



# ***IFSR Newsletter***

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

*Editor-in-Chief: Gerhard Chroust  
Volume 34, no. 2 (December 2017)*



St. Magdalena, Linz – location of the location of the IFS Conversation 2018

*Dear Readers!*

*The work done in the last few months of 2017 was based on the preparatory work in the first half of 2017: Major steps forward include the establishment of a sound and strong Editorial office for the IFSR Book Series, the finalization of the preparations for the IFSR Conversation 2018, and a change to our Constitution which makes it easier to serve the differing interests of our member organizations.*

*In this issues you also find the preliminary announcement of the IFSR Board Meeting (April 13, 2018) and reports from our member organizations.*

*What remains is to wish you all a Peaceful and Happy Christmas Season and a Healthy Successful New Year 2018.*

*I remain yours truly,*

*Gerhard Chroust*



ISSN 1818-0809 (print)  
ISSN 1818-0817 (electronic)

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*Peaceful and Happy Christmas  
Season and  
a Healthy Successful New Year  
2018*



*Your IFSR Executive Committee*



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



**The 19<sup>th</sup> IFSR Conversation 2018**  
Sunday, 8 April – Friday, 13 April, 2018  
Themes and Teams

The Executive Committee of the International Federation for System Research is pleased to announce the themes and teams for the Nineteenth IFSR Conversation in Linz, Austria, which will be held at the Seminarhotel, St. Magdalena, Linz, Austria. Our thanks go to all members of the IFSR community who submitted topics for consideration. We had a significant number of excellent submissions, so it was a challenge to choose the most timely and relevant ones. The selected team leaders and topics are:

- Team 1: Gerhard Chroust, Shankar Sankaran; Active and Healthy Aging
- Team 2: Gary Robert Smith, Jennifer Makar; What is Systems Science?
- Team 3 : Jennifer Wilby;, Self-Transgressive Exploration of Next Generation Science Standards and General Systems Theory
- Team 4: Nam Nguyen, Constantin Malik; Systems Practice
- Team 5: Ed Carroll; Data Driven Systems Engineering Approaches

**1. Active and Healthy Aging:** *Gerhard Chroust (Johannes Kepler University Linz, AT) and Shankar Sankaran (Technical University Sydney, AU)*

Demographic changes especially in the Developed World make aging one of today's growing concerns. The aim is to foster Active and Healthy Aging (AHA) in a sustainable society. Support for AHA has to compensate for more or less insufficient capabilities of Seniors. This is a highly interdisciplinary challenge which involves practically all domains of life: physiology, medicine, psychology, social sciences, society, technology, logistics, infrastructure, architecture, economy, etc.

**2. What is Systems Science?** *Gary Smith (Airbus Defence and Space, Newport, UK) and Jennifer Makar*

After decades of development in the field of systems science, multiple perspectives, synergies, conceptualizations, and practice from diverse sources and backgrounds indicate a possibility of emerging coherence. We will bring together thought leaders to explore how these various threads can weave together into a more integrated understanding to make progress towards the unification of systems science as a coherent system for application in a variety of contexts.

**3. Self-Transgressive Exploration of Next Generation Science Standards and General Systems Theory:** *Jennifer Wilby*

In recent years efforts to develop General Systems Theory and efforts to reveal unity in science have largely been pursued in isolation from each other and even further fragmented within those two main areas of endeavor. The Next Generation Science Standards (NGSS) were developed in a broad collaboration, which included the National Research Council, National Science Teachers Association, the American Association for the

Advancement of Science. This conversation will encompass a systematic exploration of how these two independent bodies of work can benefit from cross-fertilization, resulting in visual mapping outputs and written narrative that are an incremental contribution to realizing the original intentions of GST.

**4. Systems Practice:** *Nam Nguyen (Malik Institute, Adelaide, AU) and Constantin Malik (Malik Institute, St. Gallen, CH)*

This team will comprise systems practitioners who will share their experience of applying systems approaches in practice. The team will also be discussing how to make systems approaches and systems tools more applicable to their respective fields and practice, with specific potential cases such as community healthcare in the US, transport systems in the EU, public and cyber security in Vietnam, worldwide, etc.

