Foundations of Information Science Track

TRIANGULAR RELATIONSHIP INFORMATION-REALITY-COGNITION. THROUGH THE PRISM OF PHYSICAL-BIOLOGICAL-COGNITIVE SCIENCES, COMPUTING AND PHILOSOPHY

Workshop

Deadline for extended abstracts 750-2,000 words February 27, 2015

Organizers

Marcin J. Schroeder, Professor of Mathematics, Akita International University, Akita, Japan, e-mail: mjs@aiu.ac.jp

Gordana Dodig-Crnkovic, Professor of Computer Science, Mälardalen University and Chalmers University of Technology, Chalmers & University of Gothenburg, Sweden, e-mail: gordana.dodig-crnkovic@mdh.se

Workshop Web Page

http://summit.is4is.org/calls/call-for-papers/triangular-relationship-information-reality-cognition-through-the-prism-of-physical-biological-cognitive-sciences-computing-and-philosophy

Invited Speakers

Søren Brier, Professor with Special Responsibilities, Department of International Business Communication, Copenhagen Business School, Denmark:

"*Why are meaning and experience in cognition and communication outside science? And what are the consequences for our worldview?*"

John Collier, Professor, Philosophy, University of KwaZulu-Natal, Durban, South Africa:

"*What must the world be like to have information about it?*"

Robert K. Logan, Professor Emeritus, Physics, University of Toronto, Canada:

"*Physics, Biology, Cognition and Information*"

Pedro C. Marijuán, Senior Researcher, Information Science, Instituto Aragonés de Ciencias de la Salud, Zaragoza, Spain:

"*What does it Mean to Be an Information Scientist in the XXIst Century?*"

Submission Web Page

Important Dates

Objectives

The bilateral relations between three corners in the triangle Information – Reality - Cognition have been subject of many discussions, considered from the perspective of one of the corners. Landauer's "Information is physical" or Wheeler's "It from bit", QBism (Quantum Bayesianism) and Endophysics (agent-centered physics) are frequently considered clearly defined, although perhaps extreme philosophical positions generated from the perspective of physics and establishing the relationship between information and reality. However, their consequences outside of physics, with the focus in biology and cognitive science have not been explored in depth. Neither have computational and philosophical approaches followed systematically these relationships.

An example of the question of special interest for the workshop would be the influence of information science (including study of life/cognition), computing and philosophy on the development of new physics, and the other way round. Do we need new physics? The fact that for many years Nobel Prizes in Physics are given to achievements in engineering suggests the need for new thinking. Dark matter and dark energy are nothing but 96% blank space on the territory of physics. How would such new physics affect our understanding of reality and cognition?

The need for change of paradigms can be seen in many intellectual and research initiatives of recent time such as Information Physics, building on the insight that from the epistemological point of view, all our interaction with the physical world results in different types of information that processed and mutually related on higher levels of abstraction results in informational structures that build physical theories on which our understanding of the physical world is based. Morphological Computation is a new view of the connection between structures and dynamics of information processing. Integral Biomathics is searching not only for new physics, but also new mathematics suitable for the study of life and cognition, while Bioinformatics treats biological systems as info-computational objects, whereas Cognitive Computing has an ambition to implement cognitive behaviour into computational artifacts.

Target Groups

Contributions in the spirit of these current initiatives, and papers proposing other innovative approaches breaking molds of traditional physics, biology, cognitive science, computing and philosophy are welcome. We are interested in the research on the intersections on those fields and particularly on the triadic relationships between information, reality and cognition in physical, biological and cognitive sciences, computing and philosophy.

Studies of information which are dominated by the continuing discussion of the question "What is information?" can benefit from the discussion of the triangular (or tetrahedron-al and higher order) relations to gain more general perspective in the choice of the conceptual framework not restricted by the inertia of traditional methods of inquiry.

Submission of Abstracts & Conference Registration

Submissions of abstracts should be done by the authors online. If you do not already have an user account with this website, please create one by registering with sciforum.net. After registration, please log in to your user account, and use the Submit New Abstract. Please chose the *ISIS Summit Vienna 2015* conference in the first step. In the second step, choose the appropriate conference stream or conference session. In the third step you will be asked to type in the title, abstract and optionally keywords. In the fourth and last step, you will be asked to enter all co-authors, their e-mail addresses and affiliations.

1. Scholars interested in participating in paper sessions of the Summit can submit their extended abstract (about 750 to 2000 words) online on this website until 27 February 2015.

2. The International Program Committee will review and decide about the suitability of abstracts for the ISIS Summit Vienna 2015. All authors will be notified by 20 March 2015 about the acceptance of their extended abstract.

3. If the abstract is accepted for this conference, the authors will be asked to send the a formatted version of the extended abstract as a PDF file by end of May 2015.

4. Please register with the conference before or once your abstract is accepted. *Please note that the acceptance of an abstract will not automatically register you with the conference. The abstract submission and conference registration are two separate processes.*

Extended Abstract Format

Please use the abstract template. The formatted version of the extended abstracts must have the following organization:

- Title
- Full author names
- Affiliations (including full postal address) and authors' e-mail addresses
- Extended Abstract (750 to 2000 words)
- References