


DR. OLEG I. KANAKOV

UNIVERSITY	National Research Lobachevsky State University of Nizhny Novgorod
PROFICIENCY IN ENGLISH	Intermediate
MAJOR OF PH.D. PROGRAMME	Physics and Astronomy
CODE OF PH.D. PROGRAMME	03.06.01
RESEARCH PROJECTS OF PROSPECTIVE SCIENTIFIC SUPERVISOR	RESEARCH PROJECT TEAM PARTICIPANT: National Grant of the Russian MSHE №0729-2020-0040 Mega Grant №074-02-2018-330(1)
TOPICS FOR PROSPECTIVE PH.D. RESEARCH	<ul style="list-style-type: none"> • Vulnerabilities of nonlinear-dynamical P-CAPTCHA encryption
<div style="text-align: center;">  </div> <p style="text-align: center;">Research supervisor: DR. OLEG I. KANAKOV, Professor, Doctor of Science, Physics & Mathematics (Lobachevsky University)</p>	RESEARCH AREA:
	SUPERVISOR'S RESEARCH INTERESTS:
	<ul style="list-style-type: none"> • Modeling nonlinear processes • Energy localization in Hamiltonian lattices, • mathematical modeling of nonlinear systems, • information-based measures of complex dynamics, • collective classifiers
	RESEARCH HIGHLIGHTS:
	<ul style="list-style-type: none"> • Highly-equipped labs & research environment, including Supercomputer «Lobachevsky». • Grant project involvement. • Prospective participation in international joint research projects.
	SUPERVISOR'S SPECIFIC REQUIREMENTS:
	<ul style="list-style-type: none"> • <i>Basic background in physics and mathematics required.</i> • <i>Understanding main concepts of nonlinear dynamics (phase space, stability etc.) preferred.</i>
	SUPERVISOR'S PUBLICATIONS:
	<ol style="list-style-type: none"> 1. O. Kanakov, T. Laptyeva, L. Tsimring, M. Ivanchenko Spatiotemporal dynamics of distributed synthetic genetic circuits // Physica D. 2016. Vol. 318–319. P. 116–123. DOI: 10.1016/j.physd.2015.10.016 2. S. Filicheva, A. Zaikin, O. Kanakov Dynamical decision making in a genetic perceptron // Physica D. 2016. Vol. 318–319. P. 112–115. DOI: 10.1016/j.physd.2015.11.008 3. Nesbeth D.N., Zaikin A., Saka Y., Romano M.C., Giuraniuc C.V., Kanakov O., Laptyeva T. Synthetic biology routes to bio-artificial intelligence //Essays In Biochemistry. – 2016. – Vol. 60. – No. 4. – P. 381-391. DOI: 10.1042/EBC20160014 4. Kanakov O., Gordleeva S., Ermolaeva A., Jalan S., Zaikin A. Astrocyte-induced positive integrated information in neuron-astrocyte ensembles //Physical Review E. – 2019. – Vol. 99. – No. 1. – P. 012418 (9 p.). DOI: 10.1103/PhysRevE.99.012418 5. Whitwell H.J., Bacalini M.G., Blyuss O., Chen S., Garagnani P., Gordleeva S.Y., Jalan S., Ivanchenko M., Kanakov O., Kustikova V., Mariño I.P., Meyerov I., Ullner E., Franceschi C., Zaikin A. The Human Body as a Super Network: Digital Methods to Analyze the Propagation of Aging. //Frontiers in Aging Neuroscience. 2020. V.12. P.136. DOI: 10.3389/fnagi.2020.00136