



# ***IFSR Newsletter***

## ***Official Newsletter of the International Federation for Systems Research***

*Editor-in-Chief: Gerhard Chroust  
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*Janie Chroust  
2011  
Landhaus Linz*

*Dear Readers!*

*We are sad to have had said Good Bye to our founding president George Klir (see inside).*

*2016 has been was a very busy year for the newly elected IFSR Executive Committee (see IFSR Newsletter of July 2016). Key achievements have been:*

- The acceptance of three new IFSR members*
- Organising the IFSR Conversation 2016 in Linz, including publishing the proceedings*
- the relaunch of the IFSR Book Series*
- the relaunch of our web site*

*As you can see, your IFSR is active and reaching out for new activities. With our best wishes for a peaceful Holiday Season*

*I remain yours truly*

*Gerhard Chroust*



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## Mary C. Edson: President's Message

A significant undertaking facing new leadership is exploring the breadth and depth of the organization in which they lead. For me, this year has been focused on understanding the scope and priorities of our membership. Part of that effort has been participation in meetings and conferences like that of the American Society for Cybernetics (ASC) in June held in Olympia, Washington, and the International Society for the Systems Sciences (ISSS) held in July in Boulder, Colorado. Through these meetings I sense the exigency of the Systems Community for application of systemic knowledge and approaches to complex problems, yet we are challenged by barriers to entry into the very conversations and decision making in which they may play a vital role. How do we dissolve the barriers and find a place for systemic thinking and systems science at the decision making table?

The answers to that question are itself complex, given the breadth of the disciplines and fields that the membership of the IFSR represents. Each domain has its own context in which to find a path forward. However, through the meetings and conferences I have participated in this year, some themes have become apparent and are somewhat universal. Change is happening at multiple levels so rapidly it is like gulping water from a fire hose. What works at one level does not necessarily cascade into working satisfactorily at other levels. Past approaches that cannot be adapted quickly

enough are obsolete. Emergence of new ways of operating and being, significantly due to technological advances, have presented an abundance of options while simultaneously introducing disruption that can be destabilizing to organizations and institutions. Even our best prognosticators have found that predictive methods used in the past no longer fit current paradigms. With so much in play, how can we make a difference?

For the IFSR, the Executive Committee (EC) is thinking strategically and making inroads where we can. First, we're building on a distinguished past by revitalizing and expanding the scope of the IFSR Book Series. Through development of new titles, the IFSR Book Series will provide our community a platform for sharing their expertise through authorship and a channel to increase depth of knowledge through readership. Second, members of the EC are actively building relationships in the Systems Community and beyond to develop awareness and opportunities for collaboration. Recently, Gary Metcalf, Ph.D. and Vice President participated in a meeting with CASSE in Beijing. Gary will share more details about this meeting and his experience in this newsletter, so be sure to look for it. Third, the IFSR Conversations will continue to be incubators for innovation. The 2016 IFSR Conversation outcomes related to Systems Literacy are shared in this newsletter for your inspiration to future participation. Fourth, we are actively

engaged in outreach to increase membership and to broaden it to different types of organizations engaged in advocating systemic approaches and thinking.

This brings us to a final point I direct your attention to in this message. The success of our efforts will largely depend upon the relationships we build and the value we provide. Truly,

Mary C. Edson, Ph.D.

President

Should you have any thoughts you would like to share about membership strategy or building relationships for opportunities in the application of systemic thought in the field and beyond, please contact us through the website at [www.ifsr.org](http://www.ifsr.org) or email at [ifsr@ofai.at](mailto:ifsr@ofai.at). On behalf of the EC, we are looking forward to continuing to work with you in the coming year.



On May 27, 2016 after a highly successful scientific career, George Klir closed his eyes forever. He was born in Prague on April 22, 1932. After studying Electrical Engineering and Computer Science (MS and PhD) he taught several years at the Institute of Computer Research in Prague and 2 years at the Baghdad University. In 1966 he immigrated to the USA, where he started his academic career at the University of California, Los Angeles. In 1969 he became Professor at SUNY in Binghamton, New York, from where he emerited in 2007.

***The IFSR, the International Federation for Systems Research, owes him special thanks for two of his outstanding achievements.***

### **Founding the International Federation for Systems Research (IFSR)**

In March 1980 during his Presidency of the Society for General Systems Research (SGSR), now International Society for the Systems Sciences (ISSS), together with Robert Trappl, President of the Austrian Society for Systemic Studies (OSGK) and Gerard de Zeeuw, then President of the Netherlands Society for Systems Research (now Systeemgroep Nederland), he founded the IFSR, the International Federation for Systems Research. The aim was to bring the then existing three systemic societies under one umbrella and thus to strengthen and support the Systems Movement.

A Newsletter was also created, announcing the foundation of the IFSR in its first issue (see below).

George became President of the IFSR and served until 1984, with Robert Trappl as Vice President and Gerard de Zeeuw as Secretary/Treasurer.

Their initiative was highly successful; the IFSR grew and broadened its scope. It now has 45 members in 25 countries all over the world. In 2005 IFSR celebrated its 25<sup>th</sup> anniversary (see IFSR Newsletter No. 23-1 (2005) and IFSR Newsletter No. 24-1 (2006) on the IFSR Homepage www.ifsr.org)

But let us hear from George himself how he remembers the foundation of the IFSR (reprinted from his contribution in the IFSR Newsletter vol. 23, no 1 (December 2005) on the occasion of the 25th anniversary of the IFSR):

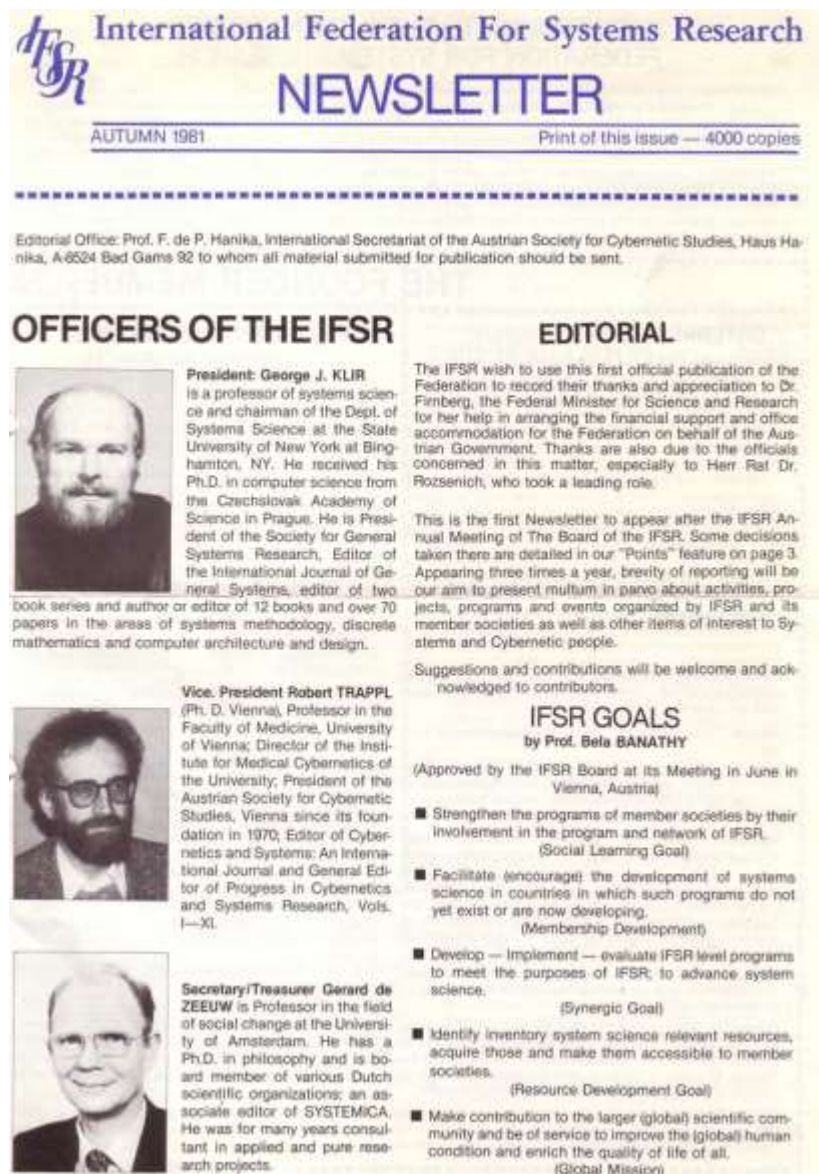
*This year [2005] has a special significance for IFSR since it was founded a quarter century ago. It happened on April 10, 1980, during the Fourth European Meeting on Cybernetics and Systems Research in Vienna. On this occasion, let me make a few remarks regarding some events that had contributed to the creation of IFSR in 1980.*

