners and Companies, Co-director Specializing Master in Design For Food (UNISG / Design Polytechnic of Milan), Executive Director UNISG's Sustainability and circular economy laboratory, Scientific Director of the Systemic Event Design project for Slow Food (www.slowfood.it), UNISG Project Manager for several EU research such as: H2020 "Fusilli - Fostering the Urban food System Transformation through Innovative Living Labs Implementation", H2020 "School Food 4 Change", LIFE Programme "Life Foster - Training, education and communication to reduce food waste in the food service industry". Author of several scientific studies (scientific publications more than 140) including the book "Circular Economy for Food: Matter, energy and knowledge in a circle" (Edizioni Ambiente, 2018) in 2015, 2016, 2017, his projects Systemic Food Design, Systemic Event Design, Local Bottega Alimentare, have been selected by the ADI Index, the publication for the best Italian design. He was awarded with many national and international acknowledgements, like the Milan Pact Award 2018, Cresco Award 2018, the EWWR Award 2017, Oasis Ambiente 2017, SERR 2016, A Green Inspiration Award 2012, Biennale Italia 2010 e 2008

Kim Warren



Kim is an experienced strategy professional, teacher and publisher of online courses and teaching resources on business modeling - fast becoming a main-stream capability for executives, consultants and business students. He also offers resources to help model non-business challenges, notably in health-care and international Aid. After senior corporate strategy roles, Kim joined London Business School, to teach on MBA and Executive programs. To overcome serious limitations with standard strategy methods, he developed the powerful strategy dynamics modelling method for designing and managing strategy for any organisation or challenge. Once a specialist skill, building these simulations is now easier, faster and more reliable than spreadsheet modelling. Such models mimic real-world behaviour and performance of businesses and other organisations with uncanny realism. Kim is author of the prize-winning Competitive Strategy Dynamics (Wiley, 2002), a major strategy textbook Strategic Management Dynamics (Wiley, 2008), and summary e-book now widely used in MBA and executive teaching - Strategy Dynamics Essentials (Kindle, 2011). He is also co-founder of Strategy Dynamics Ltd, which publishes "serious games" and online courses exploiting the user-friendly modeling application, Silico.

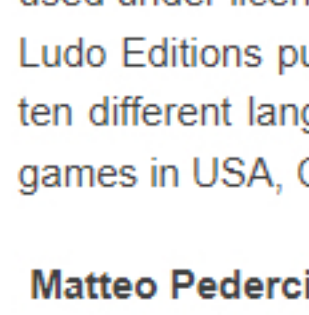
Alessandro Lanzusi



Alessandro Lanzusi was born on 2nd of June, 1970. He worked for some book and comic books publishers like editor and translator. He began to work in boardgames industry since 2002. From that year, he worked in boardgames shops, like promoter to spread the knowledge and enlightenment of boardgames, and for some of the most important industry publishers like developer and editor in chief. One of his developed game, Siena, won the award of Game of the Year in Italy.

In 2005 he was the co-founder of What's Your Game publishing house, and from 2014 the founder and owner of Ergo Ludo Editions, The Ergo Ludo Editions' first game - The Godwin of the Year. In 2016 Ergo Ludo publishes Zador, the boardgame based on one of the most popular Italian comic characters used under license of Sergio Bonelli Editore, one of the most world-famous comics publishers. From his launce, Ergo Ludo Editions published more of 20 success game. The last success game is Ensemble, a party game published in ten different languages and countries. Like editor in chief of Ergo Ludo, Lanzusi sells the rights of the Ergo Ludo's games in USA, Canada, Japan, Germany, Spain, Brazil, France and The Netherlands.

Matteo Pedercini



Matteo Pedercini is Vice President and Chief Operating Officer at the Millennium Institute (MI). Matteo has been working with governmental and international institutions to develop several national, regional, and global simulation models for the analysis of sustainable development strategies. He teaches at the University of Bergamo and other MI's partner universities and has been leading training programs for development professionals in many countries. Matteo holds a PhD in System Dynamics and his research focuses primarily on sustainable development and integrated planning.

Summer School - Organizing Committee

Stefano Armenia



Stefano Armenia (Rome, Italy - 1971) is a Research Fellow in the Analysis and Management of Complex Organization and Organizational Behaviour through a Systems Thinking and System Dynamics approach. He has a degree in Computer Engineering, Industrial Automation & Control Systems, a Ph.D. in Business Engineering and a Master in Management and Business Administration. He is Vice President for Chapters and SIGs of the System Dynamics International Society (SDS), President of SYDIC - System Dynamics Italian Chapter (the Italian Network of the SDS) since 2011 and member of WOSC, World Organization on Systems and Cybernetics and EURAM. He has been the coordinator of several EU proposals in various EU programmes. His research interests deal with the analysis of complex systems dynamics in many fields: decision support systems, organizational behaviour, logistics and transportation, finance, technological innovation, digital transformation, food systems, social dynamics, assessment of impacts of innovation and policies on organizational performance and society. His main novel research proposition is called Smart Model-based Governance. He is currently co-editor in chief of the Kybernetes Journal (Emerald-Insights), Associate Editor of IJSS (International Journal of Systems and Society) as well as guest editor and reviewer in several other top scientific journals in the field of management and business organizations (JBR, LJPM, JSBM, JoS, SYSTEMS, Agriculture, AGSY, IJASS, IJMABS, etc.). He holds the courses on Business Information Systems at Tor Vergata University, Modelling & Simulation at Sapienza University and Business Organizations at Link Campus University.