**5. Data Driven Systems Engineering Approaches:** *Ed Carroll (Sandia National Laboratories, Albuquerque, US)*

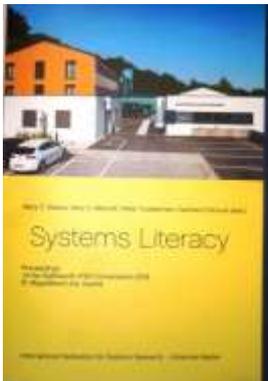
Engineering programs (products, technology, processes, and people organization) are often based on the structures and plans of previous programs, whether (or not) those past programs were successful. Little consideration is given to whether those past program processes, tools, technology, people, or organizations are optimally suited for the new product or processes. This conversation focuses on the data, processes and systematic approaches that have been successful to transform an engineering program toward a fully digital engineering environment, examining approaches such as a model-based engineering.

Questions about the 19th IFSR Conversation should be directed to: Mary Edson at [maredson.s3@gmail.com](mailto:maredson.s3@gmail.com). We look forward to a vibrant Conversation in Linz this coming spring.



## Proceedings of the IFSR Conversations 2016 available

We are proud to present the proceedings of the 2016 Conversation in Linz, thanks to the editors: Mary Edson, Gary Metcalf, Peter Tuddenham and Gerhard Chroust. On 100 pages the 3 teams of the Conversation report their findings. Additionally you find a discussion concerning Systems Literacy by Peter Tuddenham and personal reflections on the Conversation by George Mobus.



We published the proceedings via a 'Book-on-Demand' publisher. They are available internationally in major electronic books stores in a paperback and an e-book version.

EDSON, M.C., G. METCALF, P. TUDDENHAM , G. CHROUST, (eds.) *Systems Literacy - Proceedings of the Eighteenth IFSR Conversation 2016*,  
Books on Demand ISBN 978-3-7431-7913-4  
Norderstedt, Germany, Feb. 2017, pp. vi +98

Order information: BoD Buchshop <https://www.bod.de/buchshop/> and in international bookshops, Price: € 14, Kindle-e-book € 5,49 €



To all members of the IFSR!

## Board Meeting of the IFSR 2018

April 13, 2018

FRIDAY, April 13, 2018, 14:00 – (max.) 17:30

*For Representatives of the Member Societies of the IFSR ONLY! BUT Guests are welcome!*

*Note that the Meeting takes place after the end of the IFSR Conversation 2018 at the same place:*

*Bildungshaus Sankt Magdalena, Schatzweg 177, 4040 Linz*

*rezeption@sanktmagdalena.at*

*Tel: 0732/253041-0, Fax: 0732/253041-35*

*www.sanktmagdalena.at*

**See the Preliminary Agenda overleaf!**

## PRELIMINARY AGENDA

Report from the President

Report from the Secretary General - Membership

IFSR-Events (IFSR Conversation 2016, 2018)

IFSR Dissemination: (IFSR Book Series, Journal of Systems Research and Behavioral Science, IFSR Newsletter, IFSR News Flash, IFSR Web site)

Financial Status and Outlook

Release of Obligation of the old Executive Committee

Election of the new Executive Committee (2018 – 2020)

Further Changes to the Constitution (if necessary)

Further Plans and Activities of the IFSR



On Nov. 29, 2017 the IFSR Board decided (via e-voting) unanimously the following changes to Art. 4 of the IFSR Constitution, by introducing a new classification of our members:

- 1) Full Members,
  - a. Scientific Members (they are usually non-profit organisations with a primary interest in research in the systems area),
  - b. Educational Members (they are primarily interested in education and dissemination of knowledge about Systems Sciences like Systems Literacy etc.),
  - c. Systems Practice Members (their main interest is in the application of Systems Science, its theory and methods),
  - d. Sponsoring Members, which provide the IFSR with financial or in-kind support.
- 2) Affiliate Members (they are primarily interested in receiving information)
- 3) Fellows

Minor changes were made in the text in order to clarify the meaning of the definition of the quorum for e-voting.