*To my best recollection, the idea of creating such a federation emerged from discussions at the Netherlands Institute for Advanced Studies (NIAS) in Wassenaar during the academic year 1975-76. This was my sabbatical year and I was invited to spend it at the Institute as a Fellow. Shortly after my arrival, I established a strong relationship with a Dutch Fellow at the Institute, Gerrit Broekstra, who was*

*very active in systems research and served at that time as President of the Netherlands Society for Systems Research. Prior to my sabbatical, I was not aware of this Society, but during my residence at NIAS, I earnestly participated in its many activities and met some of its members.*

*At NIAS, I had many extensive discussions with Gerrit about some fundamental issues of systems methodology, but we were also talking*

*from time to time about the bigger issues of systems movement. At some point, we both felt that some organization is needed that would*



provide a worldwide support of systems movement. Needless to say, this was initially a half-baked idea. Once it emerged, however, this idea began to reappear in our discussions fairly regularly. When we started to think about its implementation, the concept of a federation emerged. We were also aware of three societies that we considered suitable for founding such a federation: Society for General Systems Research, Netherlands Society for Systems Research, and Austrian Society for Cybernetic Studies. These societies were very different from one another in many respects and we were not sure if they would be interested to participate as founding members in forming the federation we had in mind.

First, we discussed the idea within the Netherlands Society for Systems Research and the response was, by and large, favorable. Then, I communicated with some influential members of the Society for General Systems Research and their response was somewhat mixed, but not totally negative. Finally, we presented the idea to some representatives of the Austrian Society for Cybernetic Studies, in particular Robert Trappl and Franz Pichler, at the Second European Meeting on Cybernetics and Systems Research in Vienna in 1976. The response was quite favourable and increased our enthusiasm about this idea.

It had taken four more years before the Federation was actually founded. First, it was essential to obtain a commitment of the three prospective founding societies to participate in this endeavour. Fortunately, I became a Managing Director of the Society for General

Robert Trappl added today: George accompanied many activities in my life. He was the prime mover to establish the International Federation for Systems Research (IFSR) which took its seat in Austria. For several years he successfully served as its President, therefore it was an easy task for me to follow him in this capacity in 1984.

Systems Research in 1977 and that position allowed me to convince the leadership of the Society to participate, at least in principle. Once the three societies agreed to participate in the formation of their Federation, many specific issues had to be negotiated, including the name of the Federation. After several proposed names were considered, the name "International Federation for Systems Research" was eventually unanimously approved. Several meetings of representatives of the three societies took place in 1976-78. The critical meeting was held at the Third European Meeting on Systems Research and Cybernetics in Vienna in 1978. At that meeting, a prospective support of the new Federation by the Austrian Government was announced and, due to this support, it was decided that the principal office of the Federation would be in Austria.

The period 1978-80 was devoted to drafting a constitution of the new Federation. After many modifications of the original draft, the constitution was finalized prior to the Fourth European Meeting on Cybernetics and Systems Research in Vienna in 1980. During this meeting, the Federation was officially founded, I was elected to serve as its first president, and an agreement with Austrian Government was obtained for a substantial financial support of the Federation.

I hope that these scattered recollections, which are nowhere recorded, will be of some interest to individual members of the growing number of IFSR member societies.

George J. Klir †

## **Founding the IFSR International Book Series on Systems Science and Engineering**



Very soon the need to collect and publicize the foundations of Systems Science and Systems Thinking became apparent: The IFSR International Book Series on Systems Science and Engineering was founded in 1985.

The Series is primarily oriented on the publication of original monographs and graduate textbooks in the areas of Systems Sciences and Engineering with an emphasis on high quality and rigorous scientific publication.



George Klir became, and up to now has been, the only Editor-in-Chief of the Book Series. The first published book was 'ANTICIPATORY SYSTEMS: Philosophical, Mathematical & Methodological

Foundations' by Robert Rosen, 1985.

Since then many famous books have appeared in the Series including his own seminal book 'Facets of Systems Science' (two editions, 1991 and 2007),

<http://www.springer.com/series/6104>

Over the 30 years of its existence, 26 books have been published in the Series.

From the very beginning George insisted and enforced a high quality of the books both with respect to their contents and also their formal presentation. He was actively recruiting high class authors for his Series. The chosen titles were strongly connected to Systems Science. He especially favored books dealing with uncertainty and books with a sophisticated mathematical content.

The Series was originally published by Plenum Publishing Corporation; the Series later moved to Kluwer and Elsevier. Now it is published by Springer Publishing, New York.

***The IFSR wants to thank George Klir for his foresight and dedicated work as the Founding President of the IFSR and as the long-term Editor of the IFSR International Book Series on Systems Science and Engineering.***

The IFSR Executive Committee:

Mary C. Edson, Gary S. Metcalf, Ray Ison, Jennifer Wilby, Gerhard Chroust



## Mary C. Edson: The IFSR Conversation 2016

The Eighteenth Biennial IFSR Conversation gathered at Sankt Magdalena near Linz, Austria, from April, 3-8, 2016. The weather cooperated by providing a bountiful spring setting that balanced the generativity of Conversation with the budding of flowers and trees after a long winter. The inherent anticipation of the season bolstered the focused dialogue. The Conversation brought together three teams working towards a common goal of creating a foundation for Systems Literacy. Systems Literacy is a project led by Peter Tuddenham in an effort to broaden the understanding and application of Systems Thinking and Systems Science in different contexts (i.e. levels such as entry (K-12), intermediate (public discourse and policy), and advanced (Systems Engineering, Socio-Ecological Systems). At the Conversation, Peter facilitated an overarching dialogue related to Systems Literacy, while three teams focused on specific aspects related to that dialogue.



The three teams were formed and developed over several months of preparation for the Conversation. The preparations started last fall

with the adoption of Systems Literacy as the overarching theme and teams relating to it. Brigitte Daniel Allegro and Gary Smith led their team (Team 2) in development of a Systems Game based upon the principles from their previously presented Systems



Tree. A tale of the Baron and the Baroness emerged as a narrative to illustrate the principles of systems thinking used in the game. Jennifer Wilby, Janet Singer, and Michael Singer collaborated with their team (#1) to integrate Boulding's (1956) Skeleton of Science into dialogue focused on development of principles for Systems Literacy, in particular related to Systems Engineering. This team will continue its work with Peter to create proposals for

development of Systems Literacy starting with submission of Response



to a Request for Proposal (RFP) by the National Science Foundation (NSF). The Systems Research Team (Team 3) sought to discern how Systems Research could be in service to or support the Systems Literacy initiative. The team found that through its role, which seeks to provide a credible research foundation grounded in the neutral stance of observing systems, part of its service would be providing an ethical framework for application of systems



principles in practice. Each team shared their findings during an engaging presentation on Friday morning while looking forward to further development of Systems Literacy.

Those participants who are new and unfamiliar with the



Conversation’s design may be daunting by the idea of spending five days in small groups focused on singular topics, especially if they are accustomed to traditional academic conferences in which the formal lecture, unidirectional, rather than interactive and participatory. Feedback from participants tells us that while that unsettling feeling exists on Sunday, it evaporates quickly by mid-week. By Friday, most participants wonder where the week went because there is a sense that there hasn’t been enough time to explore all the material that emerged from the week’s Conversation. Here are some of the participants’ comments from this Conversation:

My overall impression is...