Edoardo Mollona



Edoardo Mollona graduated cum laude in Strategic Management at Bocconi University in Milan (Italy) and received a PhD degree in Strategic Management/Decision Sciences at the London Business School. He is currently full professor of Business Ethics and Corporate Social Responsibility in the Department of Computer Science and Engineering at the University of Bologna. He conducts research on the relation between corporate and politics, with a specific focus on privatization, and on the formal modeling of policy-making. In these areas of research, he has published books and journal articles, has been in a number of chairs of national and international conferences, he edited the book Computational Analysis of Firms' Strategy and Organizations for Routledge and co-edited the book Philosophy and Business Ethics for Palgrave Macmillan. He currently is the principal investigator of the project INCA (Increase Corporate political responsibility and Accountability) funded in the EU framework Horizon Europe.

Federico Barnabè



Federico Barnabè, Ph.D., is Professor in Business Administration at the Department of Business and Law, University of Siena (Italy). Previously, Federico was a visiting researcher at the University of Bergen (Norway) and Roehampton University (UK). His main research interests include management accounting, performance measurement, accounting history, and simulation & gaming. He published in several international journals on these topics. He was Co-Editor of the *Rivista di Contabilità e Cultura Aziendale* and Guest Editor for the journals *Kybernetes*, *Journal of Modelling in Management*, and *Journal of Simulation*.

Rocco Scolezi



He is consultant and trainer as Strategic foresight practitioner (aka scenario futurists), expert in social-ecological systems, professional facilitator, PhD in Environmental Engineering. Currently, research fellow at the Department of Sociology and Social Research (University of Trento, Italy), and lecturer for the postgraduate Master Course in Social Foresight (in courses: "Systems thinking", "Methods of Futures Studies"), working with prof. R. Poli (UNESCO Chair in Anticipatory Systems) and co-founder of -skopla Anticipation Services®, an innovative startup company of Trento University, member of the Association of Professional Futurists and of the System Dynamics Society.

Scientific Committee of the School

The School's Scientific Committee is constituted by SYDIC's Scientific Committee which, after having initially analyzed and firstly evaluated the whole initiative, has later on supported the Organizing Committee on the development of the first draft of the School Programme.

More info on SYDIC's Scientific Committee can be found here: <https://www.systemdynamics.it/governance/>

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Lake Como School of Advanced Studies, September 12-16, 2022



Lake Como School of Advanced Studies Programme Monday 12 – Friday 16, September 2022

Monday – 12 September 2022		
Time	Topic Description	Speaker(s)
12.30-14.00	Reception and lunch (at Villa del Grumello)	
14.00-14.30	Introduction to the school and programme	Dr. Stefano Armenia - Italian University Line, Rome
14.30 - 15.00	Marking 50 years from the first edition of "Limits to Growth", (online session)	Prof. Dennis Meadows (online)
15.00 - 16.00	Obstacles and challenges in systems thinking for sustainable development of cities and communities	Prof. Enrico Giovannini (online) - Italian Minister for Infrastructures and Sustainable Mobility Prof. Patrizia Lombardi - Politecnico di Torino, RUS Coordinator
16.00 - 16.30	Thinking about Systems-oriented solutions in sustainability	Prof. Edoardo Mollona - University of Bologna
16.30 – 17.00 COFFEE BREAK & GROUP DYNAMICS		
17.00 - 18.00	A Systems view on SDGs	Prof. Habib Sedehi (online) - LUMSA University Dr. Matteo Pedercini (online) - Millennium Institute
18.00 - 18.30	Systems Thinking for 21 st century citizens	Dr. Maria Chiara Pettenati - INDIRE
18.30 - 19.00	Introduction to Systems Thinking and System Dynamics	Dr. Stefano Armenia - Italian University Line, Rome
The lectures will be alternated by group exercises presented from the Systems Thinking Playbook (by Sweeney & Meadows)		
<ul style="list-style-type: none"> Triangles (we always are part of a system of systems) Thumb wrestling (be aware of the tacit premises) 		