We hope that these changes will make IFSR more effective. The full wording of the Constitution can be found at "<http://www.ifsr.org/index.php/what-is-the-ifsr/ifsr-constitution-november-2017/>"



## The IFSR International Series on Systems Science and Engineering

George Mobus

We have successfully re-launched our Springer-published Book Series in Mathematics/Computational Science & Engineering: "Systems Science and Engineering" under its new Editor-in-Chief George Mobus (see Web site: <http://www.springer.com/series/6104> and <http://www.ifsr.org/index.php/publications/ifsr-international-series-on-systems-science-and-engineering/>)

The Series is soliciting high quality monographs, edited collections, and textbooks that focus on research in areas of Systems Science and Engineering. We are particularly interested in book proposals that demonstrate the integration of subjects across disciplinary lines within the system sciences, for example, showing relations between cybernetics and hierarchy theory and other similar sub-fields of systems. The research topics can be either theoretical or applied (e.g. Action Research). Subjects that emphasize transdisciplinary work are highly encouraged.

The objective of the Book Series is to reach a broad and diverse audience.

If you are interested in authoring a book or editing a collection in the Series, please send an e-mail stating your research area and the nature of your interest in this series to Editor-in-Chief George Mobus [gmobus@uw.edu](mailto:gmobus@uw.edu).



## The International Encyclopedia of Systems and Cybernetics comes to a new life!

The BCSSS (The Bertalanffy Center for the Study of Systems Science) proudly announces that finally Charles François' Encyclopedia<sup>1</sup> will be revived to a

new level of usability: It will be improved, augmented and made universally accessible via electronic media.

About ten years ago, Charles Francois, the editor of that encyclopedia, the two-volume second edition of which was printed by Saur Publishers in München in

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<sup>1</sup> Charles Francois, C.: International Encyclopedia of Systems and Cybernetics, K.G.Saur, München 1997, ISBN 3-598-11357-9 AND the second edition: Charles Francois, C.: International Encyclopedia of Systems

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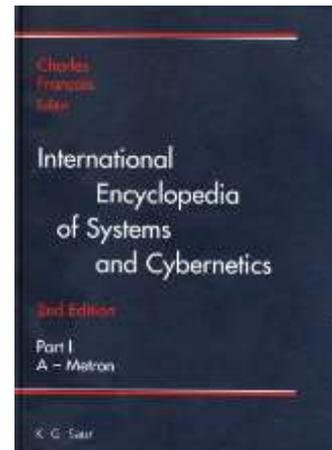
and Cybernetics, 2nd edition, 2 volumes, K.G.Saur, München 2004, 737 p., ISBN 3-598-11630-6

2004, delegated the continuation of this publication project to the next generation.

Already in these early days discussions among the IFSR (led by its Secretary General Gerhard Chroust) put forward the idea to transfer the content of the second edition to an online platform that shall serve as a tool for its further development. Extensions shall include updates as well content of existing data bases in the field (so in 2008 Hofkirchner contacted Stuart Umpleby and Francis Heylighen who agreed to become part of the project) in line with the original format of Francois's work. It was agreed that social media technology should be made use of only to the extent that any additional entry had to pass a thorough review process and acceptance by a group of experts for quality control reasons.

Günther Ossimitz, then member of the board of the BCSSS, was the first to take care of the project preparation and to contact experts to resume the work of the academic committee of the Encyclopedia Francois had set up originally. Unfortunately, Ossimitz's activities were discontinued by his sudden death. Then IASCYS president, Robert Trappl, decided to support the project on behalf of the IASCYS. He charged IASCYS member, Rainer E. Zimmermann, who is also member of the BCSSS Scientific Council, with the forming of a group that should oversee the

project work. This group – as a scientific advisory board – would be credited with the quality control, while the operative work would be carried out by an Editorial Board located at the Bertalanffy Center. This agreement enjoys the support of Charles François



However, we could not get started before we had a successful deal with the publisher on the transfer of the publication rights from Charles François to the Bertalanffy Center. Since approx. 2006 the Board member Gerhard chroust was engaged for years with negotiations with the de Gruyter publishing house, the successor to Saur publishers. It took many more years until we were successful in 2017.

Now that the BCSSS has bought those copyrights of the Encyclopedias we intend to assemble a Scientific Advisory Board which reflects a broad base of renowned scientists of any age and gender, any field of knowledge relevant, any approach, any organizational background and is not restricted to IASCYS members.



