

SIG Emergent systems, information and society Report 6/2015–5/2017



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1 About

the SIG is co-extensive with:

- Research Group @*Bertalanffy Center for the Study of Systems Science (BCSSS)*, Vienna
- Arbeitskreis @*Leibniz-Sozietät der Wissenschaften zu Berlin e.V. (LS)*, Berlin

it aims at:

**advancing systems approaches towards techno-social systems,
in particular, computer systems**

(joining systems thinkers
and computer scientists
with a view to social impacts)

founded to honour and continue
the lifetime achievement
of **Klaus Fuchs-Kittowski**, Berlin



2.1 Projects

- **The emergence of function with living systems:** John Collier, Wolfgang Hofkirchner (26 May to 4 June 2016, Vienna, supported by the *Vienna University of Technology*)
- **Systems approaches to information ethics:** Tomas Sigmund, Wolfgang Hofkirchner (January 2017 up till now, supported by the *BCSSS* and the *Department of Systems Analysis, University of Economics, Prague*)



2.2 Teaching (2016)

- 5-6 April 2016: **Wolfgang Hofkirchner at Xi'an Jiaotong University**
 - *Complexity thinking in the age of global challenges*, lecture
 - *Critical Theory as methodology for social sciences*, lecture
 - *Unified Theory of Information*, workshop
- 10 October 2016: **Wolfgang Hofkirchner at University of Gothenburg and Chalmers University**
 - *Transdisciplinarity and systems thinking*, lecture at Transdisciplinarity Research Methods Course



2.2 Teaching (2017)

- Summer Semester 2017: **Wolfgang Hofkirchner, Tomas Sigmund at Vienna University of Technology**
courses „Computing and Philosophy“ and „Emergent Technologies and Social Change“ held in the framework of the project Systems approaches to information ethics
- 17-21 April 2017: **Yagmur Denizhan at Xi'an Jiaotong University**
 - *Information: How to approach the elephant?*, lecture
 - *Simondon's theory of individuation as a unifying ontogenetic framework*, lecture
 - *Achilles' heel of communication*, lecture



2.3 Meetings and events (2015)

- 13 October 2015, Vienna: **Gordana Dodig-Crnkovic**, *A taxonomy of computation and information architecture* (talk at Austrian Computer Society)
- 14 October 2015, Vienna: **Gordana Dodig-Crnkovic**, *Preparing next generation of software engineers for future societal challenges and opportunities* (talk at lunch-time seminar of Institute for Design and Technology Assessment, Vienna University of Technology)
- 10 December 2015, Berlin: **Wissenschaftliches Kolloquium: Theoria cum praxi et commune bonum: Emergente Systeme, Information und Gesellschaft** (in German; supported by LS; 9 speakers: Peter Brödner, Werner Ebeling, Klaus Fuchs-Kittowski, Wolfgang Hofkirchner, Hans-Jörg Kreowski, Tomas Sigmund, Christian Stary, Rainer E. Zimmermann, Werner Zorn)



2.3 Meetings and events (2016)

- 1 April 2016, Vienna: **Systems of systems** (workshop at emcsr avantgarde 2016; 5 speakers: Wolfgang Hofkirchner, Hans-Jörg Kreowski, Tomas Sigmund, Christian Stary, Rainer E. Zimmermann) **Hamid Ekbia**, University of Indiana, Bloomington, *Computing and capitalism: dynamics of systemic change* (keynote)
- 18-22 July 2016, Hanover: **Relationality and information in Leibniz** (panel at the 10th International Leibniz Congress; 4 speakers: Klaus Fuchs-Kittowski (canceled), Wolfgang Hofkirchner, Francisco Salto Alemany, Tomas Sigmund, Rainer E. Zimmermann; supported by the *Institut für Design Science München*)
- 7-9 October 2016, Nuremberg: **on information and significance and on emergence and possibilities** (in German; meeting of 11 participants; supported by the *BCSSS* and the *Institut für Design Science München*)

