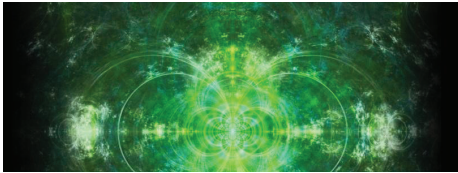| Research (What is it about?)	**Diffusion model for social communication**
UNN authors	*Petukhov A.Y., Polevaya S.A.*
We find (The result)	Diffusion model of information interaction in a society considered as an ensemble of individual communicative fields with the elementary objects in the form of information images has been suggested.
Abstract	The problem of description of information and communication interactions between people is a fundamental one for the modern cognitive science. Several natural science models of information transmission from one individual to another have appeared. However those models are poorly scalable and do not allow to explain the processes of transmission of information images and their distortions that root in the interactions with the external communication environment. Along with that a vitally important question for the modern cognitive science is the following: how generation and distortion of information images in the human mind are held, as well as which model is able to describe and correctly predict those processes. The basis of our model was the idea to describe the information interactions between people as a process of interaction between information images created by them. Information images can be determined as the displays of objects and events, i.e. the sequence of operational actions in the situation context, in the set space of characteristics. We concern them as an elementary object of any virtual environment or as an elementary information quantum of human thinking. A human being, thanks to direct individual experience and cognition, becomes an owner of individual information images space with a specific typology and boundary conditions. Thus, engrams of both real and unreal events and information images rooted in external resources can coexist equally in the subjective human world; these images of events can be incorporated by external resources or people that a human being had to trust due to certain consequences. Description of the information images movements is possible through the diffusion equation for Brownian motion. Information images interact between each other in a similar way that the particles of Brownian motion; the only difference is that the clash happens with the changes of not only on parameters of kinetic energy and the speed vector, but also in the specific information images parameters. The example of modeling of individual information images while external information influence (including inconsistent ones) is demonstrated.

Representative articles 2016-2017, quartiles	1. *Petukhov A.Y., Polevaya S.A.* Modeling of social information images dynamics through the communicative field method. Int. J. Biomath. **9**(4): 1650057 (2016). 2. *Petukhov A.Y., Polevaya S.A., Yakhno V.G.* The theory of information images: Modeling based on diffusion equations. Int. J. Biomath. **9**(6): 1650087 (2016).	Q3
	Q-index (Qi) of the result	**2**

In collaboration	–

Schematic diagram of interaction between the communicative fields of individuals.

| Individual 1 | Speech, text, video, etc. | Individual 2 |

Decoder

Coder

Signal
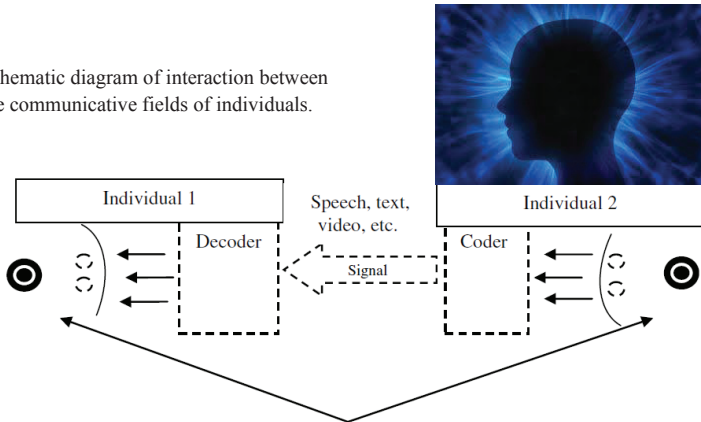
Individual information images space

CF Interaction field

Information image

Individual information image space
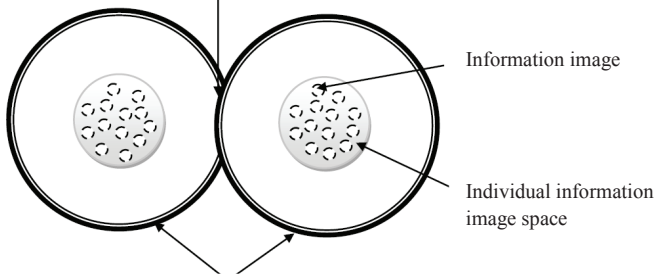
Individual communication fields (CF)

Diffusion model