## ISSS2017

# From Science to Systemic Solutions Systems:Thinking for Everyone

Vienna, July 9 – 14, 2017

The [International Society for the Systems Sciences](https://www.iss2017vienna.com/) (ISSS) held its 61st Annual World Conference in July 9-13, 2017 in Vienna, organized by the Bertalanffy Center for the Study of Systems Science (BCSSS), see <https://www.iss2017vienna.com/>. It welcomed European and international scientists, business and industry experts, as well as

representatives from politics and society to join and dive into a promising and exciting science-based dialogue on the issues Government & Governance, Economy, Health, Eco-Systems and Innovation & Development.

At the interface of Science, Humanities, Engineering and Design the conference presented the latest insights of the interdependencies between ecological, social and technological systems, as well as practical examples of appropriate design skills for sustainable living concepts and meaningful technologies for a future-oriented humanity.

267 participants from 39 countries participated, coming from USA, UK, Ukraine, Turkey, Czech Republic, Taiwan, Suisse, Sweden, Spain, South Africa, Serbia, Russia, Portugal, New Zealand, Netherlands, Mexico, Luxembourg, Croatia, Korea, Columbia,

Canada, Japan, Italy, Israel, Ireland, India, Hong Kong, Guam, France, Finland, Germany, Denmark, China, Brazil, Belgium, Australia, Argentina, Algeria and Austria.

The ISSS2017 Vienna also served as a Platform for the next generation. Young scientists were invited to present their research projects, ideas and solutions to an audience of international specialists and stakeholders.

The BCSSS would like to thank all speakers, participants, sponsors and partners and of course our host the Technical University of Vienna ([TUW](http://www.tuw.at)) for attending and supporting this remarkable event!

General Assembly of the ISSS 2017, Photo © Kendra Rosencrans



# **KSS2017**

## **Artificial Intelligence and Information Systems for Knowledge, Technology and Service Management**

**Bangkok, November 17-19, 2017**



The annual meeting of the International Society for Knowledge and Systems Sciences (ISKSS,

a member of the IFSR) held its 18th International Symposium on Knowledge and Systems Sciences, in Bangkok during November 17- 19, 2017. KSS2017 general chairs were Professor Jian Chen (Tsinghua University, China; ISKSS president) and Professor Thanaruk Theeramunkong (Thammasat University, Thailand). The local hosts of KSS2017 were the Sirindhorn International Institute of Technology, the Thammasat University (SIIT, TU, Thailand) and the Artificial Intelligence Association of Thailand (AIAT).

Over 70 participants from Australia, China, Japan, New Zealand, Sri Lanka, Thailand and USA attended KSS2017. 4 invited keynote speeches were held:

"Multi-agent Solutions for Supply-Demand Management in Smart Grid Markets" by Professor Minjie Zhang (University of Wollongong, Australia), "From the Age of Emperors to the Age of Empathy" by Dr. Peter A Gloor (MIT, USA), "Quality-of-Life (QOL) based Urban Transport Planning Utilizing ICT" by Professor Yoshitsugu Hayashi (Chubu University, Japan), and "Open Research Data and Research Support Systems" by Professor Vilas Wuwongse (Sakon Nakhon Rajabhat University, Thailand), together with 8 parallel sessions covering topics on

complex systems modeling, social media processing, multi-agent simulation, information science, healthcare and Big Data, knowledge science and engineering, data mining and text mining, knowledge management and innovation, etc. and one workshop on Artificial Intelligence and Internet of Things (AI2OT).

Besides inviting influential keynotes, new ways have been tried in publication to attract more participants together with keeping a high quality of papers. The organizers of KSS2017 selected 21 papers out of 63 submissions for the proceedings after a rigorous review process by the referees who came from Australia, China, France, Japan, New Zealand, Thailand, UK and USA. It is the second time, after 2016) that KSS proceedings are published as a CCIS volume by Springer. Moreover, another 4 papers were recommended for the issue of a volume of the Journal of Systems Science and Information (an open access journal) in 2017 to expand the diversity of the presentations. All four IPC chairs, A/Professor Van Nam Huynh (JAIST, Japan), Dr. Thepchai Supnithi (NECTEC, Thailand), Professor Xijin Tang (CAS Academy of Mathematics and Systems Science, China) and Professor Jiangning Wu (Dalian University of Technology, China) were present at KSS2017. More details can be found at <http://aiat.in.th/kss2017/>

