

## **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**

<https://irhunibuc.wordpress.com/associated-members/>

**Date: Tuesday, 17 October 2017, 17h**

**Place: Faculty of Philosophy (Splaiul Independentei 204), board meeting room**

## **Drd. Irina Popa, MD**

**University Emergency Hospital**

**Epilepsy Monitoring Unit**

**Irina Popa** is a resident neurologist at the University Emergency Hospital in Bucharest. She is working in the Epilepsy Monitoring Unit under the coordination of Dr. Ioana Mindruta, MD (head of the Unit). Irina has a special interest in epilepsy surgery and in invasive phase II explorations by means of SEEG for drug-resistant epilepsy. Thus, she is also a PhD student at the University of Medicine and Pharmacy Carol Davila under the supervision of Prof. Dr. Ovidiu Bajenaru and she is currently working on mapping the function of the cingulate cortex using high frequency brain direct electrical stimulations and the connections of this region using single pulses. Over the years, Irina Popa has taken part in various courses and training scholarships in the fields of epileptology and neurophysiology in Germany and France.

### ***Mapping the Function and Connectivity of the Cingulate Cortex***

More and more effort is invested into mapping brain functions by using different methods like functional MRI, PET or neurophysiological studies. We aim to map the function and connectivity of the cingulate cortex (CC) using brain direct electrical stimulations that are currently performed on patients with drug-resistant epilepsy explored by stereo-electroencephalography. Therefore, we selected patients from the Emergency University Hospital Bucharest and from the Strasbourg University Hospital, that had minimum one electrode sampling the CC outside the epileptogenic zone. We systematically reviewe the functional stimulations and cortico-cortical evoked potentials (CCEPs) that were used to obtain the effective connectivity at a group level for each part of the CC. We were able to determine that this part of the brain is involved in processes like emotion, vestibular, sensorymotor, experiential as a result of a network effect that we have mapped with SPES. These findings help us understand the functional organization of the cingulate cortex with possible implications in epilepsy surgery, depression or other mental disorders.