Tuesday – 13 September 2022		
Time	Topic Description	Speaker(s)
09.00-10.00	Complexity Understanding in Sustainability	Prof. Federico Barnabè - University of Siena Dr. Alberto Atzori - University of Sassari
10.00 - 10.30	Energy transition and the tragedy of the commons	Prof. Ugo Bardi - University of Florence
10.30 – 11.00 COFFEE BREAK & GROUP DYNAMICS		
11.00 - 11.30	Food Systems and Sustainability	Prof. Franco Fassio (online) - UNISG
11.30 - 12.30	Publishing with Systems Thinking and System Dynamics	Prof. Andreas Gröbler - University of Stuttgart Prof. Edoardo Mollona - University of Bologna
The lectures will be alternated by group exercises presented from the Systems Thinking Playbook (by Linda B. Sweeney & Dennis Meadows)		
<ul style="list-style-type: none"> Balancing tubes (pay attention to the rhythm of system changes) Frames (be aware of and select the most appropriate framing) 		
LUNCH & GROUP DYNAMICS		
14.00 - 16.00	Introduction to System Dynamics modeling and simulation (with Stella [®])	Prof. Pål Daviden (online) - Univ. of Bergen
16:00 – 16:30 COFFEE BREAK & GROUP DYNAMICS		
16:30 – 17:30	Introduction to System Dynamics modeling and simulation (with Stella [®])	Prof. Pål Daviden (online) - Univ. of Bergen
17.30-18.30	Modeling & Simulation Insights	Prof. Edoardo Mollona - University of Bologna
The lectures will be alternated by group exercises presented from the Systems Thinking Playbook (by Sweeney & Meadows)		
<ul style="list-style-type: none"> Avalanche (feedbacks in system adjustments and counter-intuitive outcomes) Warped juggle (incremental and structural changes in systems) 		

Wednesday – 14 September 2022		
Time	Topic Description	Speaker(s)
09.00 - 13.00	Parallel practical sessions: <ul style="list-style-type: none"> Room 1 (Professionals) Crash Introduction in Systems Thinking/System Dynamics (with Silico.app[®]) Room 2 (Academics) The zoo of systems 1: workshop on system models (with Silico.app[®]) 	Dr. Stefano Armenia - Italian University Line, Rome (Room 1) Dr. Rocco Scolozzi - University of Trento (Room 2) Alessandro Pompei - University of Rome Sapienza (Room 2)
Note: from 10.30 to 11.00 → COFFEE BREAK		
LUNCH		
14.30 - 18.30	Parallel practical sessions: <ul style="list-style-type: none"> Room 1 (Professionals) The zoo of systems 1: workshop on system models (with Silico.app[®]) Room 2 (Academics) The zoo of systems 2: workshop on system models (with Silico.app[®]) 	Dr. Rocco Scolozzi - University of Trento (Room 1) Alessandro Pompei - University of Rome Sapienza (Room 2)
Note: from 16.00 to 16.30 → COFFEE BREAK		
DINNER		
19.30 - 21.00	COCKTAIL AND SOCIAL DINNER (at Villa del Grumello)	
21.00 - 23.00	Entertainment activities: <ul style="list-style-type: none"> Systems thinking for Urban Sustainability: the Sustain Board Game (from SUSTAIN Erasmus+ Project) Project Management BoardGame (PMBoG) Climate Action Simulation (EN-ROADS) 	Alessandro Lanzuisi - Ergo Ludo Editions Alessandro Pompei - University of Rome Sapienza Dr. Stefania Miglavacca - ENI Corporate University

Thursday – 15 September 2022		
Time	Topic Description	Speaker(s)
09.00 - 11.00	Driving down greenhouse gas emissions by small-to-medium enterprises (SMEs) (with Silico.app [®])	Dr. Kim Warren (online)
11.00 – 11.30 COFFEE BREAK		
11.30 – 13.00	Group Model Building (with Vensim PLE [®])	Prof. Etienne Rouwette - Radboud University
LUNCH		
14.30 - 16.30	Practical sessions (mixed groups): <ul style="list-style-type: none"> Group Model Building Workshop 	Prof. Etienne Rouwette - Radboud University Prof. Andreas Gröbler - University of Stuttgart
16.30 – 17.00 COFFEE BREAK		
17.00 - 19.00	Practical sessions (mixed groups): <ul style="list-style-type: none"> Group Model Building Workshop 	Prof. Etienne Rouwette - Radboud University Prof. Andreas Gröbler - University of Stuttgart

Friday – 16 September 2022		
Time	Topic Description	Speaker(s)
09.00 - 10.30	Practical sessions (mixed groups): <ul style="list-style-type: none"> Group Model Building Workshop Project Work presentations (plenary) 	Prof. Etienne Rouwette - Radboud University Prof. Andreas Gröbler - University of Stuttgart
10.30 – 11.00 COFFEE BREAK		
11.00 - 12.30	Practical sessions (mixed groups): <ul style="list-style-type: none"> Group Model Building Workshop Project Work presentations (plenary) 	Prof. Etienne Rouwette - Radboud University Prof. Andreas Gröbler - University of Stuttgart
12.30 - 13.15	Debriefing and conclusions	