



Can Mathematics help to understand how does the brain work?

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Resum

How does the brain work is one of the most intriguing questions for the 21st century: what are the logical rules that the brain follows in motor and cognitive processes? Several projects are carried out in our lab (Neuromath lab in the Brain Center in Bar-Ilan University) trying to use mathematics to help understand the brain. We use a wide spectrum of methods from Differential Geometry, Topology, Statistics, Data Mining, Linear algebra, and more, and we collaborate with scientist from other disciplines like Neurophysiology, Neuro-surgery, Electrical Engineering, Psychology, and more. In the talk I'll mention 7 projects and will elaborate on 3 of them.

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