- “...possibly the most important work in the world. Needs acceleration.”
- “...unsure what to expect. I had a chance to explore questions of interest to me.”
- “...it was a fruitful week with rich experience.”
- “...I can’t wait until the next one!!!”
- “...brainstorming process with creative/critical thinking.”

Most of the participants enjoyed the collegiality and diversity of the teams. They also expressed that there is neither time nor the conditions for deep development of these subjects

discussed in day-to-day academic - professional - career - work environments. The quality of interactions at this level received high marks for generativity and innovation, especially for collaboration and “co-creating knowledge,” as one participant remarked. As most social interactions continue to evolve into the 21<sup>st</sup> century globally, so must the Conversation. Several participants remarked about leveraging technology and social media to enrich the discussions. We will research these options, along with several other suggestions for improvements, in the months preceding the 19<sup>th</sup> Biennial Conversation. In the meantime, we ask our member societies to encourage their members to start thinking about topic proposals and to develop ideas with colleagues who may be interested in joining the Conversation in 2018.

The 2016 Conversation continued an evolution of the IFSR Conversations as catalysts for dialogic cultivation of ideas with a bias toward action. With the publication of the Systems Research Team’s book, *A Guide to Systems Research: Philosophy, Processes and Practice* (Springer, 2016), which is a direct result of the 2014 IFSR Conversation, Conversations are becoming incubators for innovations that advance our understanding of systems and the application of Systems Science. In the coming months, we expect Systems Literacy to follow this trend. By the end of the 2016



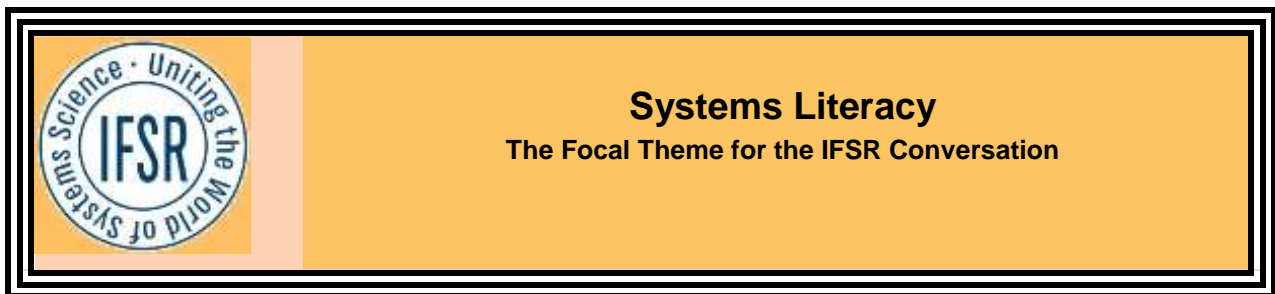
Conversation, most felt energized, if not like this fellow, our resident mascot.

Stay tuned for the 2016 IFSR Conversation Proceedings to be published at the end of this year [Edson-2016].

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Edson, M., Metcalf, G., Tuddenham, P., and Chroust, editors (2016). *Systems Literacy*. Inst. f. Telecooperation, Johannes Kepler University Linz, Austria, SEA-SR-47, December 2016.



In November 2015, the 2016 IFSR Conversation team leaders met to discuss the possibility of developing an overarching theme for the 2016 Conversation. Because the teams had been articulating systemic concepts and principles, several ideas for a central theme were considered. Among these ideas was the topic of Systems Literacy introduced by Peter Tuddenham at the International Society for the Systems Sciences (ISSS) Annual Meeting in Berlin, Germany in August 2015. As team leaders developed their topics with their teams, they kept a focal theme of Systems Literacy in mind. The intention was that participants in the Conversation integrate the work of the teams into a body of knowledge to be developed into modes for educating those new to systems thinking, the systems sciences, and systems research, as a coordinated and coherent whole system initiative to define and achieve Systems Literacy.

Systems Literacy could be defined as understanding your model or models of

Systems, how it is the same and different from others' models of Systems, and how our individual and collective actions influence Systems behaviors and how Systems behaviors influence us. An agreed definition will be an outcome of the Systems Literacy Initiative process.

The Systems Literacy Initiative is a process of an ongoing international, coordinated effort to create a greater awareness and understanding about "Systems" and to develop a comprehensive set of big ideas, supporting concepts and learning progressions that have broad agreement. At present, this Systems Literacy Initiative is now being developed by a working group of members from IFSR, ISSS, the International Council for Systems Engineers (INCOSE), and the American Society for Cybernetics (ASC).


At the 2016 IFSR Conversation welcome reception on Sunday evening, 3 April 2016, a brief introduction to the background, structure

and process of other literacy efforts for the ocean, earth science, atmosphere, climate, and other subjects that can serve as models for Systems Literacy was presented by Peter Tuddenham. An invitation was extended to the participants to consider how their conversations during the week contribute to Systems Literacy in general, both content and process, and to engage for an hour at the end of each day to contribute to the content and participative design process for the Systems Literacy Initiative.

At the end of each day's conversations all teams assembled as one group to contribute to the Systems Literacy Initiative. On Monday the group answered the question "How would we know when we have a systems literate society?" Tuesday the group addressed issues

of different representations of "Systems" in different languages and cultures. Another area of discussion was the Next Generation Science Standards in the USA that have cross-cutting concepts that are very close to a set of seven systems principles or considerations. The Wednesday contribution by the group was suggestions for other groups and parties who could be included in the broad Systems Literacy Initiative.

The IFSR 2016 Conversation overall theme of Systems Literacy was a helpful contribution to the overall multi organization Systems Literacy Initiative. Furthermore, the overall theme provided a way for some emergent properties of coherence and convergence to occur within each group's conversation.



**Team 1:” Exploring Transdisciplinarity using Hierarchy Theory, Boulding’s Skeleton of Science, and General Systems Theory”**

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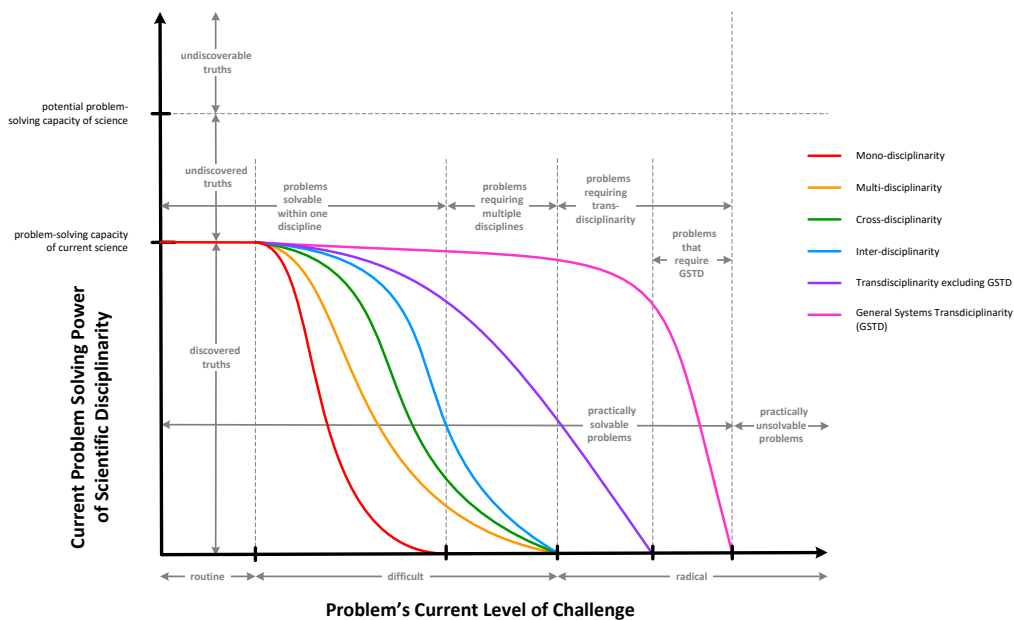
*Michael Singer, USA - [mjsinger@soe.ucsc.edu](mailto:mjsinger@soe.ucsc.edu)*

The purpose of our Conversation at Linz was to discuss the hierarchy of systems complexity that Kenneth E. Boulding proposed in "General Systems Theory: The Skeleton of Science" (1956), drawing on his earlier work *The Image* (1956). We sought to explore the possibilities

for informing a process of intentionally holistic transdisciplinarity. Members of this team have been involved with research that would feed into the transdisciplinarity conversation during the week-long meeting in Linz (Singer, et al. 2012; Rousseau et al, 2014, 2016 a,b,c). This

work builds on von Bertalanffy's (1968) GST and the overarching unity, and Laszlo's (1972) systems philosophy as the underpinning unity. Throughout the week, we also discussed Sue Gabriele's framework for building relative Inclusive, Continuing, and Emancipatory (rICE) social systems starting from Boulding (1956), Checkland (1991), Scott (1992), and Gabriele (1997). Examples drew from her experience and research in schools and workplaces (see the conference proceedings for detailed discussion of this innovative framework).

