Interdisciplinary Research and Information Dynamics

Gordana Dodig-Crnkovic

Chalmers University of Technology and Gothenburg University, & Mälardalen University, Sweden

Present day research increasingly emphasizes collaboration of scholars from various research fields. The borders between traditional disciplines are dissolving and complex problems cut across traditional research fields. Interdisciplinary research and co-production between research and society has become a typical pattern for the production of knowledge.

We are still learning to understand how to more effectively conduct interdisciplinary research, which implies work with the problems and possibilities for communication, both within the scientific community and with our counterparts in society at large. This connects to the idea of extended cognition and social cognition and leads to a networked model of knowledge production. The hope is that the emerging global networked society built on big data, will lead to adequate big information, significant and enriching big knowledge and hopefully increasing wisdom through transdisciplinarity by complexity thinking (Hofkirchner) that in this process of complexification and mutual orchestration plays a crucial role.

One important step towards legitimizing, promoting and supporting transdisciplinarity/ interdisciplinarity/ cross-disciplinarity/ multidisciplinarity is through graduate education that will encourage doctoral students with different disciplinary backgrounds to deal with questions on how to identify both opportunities and challenges of networked research across disciplinary boundaries and to formulate corresponding research design. In my talk, I will highlight the current widening of the understanding of the different roles and significances of research in a societal perspective attained through interdisciplinary collaboration and co-production of knowledge understood through information dynamics.

Gordana Dodig Crnkovic is a Professor of Computer Science at Mälardalen University and Associate Professor at Chalmers University of Technology and the University of Gothenburg. She is a vice-dean for graduate education at the Department of Applied Information Technology.

Research interests: Computing as information processing: Computing paradigms (natural computing, social computing, cognitive computing), Info-computationalism, Morphological computing, Computational knowledge generation, Computational aspects of intelligence and cognition, Computational aspects of science of information/foundations of information, Information dynamics. Computing and philosophy. Ethics (Ethics of computing, Information ethics, Roboethics and Sustainability).

She is teaching courses in research methods, formal languages and automata theory, computational thinking, philosophy of computing and ethics & sustainability.