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Editorial

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Editor-in-Chief

This journal, "**systems: connecting matter, life, culture and technology**", presents an opportunity for the systems community to advance their self-understanding, build connections across disciplinary gaps, and explore new ways of using systemic approaches to benefit society. I am honoured to have been asked to support this endeavour, and I look forward to contributing to the effort of the systems community to face the many challenges that confront us on all levels, from the personal and the social to the global and the environmental.

I would like to thank my predecessor, **Prof. Manfred Fuellsack**, whose competent and energetic efforts have enabled us to present the five outstanding papers in the present issue (1.2).

"**Systems: connecting matter, life, culture and technology**" was set up *inter alia* to be a mouthpiece for reflective and visionary papers presented at the *European Meeting on Cybernetics and Systems Research*, which is held in even-numbered years in Vienna, and we are pleased to include five papers from the 2012 EMCSR in the present issue. Further papers from the 2012 EMCSR will be included in the next issue (1.3).

The present issue leads with the *Ross Ashby Memorial Lecture* presented by psychologist and opens systems specialist **Prof. Merrelyn Emery** of *Concordia University* in Australia. She presents an insightful overview of the debate and theorising within the applied social sciences concerning the merits of open and closed systems approaches. She presents a new synthesis between these concepts and approaches, leading to the important conclusion that the gap between open and closed systems practices can be bridged, but in a special sense: open system practices can embrace closed system perspectives but not vice versa: it is a "one-way bridge", which connects the two approaches without placing them on an equal footing.

In their innovative paper, mechanical engineer **Dr Gábor Szász** (Dennis Gabor College, Hungary), electrical engineer **Dr Svetlana Benedikt** (Computer and Automation Institute, Hungary) and mathematician **Dr. István Kun** (John Wesley College, Hungary) combine forces to develop new approaches to assessing risk. They confront the apparent paradox that lay persons' risk assessments, which are largely based on subjective and unconscious factors, are often more reliable that the assessments of experts using objective parameters and sound logic. The authors present a model that enables both psychological and technical approaches to risk assessment to be taken into account. Their model

produces an outcome that optimises the solution by minimising conflict between different judges of risk.

In his contribution to this issue independent systems researcher **Helmut Loeckenhoff** draws on his lifetime engagement, via teaching and consulting, with the problem of sustaining innovation in industry. He reflects on the relationship between innovative behaviour and meaning-making in society, and shows how the advancement and resilience of societies depend on continuous innovation, and how innovation in turn depends on the meaning people place on their role in society. This exposes the close link between the technical and social dimensions of innovation, and provides new ideas for how to socially sustain the motivational impulses that drive innovation.

In the report by philosophers **Prof. Rainer Zimmermann** of the *Munich University of Applied Sciences*, and **Dr Silvia Mazzini** of Humboldt University in Berlin, they present recent advances in the application of systems thinking to the design of urban spaces. This takes city planning beyond its traditional concern with engineering and technical activities, and provides design principles for "a unified theory of [urban] space", that can be drawn on to ensure that urban spaces are suited to the complete range of social interactions required by the society.

In closing off the current issue we are pleased to present an important scientific research paper by mathematician **Dr Maria Sanz** (CEU Cardinal Herrera University, Spain), physicist and mathematician **Dr Joan Micó** (Polytechnic University of Valencia), agronomist **Dr Antonio Caselles** (University of Valencia) and mathematician **Dr David Soler** (Polytechnic University of Valencia). They present a validated human dynamics model that extends current methods by combining the demographic factors included in traditional models with the major well-being factors included in UN Indexes for human development, gender development and gender empowerment. This model significantly extends the ability of simulation studies to support social policy for ensuring stable population growth.