Transdisciplinarity in practice requires more than simply bringing different disciplines into an intervention (Wilby, 2011a,b; Madni, 2007, 2010). Rousseau and Wilby (2014) argued that it will arise in practice from what could be called a General Systems Epistemology (GSE), and that development will be based on a radical change and design of practice coming from a unified single ontology. An initial ordering of increasing complexity in various forms of working in disciplinary practices, from mono-disciplinary practice towards the goal of transdisciplinary practice.



**Figure 1. The application areas of kinds of disciplinarity (Rousseau, et al, 2016c)**

Figure 1 shows along the x-axis, the increasing level of challenge and increasing complexity in a problem situation, broken into 3 broad categories of routine, difficult, and radical. Known models and theories can be brought to bear on "routine" problems, but as the complexity increases, in a similar pattern displayed in Boulding's *Skeleton of Science*, then the theories and methods required to address "difficult" and "radical" problem

situations are less certain in their application and outcomes.

In the current 2016 IFSR Conversation, the intent was to map specifically chosen systems methodologies in terms of Boulding's work, to demonstrate the systems principles incorporated (or not) in those methodologies, and where found, how those principles might be used to illuminate a possible form of a new transdisciplinarity in practice. What emerged from this week was a particular methodology

(rICE), based on Boulding's *Skeleton of Science*, and how that may show transdisciplinarity in practice. An underlying theme in Kenneth Boulding's research and writing was the search for governing principles, rules and system structures. Boulding worked to discover some system of measurement (a form of gravimeter) applicable to the general field of social systems, similar to those found in the physical sciences. This was a framework that Scott referred to as a typology of system complexity (Scott, 1992). There are additional ways of viewing the Skeleton however, and it is these viewpoints on the content and context of Boulding's Skeleton we explored in our discussions.

Frameworks, clockworks, and control systems or "thermostats" (levels 1-3), are predictable, designable to exteriorly prescribed criteria (e.g., goals determined by a teacher, engineer, or CEO). Open, blueprint, image-aware, and symbol-processing parts (levels 4-7) are not designable. These undesignable systems, organisms, act according to interiorly prescribed criteria—needs (Level 4: e.g., amoeba or living cell), abilities (Level 5: e.g., plant), perceptions (Level 6: e.g., animal), and choices (Level 7: human) -- of increasing variability. Level 4-7 system boundaries are mandatory. Level 8-9 system boundaries are fleeting, optional. Social and transcendent levels (Levels 8-9) are thus even more variable. Level 7 systems (humans) can ignore the leader's input and even take opposite action. Thus, Level 7 (individual) goals preempt Level 8 (organization) goals. Individual

humans can move from one Level 8 system to another – changing their schools or workplaces. They cannot change their Level 7 system – their physical body.



Boulding's nine-level typology may clarify these two conflicting camps. In other words, top-down old paradigm bureaucratic models assume all parts of a social system are designable. New paradigm laissez-faire models assume no parts are designable. Boulding's typology shows how both paradigms are needed. The first step in the path to a more fully specified new paradigm for social system behavior is this shift in agency--from teacher to learner, from CEO to employee. Whether behavioral laws and causes relate to gravity or human agency, both paradigm shifts here are proposed as hard science--a result of extensive empirical observation, rather than speculation. A shift at such a grand level requires reconceptualization and recalculation at all levels of system. Thus, development and applications are to be wide (across disciplines: cf. transdisciplinarity) and deep (at all levels of organization: cf. hierarchy theory).

### Links to Hierarchy Theory and Transdisciplinarity

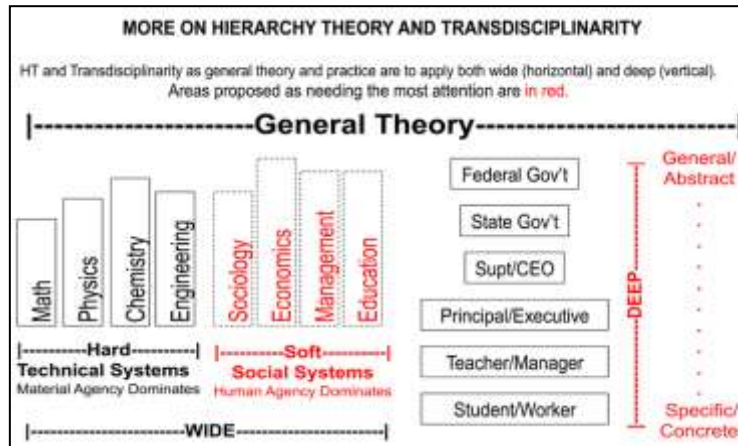
Gabriele's Figure 2 illustrates more specific areas for linking insights from Boulding's Typology to Hierarchy Theory and Transdisciplinarity. Left are examples of eight disciplines. There are the hard technical

systems, where material agency dominates (Levels 1-3 in Boulding's Typology), and there are the soft social systems, where human agency dominates. Informed by transdisciplinarity, knowledge and concepts are

to be meaningful, to make sense, across all the disciplines.

Far right is another dimension and continuum, from general and abstract to specific and concrete. Boulding affirmed that “Somewhere however between the specific that has no meaning and the general that has no content

there must be, for each purpose and at each level of abstraction, an optimum degree of generality” (1956, 197). Thus, specific concepts and vocabulary are to be appropriately general or specific to be most meaningful at each level of organization and within each discipline.



**Figure 2. Illustrations of Hierarchy Theory and Transdisciplinarity**

**Conclusions of the Conversation and Further Development of this Work**

Given the complexity and scope of our topics, as well as our different images and viewpoints, there are many possibilities. We do anticipate further exploration and development of the core principles identified in Gabriele’s elaboration of Boulding’s typology, not yet developed during our work. We propose to explore them and link them to Hierarchy Theory and Transdisciplinarity in an intentionally holistic approach. Further conversation within the Team is ongoing to explore the relationships between Boulding’s typology and the search for the evidence of transdisciplinary systemicity and some measurement of that concept in specific systems methodologies. Methodologies such as Soft Systems Methodology (SSM), the Viable System Model (VSM), System Dynamics (SD), and Complex Adaptive Systems (CAS) have yet to be evaluated for systemic principles incorporated (or not) in those methodologies, and where found, how those principles might be

used to illuminate a new form of transdisciplinary practice, e.g. in Gabriele’s rICE methodology.

**Acknowledgements**

The authors would like to thank Peter Tuddenham, Debora Hammond and David Rousseau for their thoughtful contributions to the team discussions during the week and in the writing of this report.



**Team 1:** Janet Singer, Allenna Leonard, guest contributor Peter Tuddenham, Sue Gabriele, Michael Singer, Stefan Blachfellner. (Team Leader Jennifer Wilby not pictured)

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## Team 2: “Unity in Diversity – making the implicit explicit”

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### **Before the Conversation**

The origin of this topic was the observation that in time of crisis we must break down the barriers to communication across disciplines, organizations, societies, beliefs and cultures in order to promote collective understanding for a common case.