2.3 Meetings and events (2017 | 1)

- 23-27 January 2017, Vienna: **Systems approaches to information ethics** (workshop I; 4 participants: Annette Grathoff, Wolfgang Hofkirchner, Tomas Sigmund, Liang Wang)
- 12 April 2017, Vienna: **The utopia of universal control: Critical thoughts on transhumanism** (speaker: Janina Loh, respondent: Sarah Spiekermann)
13-14 April 2017, Vienna: **Populism in the perspective of information processes** (meeting of 14 participants, supported by the *BCSSS* and the *Institut für Design Science München*; speakers: Spomenka Celebic, Annette Grathoff, Senka Grossauer, Renate Quehenberger, Tomas Sigmund, Francesca Vidal, Xiaomeng Zhang, Rainer E. Zimmermann, Thomas Zimmermann)



2.3 Meetings and events (2017 | 2)

- 15-19 May 2017, Vienna: **Systems approaches to information ethics** (workshop II; 7 participants: Annette Grathoff, Wolfgang Hofkirchner, Renate Quehenberger, Tomas Sigmund, Stefan Strauß, Liang Wang, Tianqi Wu)



2.4 Co-operation and positions

- Co-operation:
 - *Computer Professionals for Peace and Social Responsibility (FlfF)*, Bremen
 - *Department of Systems Analysis, University of Economics, Prague*
 - *Institut für Design Science München*
 - *International Centre for Philosophy of Information (ICPI)*, Xi'an
 - *The Centre for Social Ontology (CSO)*, Lausanne, Warwick, London
- Positions:
 - Wolfgang Hofkirchner, member, *committee, Classical Ethics in ICTs, The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems (2016–)*

2.5 Publications (2016)

R. E. Zimmermann: *Emergence of Organization. On the Co-Evolution of System and Structure*
K. Fuchs-Kittowski: *Zu Grundgedanken von Gottfried Wilhelm Leibniz aus der Sicht der Informationsverarbeitung und Informationsentstehung*
W. Hofkirchner: *Relationality in Social Systems*
T. Sigmund: *Dual Character of Information – On the Relationship between Individual and General Aspect of Reality*

„ – FÜR UNSER GLÜCK
ODER DAS GLÜCK ANDERER“

X. Internationaler Leibniz-Kongress
unter der Schirmherrschaft des
Niedersächsischen Ministerpräsidenten Stephan Weil
Hannover, 18. – 23. Juli 2016
Programm



Leibniz Universität Hannover

2.5 Publications (2017)

W. Ebeling: *Physical basis of information and the relation to entropy*

R. E. Zimmermann: *Matter and information as attributes of substance*

G. Dodig-Crnkovic: *Nature as a network of morphological infocomputational processes for cognitive agents*

G. Darvas: *A few questions related to information and symmetries in physics*

R. Feistel: *Self-organisation of symbolic information*

R. Cottam, W. Ranson, R. Vounckx: *Precognition and the metascalar nature of information*

D. Weinbaum, V. Veitas: *Synthetic cognitive development*

S. G. Borghini: *Stigmergy in the design of social environments*

F. Heylighen: *The offer network protocol: Mathematical foundations and a roadmap for the development of a global brain*

D. Helbing: *From remote-controlled to self-controlled citizens*

2.5 Publications (2018)

H. Ekbja: *The political economy of drone warfare*

T. Sigmund: *Privacy in cyberspace – threats and prospects*

S. Hügel, H.-J. Kreowski, D. Meyer-Ebrecht: *Cyberwar and cyberpeace*

J. Díaz: *Cyber-subsidiarity: Towards a global sustainable information society*

Elias G. Carayannis
David F. J. Campbell
Marios P. Efthymiopoulos
Editors

Handbook of Cyber-Development, Cyber-Democracy, and Cyber-Defense

2.6 Outlook (2017–)

- full papers of **Berlin Kolloquium 2015** will be published soon
- project **Systems approaches to information ethics** will go on
- following topics will cristallise in publications:
 - **critique of populism**
 - **evolutionary systems and information**
 - **trans- and post humanism**
- **International Encyclopedia of Systems and Cybernetics** is ready to continue online

3 Organisational

>40 group members and friends

no financial support from IS4SI (but from BCSSS, LS, Institut für Design Science München, universities, ICPI, CSO instead)