*Xijin Tang (CAS Academy of Mathematics & Systems Science and ISKSS)*

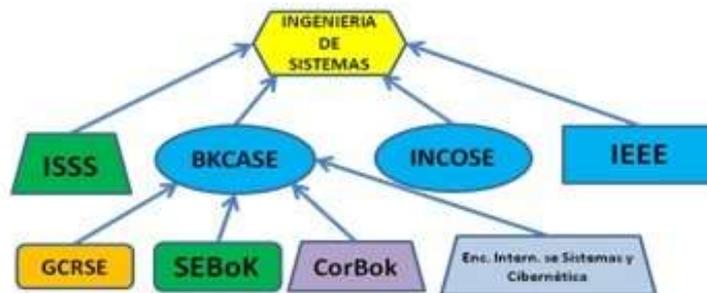




## Systems Activities in Peru

Sociedad Peruana para la Ciencia de Sistemas (SPCC)

Instituto Andino de Sistemas (IAS) :



In Peru we have worked this year on several important issues.

- This year we are constituting the nucleus of professionals of the Society for Systems Science of Peru.
- The Instituto Andino de Sistemas (IAS) has made its customary Diplomats and Virtual Programs (May 2017 - August 2018).
- Work was carried out in the structuring of the curriculum content for the Systems Engineering career in Perú, adjusted to the international standards promoted by INCOSE through the BKCASE Project. The final proposal is made and has been submitted for approval to the National University of Engineering .

The BKCASE-Project is based on the 'Guia de Implementacion (GCRSE), on the Systems Engineering Body of Knowledge (SEBoK), on the 'Nucleo del Cuerpo de Conocimiento de la Ingenieria (CorBoK) and on the International Encyclopedia of Systems and Cybernetics

- At the beginning of the month of December we were participating with the Mg. Ricardo Rodriguez in the Week of the Section of Industrial Engineering and Systems of the College of Engineers of Peru. We dealt with the subject of Systems Engineering, Bases

and Perspectives. I had to explain the conceptual and academic bases of Systems Engineering careers, based on what was established in the BKCASE Project and promoted by INCOSE, where the ISSS and the International Cybernetics and Systems Encyclopedia are the most important references in the world.

Ricardo spoke about the diverse experiences in projects in favor of the country's development. The role of IAS, GESI and ALAS was mentioned in a special way in Latin America and we reported on the current constitution of the ISSS in Peru.

- On Saturday, December 16, 2017 we started an international event, with the participation of Silvio Martinez from Spain, Ricardo Rodriguez, Erwin Salas (MIT) and my person in Peru. The central theme is System Dynamics as an instrument for the treatment of issues related to the economic and productive development of the country. It is a meeting to start a modeling project with professionals interested in System Dynamics.

*Jorge Daniel Llanos Panduro jdllanos@yahoo.es*



## Receive Information from the IFSR!

We have four avenues of making information accessible to you:

- **The IFSR Newsletter:** It appears twice a year and contains mostly archival information about the last half year. It is available on the IFSR Website.
- **IFSR News Flashes:** They are sent to subscribers in irregular intervals, approx. twice a month, with short time information about events, conferences etc. which are considered important for the Systems Community. You have to subscribe to this service on IFSR's homepage (see below). Currently it has approximately 270 subscribers.



- **Direct e-mail to Member Associations:** Key information about the IFSR, but also other member's announcement go also directly to the representatives of our member associations.
- **the IFSR website ([www.ifsr.org](http://www.ifsr.org)):** It contains both archival information of the IFSR (Members, governance, ...) volatile information (events, conference, ...) in blog form .



### **International Federation For Systems Research**

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IMPRESSUM: Mediuminhaber, Herausgeber, Satz und Layout: Int. Federation for Systems Research., Wien

f. d. Inhalt verantwortlich: Prof. G. Chroust, Johannes Kepler Universität Linz, 4040 Linz, Druck: WLK Druck, A-2340 Mödling, Austria, version

1.0