Before the conversation took place, as a framework for communication we distributed the “Systems tree” which is a conceptual model of the “systems thinker’s attitudes” and the key “systems concepts” that facilitate system understanding. The idea was to explore these concepts, to develop a common understanding of their meaning and to have some experience in using them to consider different real world complex problems. This would allow us to develop a prototype game for teaching, exercising and developing systems thinking skills for all, which could be tuned to the diversity of potential players.

The journey started with the team a few weeks before the actual conversation in Linz: some e-mails were exchanged, some “exercises” done by the team, and contributed papers were received to generate ideas. We had a long video call with one member of the team and a short one with most of the other members. The team leaders laid out a detailed framework for the days in terms of team experience that the team was supposed to achieve:

- Sharing, playing and visualizing the system concepts
- Using the system concepts to analyze stories
- Building the framework for the game
- Using the game to analyze a real world problem.

This was intended to facilitate capturing the diversity of the team in the development of the toolbox for the prototype game



## The Actual Conversation

Our first day with the team did not go so well. One of the team members challenged the rigidity of the predefined schedule, the usefulness of designing a board game as the ultimate goal of the Conversation and a lack of discussing the objectives of the game. Gordon suggested using a story called “The Baron and Baroness” as a way of exercising systems thinking. The story is set in a castle. It describes a series of events and interactions involving 6 persons in which each person contributes in some way to the final killing of the Baroness. The participants have to discuss and judge the responsibility and blame of the individual persons for the killing. Playing and discussing this game promoted a better atmosphere for conversation and getting to know each other a little better.

After lunch, we all produced some drawings of concepts which helped a little in sharing the idea that we can express concepts not just in words but also through art. For example when we played with the concept of boundary there were several different representations which highlighted different features of personal perspective.

On day two, we started with a systems thinking roundtable. This gave everyone the opportunity to speak and to express what their hopes and expectations for the conversation were. The questions asked were: “What is Systems thinking? What are the challenges and what are your hopes? What situations have you left behind and what might happen here that could be valuable for you back home?”

During the second day we shared some more stories and we also took the time to look into the Chinese characters related to system concepts. By the end of this day, we had agreed upon what the nature of the game would be in terms of qualities and framework, its

scalability and the idea that it’s scaling and tailoring could be made using the concepts in relationship to the stories and games already embedded in culture.



On the third day we were joined by Peter Tuddenham and we ran a round table on the topic of “what can you do to support systems literacy”. We also then reran the Baron and Baroness Story but this time as observers.

We then started to fill in a matrix of system concepts and related simple questions that could be asked in relationship to simple stories. We also used an Aesop tale – “the cock and the jewel”. We focused here on questions that could be asked of young children aged 3-5.

What we realized is that depending on the level of systems experience we could speak the language and use questions tailored to the level of the player. What we also realized was that some concepts were more applicable to simple situations, whilst others were more attributable to complex situations.



On the fourth day we started again with another round table on the topic of “Unity in Diversity”. We finished a document that described the overview of the game, incorporating the Baron/Baroness story as the example. The

team came up with the idea of producing a digital platform in order to capturing system concepts and related information such as visualization and questions. These questions were designed and classified as relating to simple, complicated, complex and “wicked” situations. The team worked very quickly in the afternoon defining digital cards and questions for many of the system concepts. Everyone was able to work within the proposed framework and made very strong contributions. In the evening we finished the presentation for the following day.

By way of experience we have made some adaptations to the original systems tree framework. Some concepts were renamed and some others were added.

### Reflection

Reflecting on the overall experience, the most compelling aspects of the team’s conversation was that it can be very difficult to lead a team on a journey without having first developed a common vision and mission. This is probably one of the strong messages of the experience with the Conversation set-up. In fact the first journey we had to make was the discovery of each other. The team leaders in at at aculally cojnstructing a game was initially objected to by the ‘ directly build a game was objected to by the team. As a consequence several members of the team rather behaved as observers than as active participants. On a much more positive



In the end we had accomplished approximately what we had aimed at, but the effort and the emotional involvement had been much more difficult than expected. The prototype game also proved different to what the team leaders had expected. It was a digital platform instead of a tangible art. This proved to be an enabler for development in an adaptable, collaborative way, thus providing a better framework for teaching, developing and practicing “Systemry” (i.e. Systems Thinking). We believe that it would be scalable and adaptable to a large sector of possible users and cultures.

One of the outcomes was a prototype, rather a completed platform, for understanding System Thinking by playing.

note, after the first day each of the team members was invited and able to share and suggest insightful contributions

After the conversation the intention is developing the game itself (names “SysteMystery”) into a platform based on the matrix developed at Conversation. Once initially tested, it will be opened for others to contribute to its enrichment. It is hoped that this framework might become a useful contribution to the Systems Literacy project which was the overarching theme of the whole conversation.

**The Unity in Diversity Team:** Florian Daniel, Gerhard Chroust Gary Smith (Co-Team Leader), Maria Stella de Castro Lobo, Brigitte Daniel Allegro (Co-Team Leader), Xijin Tang, and Gordon Dyer (not pictured).



### **Team 3: “Systems Research Team - Exploring the Relationship of Systems Research to Systems Literacy”**

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This summary outlines the activities and outcomes of the Systems Research Team (SRT) at the 2016 IFSR Conversation in Linz, Austria. The 2016 SRT consists of: Mary Edson (team leader), Pam Buckle Henning, Tim Ferris, Andreas Hieronymi, Ray Ison, Gary Metcalf, George Mobus, Nam Nguyen, David Rousseau, and Shankar Sankaran, with guest team member, Peter Tuddenham. While the 2014 SRT focused on the needs of Systems Researchers, the 2016 SRT's focus is on reaching out to a broader community to provide a foundation for Systems Literacy. The team's Conversation revolved around the question, "How can Systems Research be in service to Systems Literacy?" The team's discussions were directed into two essential aspects, separate and integrated, of this question. First, Systems Research serves Systems Literacy by providing a credible foundation for the principles and practices of Systems Science and Systems Thinking in both systematic and systemic modes. Second, Systems Research provides a

neutral frame for development of ethical applications of those principles and practices.

The SRT recognizes the exigency in providing foundational principles that can be effectively adopted and disseminated through Systems Literacy. The team's narrative begins with an understanding the urgency for application of Systems Sciences and Systems Thinking to critical issues. Systems research is typically a slow generation of results; however, the body of knowledge gained through this process can be confidently used to address complexity in timely ways. The choice of how we respond to these issues relates to a process model that can be applied. Through understanding the relationship of the process model to the trajectory, the team directed its focus to developing a MindMap of eight essential aspects or features of how Systems Research can support Systems Literacy. These include: Systems Science knowledge base, roles and personas, maturity models, role profile, ontology/vocabulary,

perspective/framing choice, frameworks, and political ecology. The eight relate to unpacking the Systems landscape in a coherent but loosely coupled investment portfolio (economic, social, and relational) for building *systemic sensibility* in such a way as to be dis/aggregated for different audiences. The

week’s work culminated in a plan for “Looking Ahead,” which outlines the intentions of the SRT to continue to its activities in support of Systems Literacy in the upcoming months. The following sections summarize the SRT’s Conversation.

### Exigency of Systems Research to Systems Literacy

The necessity for Systems approaches to address larger issues and problems informed much of the Conversation, as the limitations of traditional approaches have been realized. Economies and societies are going through a Great Transformation. While in earlier times, societal revolutions were induced by technological innovations, today social

technology of system-cybernetic management will revolutionize the functioning of companies, societal organisations and whole countries (Malik, 2016). For us, as an individual systems scientists/scholars and also, collectively, as the systems society, it is critical to find ways to move ourselves and the systems field, together with systems research and systems literacy.

