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SCIENTIFIC REPORT
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Purpose of the STSM

I applied for a five day Short-Term Scientific Mission at the Department of Cognitive Sciences in University of Trento, Italy. The main goal of my short-term visit was to get familiar with the facilities of the Cognitive Sciences Department and explore the possibilities for collaboration with specific laboratories in the University of Trento for work conducted under the Working Group 3 of TIMELY (Time Perception of complex, multisensory events). Furthermore, since I have recently completed my Masters in Basic and Applied Cognitive Science, at the National and Kapodistrian University of Athens, the visit to the University of Trento was also an opportunity for me to learn about the ongoing research there.

Description of the work carried out during the STSM

I visited the University of Trento at Rovereto from the 11th till the 15th of April 2011. I had the chance to meet several professors and students that gave me much more than a rough idea about the ongoing research in the fields of multisensory perception, time perception, and visual perception. I was also given a tour in the laboratories of the CIMEC (Centro Interdisciplinare per la Mente e Cervello), which is an interdisciplinary centre for teaching and research in cognitive neuroscience. I was more than happy to discover a rather inspiring environment which hosts many professors, PhD, and post-doc students that work in a collaborative spirit that enhances the scientific research using advanced techniques.

In particular, as far as multimodal and time perception is concerned: I met Professor Massimiliano Zampini, researcher at CIMEC and professor at the faculty of Cognitive Sciences. He and his team (PhD and post-doc students) were kind enough to inform me thoroughly about the ongoing projects in the field of multisensory perception. More specifically, I received elaborated information about a variety of projects that include:

- Audiovisual integration in low level vision individuals, a study which aims at investigating whether in a visual detection task a sound presented synchronously may provide an enhancement in the visual detection performance

- How multisensory inputs can contribute to a coherent body representation in healthy individuals and how this representation may be distorted in patients with eating disorders.

- Perception of space in patients with eating disorders using a different version of the Rubber Hand illusion.

- Chemical senses and audio-tactile information processing in blind people.

- How the brain is able to bind multisensory cues that may arrive in the brain at slightly different times since temporal asynchrony is thought to be one of the key factors that contribute to the multisensory integrations.

-Temporal perception, cross-modal attention, multisensory interaction in Autism Spectrum Disorders, specifically in low and high functional patients. One of the goals is to establish of a link between time perception and cerebellum that may be connected to the bad performance of this kind of population in a variety of tasks.

-EEG recordings from parietal cortex in order to explore the circuits that are engaged in perception of the stimuli that are approaching to the head while being presented on the peripheral space of the head either from the front or from the back. The further goal is to compare such a performance between low vision and blind patients with normal population.

I also had the chance to meet other researches of the CIMeC, with whom I discussed about several scientific issues that concern questions of high importance in the field of visual perception. I had meetings and interesting conversations with:

-Veronica Mazza, researcher at CIMeC who is interested in visual perception, attention, and human electrophysiology. In her research she tries to understand how the visual system selectively individuates and identifies the relevant objects presented in a cluttered scene. She addresses this question mainly through electrophysiological and behavioral measures in human adults.

-Massimo Turatto, professor at the Faculty of Cognitive Science and researcher of the CIMeC, who is also interested in visual perception, visual awareness, and attention. Currently he is trying to build a model on visual awareness. In addition he is investigating how the mechanisms of reward may interfere with classical conditioning or priming effects.

-David Melcher, professor at the Faculty of Cognitive Science and Head of the Doctoral School of Cognitive and Brain Sciences. Mr. Melcher and his team discussed with me about a variety of projects that are going on there under the main

objective of developing a theory of perceptual stability across saccadic eye movements based on the dynamic updating of object information across separate glances. Other projects that are under the supervision of Mr. Melcher include motion perception, neuroscience and arts, attention and perception, monocular rivalry, enactive theory of vision.

I was also given an extended tour in the laboratories of psychophysics & experimental psychology at the CIMEC, where I was shown in detail how special devices such as the EEG, eye-tracker and special equipment for audiovisual experiments work. In addition, I was able to see demonstrations of several experiments that are conducted in the previously described experimental field. I also received detailed information about the structure, infrastructure and organization of the Doctoral School of Cognitive and Brain Sciences.

Description of the main results obtained

The useful talks with the professors and the long conversations with the students I met there helped me build a rather complete image of the reality one experiences if he decides to make his research in the academic environment in the University of Trento. I consider the work carried out in the field of multisensory and time perception very important. The projects I had the chance to learn about are of the most interest to me. The visit to the facilities of the Doctoral School of Cognitive Sciences and at the CIMEC gave me a unique opportunity to see how research is being encouraged and enhanced in a highly organized and collaborative environment. I consider the interaction between young researchers from different places a unique occasion to create a constructive scientific dialogue and thus promote further collaborations. Having completed the whole part of my studies in Greece, I consider myself more than lucky that I had the chance to experience a totally different academic reality. Therefore, I decided to apply for a PhD position at the Doctoral School of Cognitive and Brain Sciences at the University of Trento in order to continue my studies.

Comment

I am more than grateful that the COST Action gave me the opportunity to travel to Italy and have the experience of meeting other young scientists. An initiative that promotes academic mobility can only fill young researchers with the proper enthusiasm and the will to go on.