

Departmental Seminar (Via Zoom)

Exploring the Evolution of Body-related Neuroplasticity, from Multisensory Illusions on Healthy People to the Neuropsychological Approach

1:00 p.m. – 2:30 p.m. | July 11, 2022 (Monday) | HK Time



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Abstract

The conscious experience of the body as one's own (i.e. sense of body ownership) and the feeling of being the agent of one's own voluntary actions (i.e. sense of agency) are the two main components of the bodily self-consciousness. Surprisingly, these components can be selectively impaired (e.g. neurological patients with delusional body ownership such as anosognosia for hemiplegia) and they are quite easy to experimentally manipulate (e.g. multisensory illusions): Immersive Virtual Reality (hereinafter IVR) is a very effective technique in order to induce the feeling of ownership over a virtual body (called avatar), with several physical and cognitive consequences.

Main goal of my past and current research activity is to propose solutions to restore (in neurological patients) or to improve (in healthy population) cognitive and physical functions, exploiting the IVR system. I'll describe in details few studies I conducted in IVR 1) with young healthy subjects in order to explain the interference between intended and perceived movements; 2) on neurological patients to propose IVR rehabilitative solutions for motor disorders; 3) on young and older adults to improve physical and cognitive functions and the same time by using IVR.

IVR can be an effective investigation method: it can provide complementary solutions to current basic research on the bodily self, but also to clinical research, proposing new efficient solutions for motor and cognitive disorders.

About the Speaker

Dalila Burin got her PhD in Neuroscience at University of Turin (Italy). Main goal of her research was to understand the normal cognitive functioning, starting from a neuropsychological approach. She investigated bodily self identity and body awareness with different paradigms, including subjective, behavioural (e.g., the rubber hand illusion) and physiological measurements (e.g., motor evoked potential), mostly on healthy subjects and also on neurological patients. She spent a period abroad, where she learned the technique of Immersive Virtual Reality. Then, she combined her background on cognitive neuropsychology with this new technique. She mainly explored rehabilitative solutions for motor disorders exploiting the possibilities offered by immersive virtual reality. She is currently working at the Smart Aging research Center (IDAC, Tohoku University, Japan) where she is developing protocols to improve physical and cognitive functions, on young people as well as elderly, using immersive virtual reality and other ICT based solutions.

Zoom Meeting

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEEdlEwdz09>

Meeting ID: 395 155 0048 | Password: psyc



~All are Welcome~

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