IFSR, Systems Research Team  
Linz, 2016

## Towards systems literacy The role of systems research

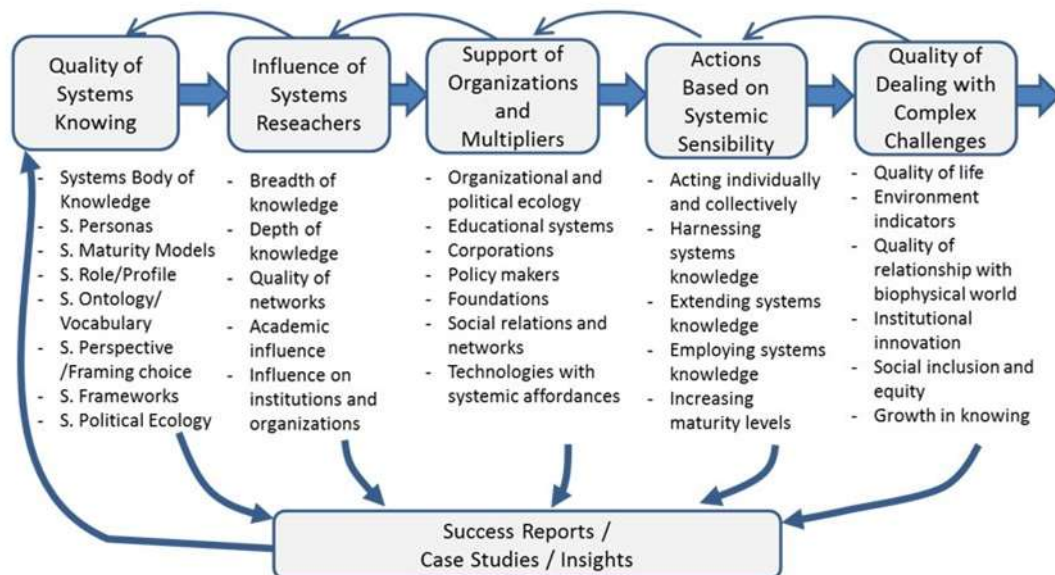


Figure 1. Towards systems literacy – The role of systems research

## Process Model

In this vein, we asked ourselves, “Why do we care about systems science, systems literacy and systems approaches?” The purpose is not just about increasing the amount of systems books and papers, but finally about the changes we want to see in the world. How can we bridge the perceived gap between academic

knowledge and real-world practice? What are the necessary intermediary factors from insight to impact? The following process model (Figure 1) tries to capture this and consists of five main variables/factors (or pillars) that are linked through a sixth one.

## Systems Analysis – Future Potentials

The process started here, at the Conversation, which is essentially an agile method for finding a set of seed ideas. The Conversation has provided an excellent beginning for a more rigorous top-down systems analysis. Here is a sense of what the SRT is working on and toward.

The SRT is *acting as a process to generate a process*, i.e. to develop a framework for the production of a set of guiding principles, including possible structures to be employed, for the doing of systems research. The intent of this effort is that by doing so future systems researchers (in different roles such as pure or applied research) will contribute to a common framework in which the other sciences (natural and social alike) can operate to enhance and increase the systemicity of their work. The objective includes a broader application of systems literacy that goes beyond just doing science to the whole of social thinking and doing. The work started here must eventually

be witnessed succeeding as social norms in thinking through complex problems (e.g. political) and move from linear, isolated conceptualization to the systems point of view.

To that end the team identified eight believably critical factors or components that form the structural aspects of the hoped for process. George proposed the application of a kind of systems analysis (Mobus, 2015) to what we have so far in order to better identify the actual processes that will produce the actual products and resource inputs needed. Through an iterative process of feedback exchanged with the team, the SRT in essence becomes the “users” (actors or agents) thus capturing the real needs of the users. In other words, the members of the SRT are not merely attempting to be objective observers of processes but participants in the systems in which they research, possibly as agents of change and transformation.

## Eight Critical Factors

After identifying eight, believably critical factors or components that form the structural aspects of the hoped for process our team decided to explore these further. As shown in the Process Model, the list of eight factors we compiled are: 1.) Systems Body of Knowledge, 2.) Systems

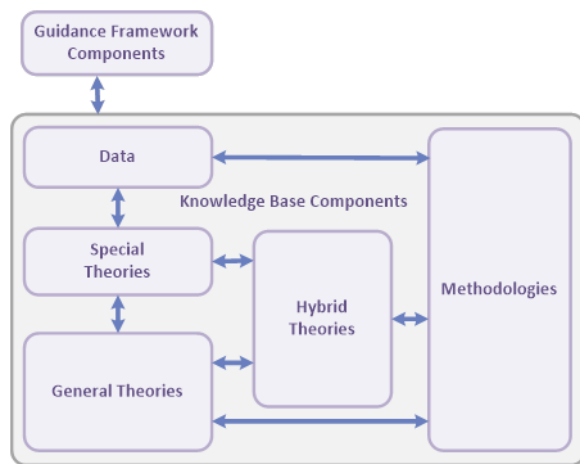
Personas, 3.) Systems Maturity Models, 4.) Systems Role/Profile, 5.) Systems Ontology/Vocabulary, 6.) Systems Perspective/Framing Choice, 7.) Systems Frameworks, and 8.) Systems Political Ecology.

Starting with Systems Body of Knowledge,

these eight factors were unpacked.

### Knowledge Base of a Discipline

A generic way of modelling the structure of the knowledge base of a discipline is suitable for the SRT's purpose. This model was developed by the General Systems Transdisciplinarity team (Rousseau et al., 2016). Three important things should be noted at the outset.



**Figure 2.** The structure of a Knowledge Base (adapted from Rousseau et al., 2016, Figure 9)

First, the building up of the knowledge base depends on factors that are not part of the knowledge base per se but originate in the discipline's guidance framework. This includes the definition of the subject of interest for the discipline (creating an empirical boundary for the discipline) and a technical vocabulary (which, like the empirical boundary, can be interpreted differentially based on worldviews of

individual scientists). Second, the basic knowledge base model is very simple, making the model easy to apply. It shows that the knowledge base consists of data, three kinds of theories and also methodologies (with all these terms very broadly construed). This provides a framework for elaboration as shown in Figure 2.

Third, the knowledge base of any discipline is typically developed by working through a set of structured questions about the disciplinary subject, namely what are the subject entities like, how do they work, how do they come about, and why some types and design not appear or persist. At each stage we develop descriptions and theories that can support the development of methodologies. The questions address increasingly systemic issues - complexity ("what are entities like?"), machine models ("how does it work?"), developmental and evolutionary mode (how do they come about?) and eventually holistic models ("why do only some types appear or persist?"). This kind of model can therefore be useful in the context of several of the components of the "investment portfolio" the SRT discussed as a framework for guiding activities that would make progress towards achieving systemic literacy and sensibility in the broader community.

### Systems Landscape and Systemic Sensibilities

Ray urged the team to frame the next steps of the contribution of the SRT (or rebranded as the 'Landscape of Systems Knowing Inquiry') as we devised a 'first-

cut' model (Figure 1) of an 'investment portfolio' as a device to aid on-going inquiry by us, as well as a means to organize and report on our work and that of other groups committed to supporting

transitions to systemic literacy (systemic sensibility + [systems science + systems thinking in practice or STiP]) (Blackmore, C., Reynolds, M., Ison, R. & Lane, A., 2015).

We understand investment to include financial, individual, intellectual, group, organizational, philanthropic, among other characteristics or attributes, and the 'portfolio' to be designed drawing on concepts of self-organization, open-source protocols, and easy refinement for different purposes/investors. We suggest that in a 'first-cut' portfolio design each of the eight elements needs to utilize/complete the following template:

- What is the element - characterize it?
- Why is it important?
- What is a story (narrative) or case study about it - of need, failure, success, etc.?
- Suggest possible 'investment' agendas or pathways - who; how; when?

Perhaps this template needs to be completed also for the outer 'system' in Figure 2 - hence the question mark? Monitoring and evaluation systems against agreed, yet adaptable, measures of performance are needed 'in service' of moving towards systemic literacy. Controlling action will also be needed. These 'systems' will also require a conducive institutional/organizational platform from which to operate and thrive.

