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The theory of information images: An approach to modeling the cognitive activity of the human brain

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The presentation will contain the basic principles of the information image theory and a mathematical model developed using it. The hierarchy of information images in an individual mind, which determines his/her real and virtual activity, is considered. Algorithms for describing transfer and distortion of information images by individuals in the communication process are constructed. To corroborate the theory experimentally, the bilingual Stroop test is used and the results of the test are interpreted using the introduced theory, and are then compared with the results of computer modeling based on the theory. It is shown that Information Images can be used not only to explain several cognitive processes of the human mind, but also to predict their dynamics in a number of particular cases.

Biography

Petukhov Aleksandr Yurevich is the Head of the Laboratory of Modeling the socio-political processes in Lobachevsky Nizhny Novgorod State University. He is also a Head of several large research projects in the field of information influence on the human mind.

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