Symposium "Neuroscience of Learning and Memory" and 17th Scientific Meeting on Brain's Disturbances "Disorders of Learning and Memory"

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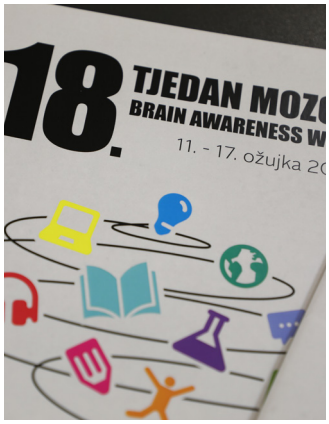
The symposium "Neuroscience of Learning and Memory" was held under the patronage and organized by the Council of neuroscience and brain diseases of the Department of Medical Sciences of the Croatian Academy of Sciences and Arts and the Center of Excellence for Basic, Clinical and Translation Neuroscience, within the framework of 18th Brain Awareness Week under the title "Disorders of Learning and Memory" (Thursday, March 14, 2019, from 8 am to 6 pm, Čačković Hall, Faculty of Medicine, Šalata 3, Zagreb).

At the Symposium 23 lecturers from university departments from Zagreb, Rijeka and Zadar delivered their interesting lectures. The lecturers discussed multidisciplinary topics in the field of neuroscience in the interpretation of learning and memory processes and made recommendations applicable in the education process. More than 300 participants (biggest attendance so far!) have been registered at the symposium, also with the participation of high school pupils and students. The topic has attracted the public's interest, and especially experts in the field of upbringing, education and rehabilitation.

The Symposium started with the introductory talks of President of the Council for Neuroscience and Brain Diseases Professor Ivice Kostovića, full member of Croatian Academy of Sciences and Arts, Head of Department of Medical Sciences of the Croatian Academy of Sciences and Arts Vide Demarin and Dean of Medical School University of Zagreb Professor Marijana Klarice, followed by the talk of professor Miloš Judaš.



In his opening lecture, Goran Šimić discussed recent advances in the neuroscience of learning and memory, what is also a subject of his recent excellent book. Cellular and molecular mechanisms of learning and memory were presented by Mario Vukšić. Milan Radoš spoke on neuroimaging of encoding and retrieval mental processes and Miloš Judaš discussed the role of mirror neuron system in involvement in learning. Isabela Sarić spoke on how can rewards increase learning motivation, while Nevenka Maras discussed the influence of neuromyths on teaching. Zdenko Petanjek and Ana Hladnik spoke on synaptogenesis, plasticity and learning through childhood and adolescence. Structural change on neuronal circuitry during development of emotional, social and cognitive brain functions in children were the topic of interesting lecture of Ivica Kostović. Svjetlana Kolić Vehovec spoke about learning to read and language acquisition – linguistic production and grammatical structures in early language development were presented by Ida Raffaelli, Marina Grubišić, Daniela Katunar,Janja Čulig and Matea Filko. Ines Vlahović spoke on learning with modern technology and Krešimir Čosić spoke on artificial intelligence in training and learning of complex cognitive skills. The first part of the Symposium related to neuroscientific explanation of learning and memory, terminated with Stanislav Tuksar's presentation of learning and music, Irena Burić's lecture on successful learning and teaching – the role of socio-emotional processes and Renata Barić's presentation on learning and teaching motor skills.

The second part of the symposium was 17th scientific meeting on brain disorders, this year devoted to disorders of learning and memory. It started with the lecture of Ivan Begovac, who presented perspective of specific developmental learning disorders within other entities of child psychiatry. Jelena Petrinović-Dorešić spoke on visual disturbances as the cause of learning difficulties and Ana Katušić and Mirna Kostović-Srzentić presented their work on early brain lesion and learning deficits in children. Disorders of learning and memory in intellectual disability were the topic of Snježana Sekušek-Galešev's presentation, followed by the lecture of Darko Chudy: Can deep brain stimulation improve memory? Last lecture was devoted to memory disorders (Amnesia), given by Vida Demarin, who presented different forms of memory disorders (amnesia), their causes, diagnostics and therapeutic possibilities.

The Symposium, as a whole, was excellent contribution to 18th Brain Awareness Week presentation, this year focused mainly to members of education process, from teachers, high school professors to pupils and students, pointing out the importance of understanding the neuroscientific base of learning and memory and translating this knowledge into practice.