### **Shadow Side of Systems - Systems Ethics**

Systems Literacy could benefit from looking at the ethics of Systems Research and in Systems Practice and some of its nascent assumptions. There is general agreement among scholars and practitioners interested in systems science and systemic methods that using systemic perspectives will enable them to produce better results in their work than they would achieve if they were to continue to use the discipline perspective approaches to their work that traditionally would have been applied. The improvement that they perceive achieving through the use of systemic perspectives results from producing results reflecting a more complete vision of the situation which enables more complete understanding of the interaction between the aspects of the situation and reducing unintended consequences, and the knowledge to deal with the emergent effects more effectively through better understanding of what they reflect about the situation. This

aspect of improvement in work approached systemically improves the results achieved, so the word "good" is appropriate to reflect that the results of work done systemically are more likely to match the actor's intent. That is, these results are "good" from the perspective of the actor intervening in the situation.

As a result systems research and practice must be understood as morally neutral, with potential to be used for good or ill, and therefore in developing systems knowledge, or in the rhetoric of discussing systems and systemic approaches to engagement with the world, it is necessary to avoid the assumption of moral desirability of systemic perspectives, and also to discuss systemic approaches in a way that recognizes where the moral judgement of the systems practitioner or researcher will impact the choices made.

### **Looking Ahead and Moving Forward**

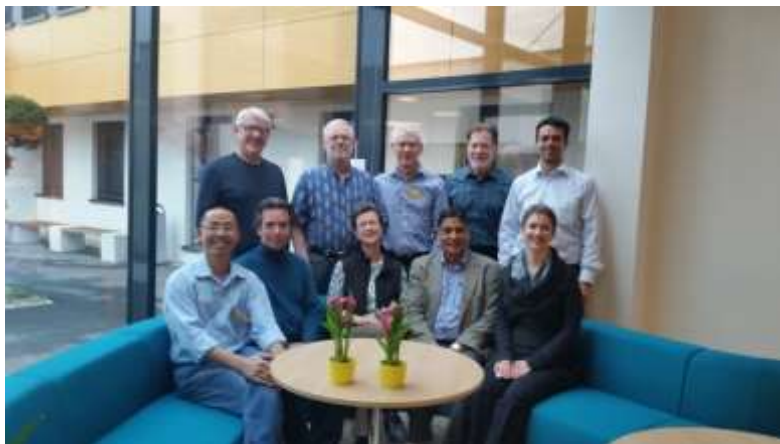
The SRT left the 2016 Conversation in Linz with two commitments and an invitation. A valuable framework (i.e. the “investment portfolio”) had been created, but needed to be further refined and explored. The first commitment was for a team discussion in June, after time for additional reflection, which has taken place. The second commitment was preparation of a

presentation for the ISSS 2016 Conference in Boulder, CO. An invitation is for others, beyond the team, who find the initial work to be interesting enough to help in its further development. The true value of the portfolio will be demonstrated by the additional investment that it draws.

### Conclusions and Recommendations

The SRT’s Conversation focused on the question, “How can Systems Research be in service to Systems Literacy?” To reiterate, discussions were coalesced into two essential aspects. First, Systems Research serves Systems Literacy by providing a credible foundation for the principles and practices of Systems Science and Systems Thinking in both systematic and systemic ways. Second, Systems Research provides an impartial, dispassionate frame for development of ethical applications of those principles and practices.

In the team’s view, successful programs in Systems Literacy will be grounded in Systems Research encompassing: 1.) a *history* of systems thinking (context, sources, and development of key ideas – principles expressed in clear language); 2.) *literature* of systems (a canon of essential theory, results of practice, and criticism); and 3) *transdisciplinarity* (shared relations and effects of systems sciences with other disciplines). The SRT’s role is to foster the relationship between these aspects of Systems Research with Systems Literacy in timely and relevant ways.



**Team 3: The Systems Research Team** (l. to r.) Nam Nguyen, Ray Ison, David Rousseau, George Mobus, Mary Edson, Tim Ferris, Shankar Sankaran, Gary Metcalf, Pam Buckle Henning, Andreas Hieronymi, and Peter Tuddenham (not pictured)

### References:

Blackmore, C., Reynolds, M., Ison, R. & Lane, A. (2015). Embedding sustainability through systems thinking in practice: some experiences from the Open University. In: Wyness, Lynne ed. *Education for Sustainable*



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*Systema*, 4(1). [forthcoming]



**Opening by the Vice Rector of the Johannes Kepler University, Prof. Dr. Alexander Egyed**  
(l.to r.): Mary C.Edson, Gerhard Chroust, Alexander Egyed , Gary S. Metcalr)



**Lunch: (l. to. r) :George Mobus, Michael Singer, Ray Ison, Andreas Hieromi, Allena Leonard,  
Mary C. Edson, Janet Singer**



We are proud to announce that in the first half of 2016 IFSR has accepted three new members:

**INSTICC: Institute for Systems and Technologies of Information,  
Control and Communication (No. 55)**

INSTICC is the Institute for Systems and Technologies of Information, Control and Communication, a scientific, non-profit, association whose main goals are to serve the international scientific community by promoting, developing and disseminating knowledge in the areas of information systems and technologies, control and communications.

INSTICC has a Board of Directors with executive capacity, a General Assembly that meets at least once a year, and a Controller. The association has an inclusive nature, with members from all over the world, actively promoting the membership and involvement of its members in all knowledge dissemination activities. Furthermore, INSTICC seeks collaboration with all non-profit associations that promote research and development in similar areas of interest.

Contact: President, Joaquim Filipe, Portugal [jfilipe@insticc.org](mailto:jfilipe@insticc.org)

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<https://www.insticc.org/>

**Malik Institute (No. 57)**

Malik Institute is world-wide known for its holistic and modular management solutions for companies and organizations in the public sector and 40 years of management education in the top management. Together with the IFSR the Malik Institute intends to pursue the following aims:

- *Collaborate with international experts in the systems field and other members of the IFSR*
- *Enhance the fields of systems and cybernetics sciences*
- *Apply systems thinking and systems tools in education, training, research*
- *Maximize governance effectiveness and enable organizations to transform themselves in order to excel at a time of great challenges and rapidly accelerating complexity*
- *Accelerate the intelligence, creativity, expertise, and experience of all people involved in solving any big and complex problems*
- *Make a contribution to the functioning of organizations and a functioning and humane society*

The main contact point is the former Vice President of the IFSR:

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<http://www.malik-management.com/en>

## **SCiO: Systems and Cybernetics in Organisation Ltd (No. 56)**

SCiO is a group of systems practitioners based in the UK, but has members internationally.

Two features distinguish SCiO from other systems groups: it is focused primarily on systems practice and practitioners rather than on pure theory and it is focused on systems practice applied to issues of organisation.

It has three main objectives:

- Developing practice in applying systems ideas to a range of organisational issues
- Disseminating the use of systems approaches in dealing with organisational issue
- Supporting practitioners in their professional practice

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## **News from our Members**

Gerhard Chroust



## **Systems Science presentations at the Tsien Hsue-shen Forum, Beijing, China**

Gary S. Metcalf

On October 29, 2016, four speakers associated with systems science gave presentations as international guests of the Tsien Hsue-shen

Forum, in Beijing, China. The forum was part of the 19th National Academic Conference of Society of System Engineering of China. This

year, the theme was focused on the celebration of the 60<sup>th</sup> anniversary of the Chinese space program, and on its founder Tsien Hsue-shen. (Prior to his return to China in 1955, Tsien had also helped to found the space program in the US.)

The four invited speakers were Brian Arthur, External Professor at the Santa Fe Institute; Heinz Stoewer, INCOSE Past President; Karl H. Muller, IASCYS Fellow; and Gary Metcalf, IFSR Vice President. The presentations were given to an audience of 1000 systems engineers, using synchronous professional translators.

On Sunday afternoon, the speakers were invited to the home of Tsien Hsue-shen, where his son greeted them and talked about his father's legacy. The home was in a modest set

of apartments which had first been constructed for Soviet scientists who helped with the early stages of the Chinese space program. When they left, the Chinese scientists moved in. Despite his fame, Tsien lived with his family in the same apartment from 1960 until his death in 2009. Tsien had accepted very few foreign visitors into his home, during his life, so it was a generous invitation.

