

Seminar IRH-ICUB

Consciousness and Cognition: An Interdisciplinary Approach

<https://irhunibuc.wordpress.com/2016/04/05/new-seminar-consciousness-in-philosophy-and-neuroscience/>

convenor Dr. Diana Stanciu

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Date: Tuesday, 14 November 2017, 17h

Place: IRH-ICUB (1 D. Brandza Str.), conference room

Assoc. Prof. Dragos Cirneci

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Laboratory of Cognitive Development and Applied Psychology through Immersive Experiences

Dragos Cirneci has a PhD in Psychology and is specialized in cognitive and behavioral neurosciences. In 2004, he published the first Romanian handbook of developmental cognitive neuroscience, and 3 other books in the following years: *The Origin of the Mind; From Viruses to Beliefs* (2013), *The Stress in Our Mind and the War in the Cell World (Stresul din mintea noastră și războiul din lumea celulelor)* (2014) and *The Homo Sapiens Brain: How to Handle it (Creierul de Homo Sapiens: Ghid de utilizare)* (2016). From 2002 to 2005 he collaborated with the Institute of Normal and Pathological Physiology, Department of Brain Physiology, the Slovak Academy of Sciences, Bratislava, Slovak Republic, on investigating the psychophysiological mechanisms of information processing by using event-related potentials (ERPs). Between 2013 and 2014, he was the scientific coordinator of the pilot project aiming to study the correlation between cognitive and behavioral symptoms and the neural characteristics of depressed people, implemented by Neuromed Imagistic Clinic in Timișoara and the Psychiatry University Hospital in Timișoara. Lately, he worked in the field of psychoneuroimmunology (PNI). He worked or collaborated with the Babeș-Bolyai University in Cluj, the University of Bucharest and the Tibiscus University in Timișoara. He also worked for the Romanian Academy. At present, he is an associate professor at the Spiru Haret University and a scientific researcher at the International Center for Research and Education in Creative Technologies (CINETic) – Laboratory of Cognitive Development and Applied Psychology through Immersive Experiences.

Consciousness and the Brain's Simulations Machinery

It is reasonable to assume that the basic function of the brain is guessing the future. The brain could be seen as a machine specialized in creating possible future states, constantly trying to predict what might happen in the near or distant future. The more accurate these predictions are, the more favored in survival and reproduction an organism is. Memory can be seen as a tool used by the 'prospective brain' to generate simulations of possible future events, but also to generate alternatives to what has already happened – or counterfactual scenarios. This would be explained by a process called 'scenes construction' that would consist in brain reconstruction of stored

information and its recombination in scenes or events, rebuilding experiences or building alternative alternatives. These processes have been found to be the basis for a wide range of brain activities such as retrieving a piece of information retained in the memory, understanding someone else's point of view, planning actions and even creativity. Memory, imagination and prediction of the future seem distinct cognitive processes from a psychological point of view. However, numerous cognitive and imagistic data suggest that they are closely linked to one another. Knowledge about people, objects, actions, elements related to the Self and culture are all covered in the semantic memory. The meta-analyses performed on imaging studies have revealed that the neural basis of semantic memory is very similar to the default mode network of the brain, named by some authors 'the consciousness network'.