On Monday morning, Brian Arthur and Gary Metcalf gave talks at the Institute of Systems Science, Academy of Mathematics & Systems Science, in the Chinese Academy of Sciences. This was at the invitation of Professor Xijin Tang. The ISS is the only Chinese member of the IFSR, and Prof. Tang was extremely helpful in all of the arrangements for the Beijing trip. Our many thanks to her.



## **Bulgarian Society for Systems Research**

**Magdalena A. Kalaidjieva**

President: Magdalena A. Kalaidjieva, PhD, Associate Professor,

Members: Fluctuating between 12 – 42

*Bulgarian Society for Systems Research's* (BSSR's) strategy is to attract young researchers and practitioners, to help their studies and job advancement by benefits of systems thinking, to offer news in systems sciences, professional contacts, information exchange or visits, to help members in joint research or business and apply for projects financing, to inform on current advanced education and enhance competition chances, etc. The country's economic situation prevents us to give material support of any kind to our members, neither to ask a membership fee.

Contacts stay on the level of information exchange and mutual interests.

System thinking is deeply rooted in Bulgaria, probably as heritage of ancient Balkan traditions, science and culture. Systems research has been more a side effect than a tool in other sciences. We made the disadvantage of disintegrated systems knowledge to an advantage for international cooperation – geographically and with different "vision schools". Thus, we are able to show what it is worth, how it is made useful and what methods are being applied. We are grateful to all colleagues and societies, who sent copies of articles, books, proceedings on CD or on the

web, emailed publications, etc. Time has come to exchange experience and exemplary international projects.

A team has been designing a 'place' to meeting the needs of the population of a village, small or medium sized town, or the suburb or satellite of a big city. The team leader, architect Plamen Botev, MA, has launched a project for several years with the main idea that users of a place's infrastructure and equipment build a community of mutually interested though competitive partners owing shares. The systemic bounds are determined by a flexible scope of activities meeting the complex needs of the location and its authentic community. **A method for local systemic architectural-healthcare-and-organizational solution** is applied. The project offers a systemic solution transforming existing buildings and infrastructure, but could as well be designed for an 'empty' piece of land. The essential guideline is the profile of the nearby population, their customs, interests, average age, generation mix and family engagement, education scope and occupation, etc. Additionally, partners are located and invited, who can develop their standards and quality of life, but also those of the neighbouring population.

Another team explores the presentation of **mathematical logics and its applications for engineering professions** from systemic viewpoint. The team leader Miroljub Kalaydjiev, MS Eng., has been investigating and surveying them on the level of human reasoning, human logic and rhetoric for several years mainly for educational purposes. Yet the research viewpoint is opening possible paths for social,

ecological, economic or engineering innovations, as well as for key assessments of contemporary practices.

The more systemics becomes popular, the more people ask how to create a well functioning system of a society in details. Just to say "democracy is good" is not enough for conscious and experiencing citizens' behaviour, engagement and action, neither for construction and engineering, nor else knowledge domains.

We have taken up the steep path of creativity to globally:

Collect, put together experience on how systems and cybernetics in their full scope and variety, as understood in different systems "schools", become useful in other sciences, education, business and social processes, practices for prosperity; and exchange on knowledge implemented in beneficial ecological, economic and social environment. Exchange ideas, publications, projects experience and benefits on individual and team level,

We have clever, bright young and not so young people, who wish to internationally involve, who are eager to catch the modern implementations and future ideas and experience in systems and cybernetics in an easy to digest way or in important details. They try to implement the "why-s", "how-s" and "what for-s" and whatever can be done for the benefit globally or around them in particular. We try to give them knowledge and information as much as possible, as thorough as possible, as agreeable and delightful as we can.

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<http://ifsr.ocg.at/world/files/bssr-description.html>



## The Malik Institute 2016, highlights

Nam Nguyen

### Research study „Great Transformation21“

A new study conducted by Prof. Fredmund Malik and his Malik Institute shows how enormous the change in organizations is today, according to 50 top managers in the German-speaking area. The profound transformation that is happening is shaking up the whole system. Today's challenges call for radical new solution of how to organize and lead a company the top managers are saying. The three main results of the study are:

1. There is more going on than just a digital transformation,
2. “people don't change” and
3. previous change management even prevents big change. It became clear that many know something needs to be done, but not how to do it.

### Round Table on Responsible Soy Syntegration, January

In January Malik hosted the Round Table on Responsible Soy (RTRS) for a Malik Syntegration in St. Gallen. With soy being one of the most important but also most problematic crops in the world, RTRS is an organization dedicated to making the production and trade of soy responsible and sustainable in economic, social and environmental terms. The challenge of this Malik Syntegration focused on reaching 100% responsible soy in Europe by the year 2020. [Read more here](#) | [Result report](#)

### Fred Malik receives highest Chinese award for foreign experts



As one of 50 outstanding foreign experts and especially as advisor to the Chinese

government, Prof. Fredmund Malik received the People's Republic of China Friendship Award 2016 from the Central Government of China. It is the highest award the Chinese government grants to "foreign experts who have made outstanding contributions to the country's economic and social progress". On September 30, China's Prime Minister Li Keqiang greeted the winners at a banquet in the People's Hall, Beijing and awarded them with their prize. Premier Li congratulated the experts on behalf of the government and expressed his appreciation for their help with China's modernization drive, technology and cultural exchanges with the international community.

### Collaboration with the National Academy of Public Administration

On September 1, 2016 Malik signed a Memorandum of Understanding (MoU) with the National Academy of Public Administration (NAPA), Việt Nam in order to continue the recent successful collaboration between NAPA and the Malik Institute. Goal and part of the memorandum is to enhance the effective management of institutions, enterprises and

Việt Nam's economy and administration. The MoU also establishes a bilateral framework for collaboration between NAPA and Malik to enhance the scientific research capability, management capability, training quality for officials in Việt Nam, as well as to improve the real capacity in consulting and designing polices for economic development and modernization of the administration.

**European Future Leaders Conference in Zurich, November 2016**

54 students and "European Future Leaders" assembled in Zurich for three days to work on the question: "What is the social, economic and political Europe we want to live in by 2030 and

how will we create it?" by means of a Syntegration. The participating students, aged between 20 and 26, came from 38 European countries. With the support of the Malik Institute they worked on this ground-breaking question. The Syntegration, so the unanimous opinion of the participants, was the ideal way to explore ideas and concrete suggestions to let Europe arise. Experts of our Institute trained the "Future Leaders" in complexity-coping social technologies. Due to this specialist support it was possible, by means of interconnecting the creativity and the knowledge of the participants, to produce substantial solution proposals for the highly complex challenges of the future within a time span of 20 hours.

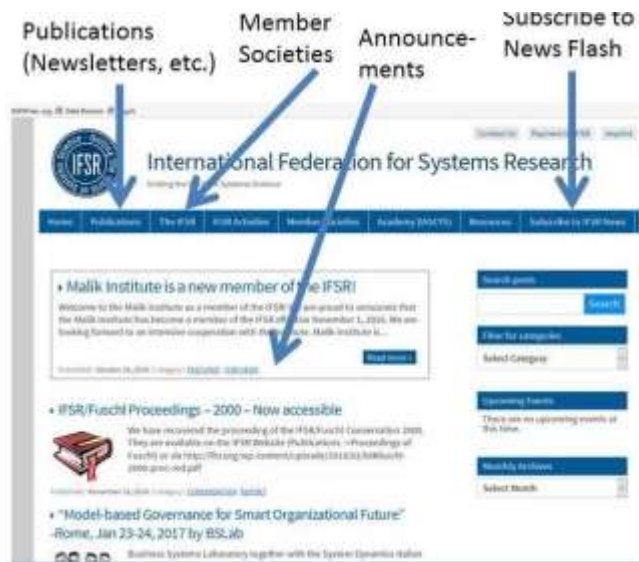


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